

Also Available as  
e-Book  
[www.ebooks.upkar.in](http://www.ebooks.upkar.in)



UPKAR'S

# Practice Sets

## SSC

### Combined Higher Secondary Level

Join YouTube Channel

(10+2)  
**EXAMINATION**

For Posts of

**Postal Assistants / Sorting Assistants**

**Data Entry Operators**

**Lower Division Clerks**



## सभी Subject व Exam से संबंधित PDF यहां से Download करें

- RRB 2019 PDF
- Nitin Gupta Notes PDF
- General Knowledge PDF
- Current Affairs PDF
- Child Development and Pedagogy PDF
- History PDF
- Geography PDF
- Polity PDF
- Economics PDF
- Computer PDF
- General Science PDF
- Environment PDF
- General Hindi PDF
- General English PDF
- Maths PDF
- Reasoning PDF
- Sanskrit PDF
- SSC PDF
- MPPSC PDF
- MP GK PDF
- UP GK PDF
- Bihar GK

**किसी भी सहायता के लिये फेसबुक पर संपर्क करें – नितिन गृष्मा**

---

## Contents

---

● Practice Set-1 .....	3–26
● Practice Set-2 .....	27–43
● Practice Set-3 .....	44–64
● Practice Set-4 .....	65–87
● Practice Set-5 .....	88–109
● Practice Set-6 .....	110–132
● Practice Set-7 .....	133–157
● Practice Set-8 .....	Join Youtube Channel
● Practice Set-9 .....	158–178
● Practice Set-10 .....	179–201
● Practice Set-10 .....	202–224

---

---

---

**PRACTICE SETS**  
**S.S.C. Combined Higher**  
**Secondary Level (10 + 2) Exam.**

---

---

Join Youtube Channel

# Practice Set-1

## Part—I General Intelligence

**Directions—(Q. 1-3)** Select the related word/letters from the given alternatives.

1. ABCD : QRST :: BACD : ?  
(A) RQST      (B) STQR  
(C) QRST      (D) RSTQ
2. BGEK : YTVP :: AFEJ : ?  
(A) UZBK      (B) BGFK  
(C) ZUVQ      (D) ZEDI
3. Bird : Feather :: Fish : ?  
(A) Gill      (B) Scale  
(C) Tail      (D) Fin
4. The last two digits of the binary equivalent of the number 2 2 6 8 4 2 8 2 4 8 3 is—  
(A) 01      (B) 11  
(C) 00      (D) 10

**Directions—(Q. 5 and 6)** Find the odd number/word from the given alternatives.

5. (A) 2      (B) 3  
(C) 12      (D) 24
6. (A) Sow      (B) Peacock  
(C) Peahen      (D) Mare
7. Number of letters skipped in between adjacent letters in the series increases by one. Which of the following series observe the ruling ?
  1. IMQUYC      2. EGJNSY
  3. DHLPTX      4. ADHLPT

(A) IMQUYC      (B) EGJNSY  
(C) DHLPTX      (D) ADHLPT
8. Select the number which does not belong to the given series.  
1956, 1968, 1976, 1982, 1988, 1992.

- (A) 1956      (B) 1976  
(C) 1982      (D) 1992
9. Number of letters skipped in between adjacent letters in the series increases by one. Which of the following series observe the ruling given below ?

- (A) ACFJOU      (B) JLNPOQ  
(C) ZXMKJL      (D) KCAOPQ
10. Find out the odd/wrong number in the given series—

- 62, 46, 34, 24, 16, 10  
(A) 62      (B) 46  
(C) 34      (D) 24
11. Which of the following years did not have 29 days in February month ?

- (A) 2000      (B) 2004  
(C) 1996      (D) 1966
12. From the given alternative words, select the word which **cannot** be formed using the letters of the given word—

- "COMPETITION"  
(A) TOTEM      (B) POETIC  
(C) COMPOSE      (D) OPINE
13. If NASCENT is written as 2734526, how is SENTENCE written in that code ?

- (A) 35265235      (B) 35256245  
(C) 35265245      (D) 35256275

**Directions—(Q. 14 and 15)** Some equations are solved on the basis of certain system. Find out the correct answer for the unsolved equation on that basis.

14.  $72 + 37 = 6328$ ;  $54 + 13 = 4504$ ;  $61 + 53 = ?$   
(A) 4524      (B) 5244  
(C) 5424      (D) 5214
15.  $1 \times 2 \times 4 = 212$ ,  $5 \times 6 \times 8 = 654$ ,  $3 \times 7 \times 2 = ?$

- (A) 173                    (B) 713  
 (C) 731                    (D) 317

**Directions—(Q. 16 and 17)** Which one of the given responses would be a meaningful order of the following ?

16. (1) Leaf                (2) Stem  
 (3) Root                    (4) Flower  
 (A) 4, 3, 1, 2            (B) 1, 2, 3, 4  
 (C) 3, 2, 1, 4            (D) 2, 1, 4, 3
17. (1) Pupa                (2) Egg  
 (3) Butterfly              (4) Larva  
 (A) 1, 3, 2, 4            (B) 3, 1, 4, 2  
 (C) 2, 4, 1, 3            (D) 4, 3, 2, 1

18. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?

\_bcbca\_bcb\_aabc\_ca

- (A) acbb                    (B) aacb  
 (C) abcc                    (D) abbc

**Directions—(Q. 19–21)** A series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

19. DZC, FYH, HXM, JWR, ?  
 (A) LXT                    (B) RYW  
 (C) LVW                    (D) RXW

20. 2, 11, 47, 128, ?  
 (A) 175                    (B) 219  
 (C) 272                    (D) 353

21. 30, 90, 182, 306, 462, ?  
 (A) 484                    (B) 542  
 (C) 650                    (D) 678

22. Find the **wrong** term in the following series :

8, 27, 64, 111, 216, 343

- (A) 343                    (B) 216  
 (C) 111                    (D) 27

23. In a row of 10 boys, when Nitin was shifted by two places towards the left, he became the 8<sup>th</sup> from the left end. What was his earlier position from the right end of the row ?

- (A) 2                        (B) 3  
 (C) 1                        (D) 4

24. A's mother is the only daughter of B's father. How is B's wife related to A ?

- (A) Mother                (B) Aunt  
 (C) Sister                  (D) Grandmother

25. From the given alternative words, select the word which **cannot** be formed using the letters of the given word :  
 temperature

- (A) Mature                (B) Nature  
 (C) Temper                (D) Rapture

26. In a certain code PAIN is written as QBJO. How is STRAIN written in that code ?

- (A) UVSBJO                (B) TUSCJO  
 (C) TUSBKO                (D) TVSBJP

27. If COLUMN is coded as 198327, how can COMMON be written in that code ?

- (A) 192297                (B) 192298  
 (C) 192927                (D) 192397

28. Which sequence of mathematical symbols can replace \* in the given equation ?

$$3 * 4 * 6 * 18$$

- (A) + = ×                (B) × + =  
 (C) + × =                (D) × + =

29. If A denotes +, B denotes X, C denotes –, and D denotes +, then what will be the value of the following :

$$24 \text{ A } 12 \text{ B } 4 \text{ D } 6 \text{ C } 7$$

- (A) 7                        (B) 8  
 (C) 9                        (D) 10

30. A problem is solved on the basis of a certain system. On the same basis find out the correct answer from the given alternatives for the unsolved problem.

$$2 \times 8 \times 6 \times 9 = 9682,$$

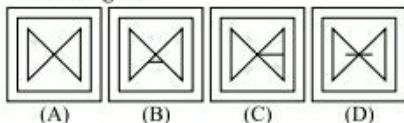
$$8 \times 6 \times 4 \times 7 = ?$$

- (A) 7468                    (B) 6478  
 (C) 4678                    (D) 1344

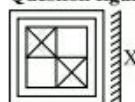
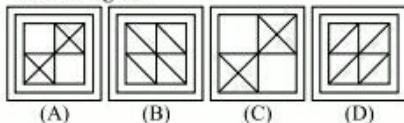
31. From the given answer figures, select the one in which the question figure is hidden/embedded.

**Question figure**

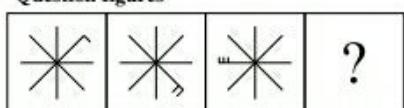
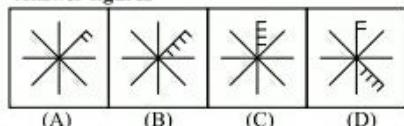


**Answer figures**

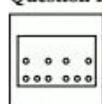
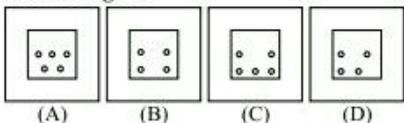
32. If a mirror is placed on the line X then which of the answer figures is the right image of the given figure?

**Question figure****Answer figures**

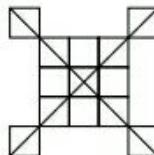
33. Find the missing figure of the series from the given alternatives.

**Question figures****Answer figures**

34. Identify the answer figure which yields the punched pattern in the question figure, when the square paper is folded once.

**Question figure****Answer figures**

35. Find out the number of triangles in the given figure.



- (A) 32  
(B) 20  
(C) 24  
(D) 28

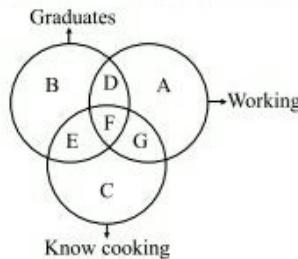
36. Letters given in the first line have codes as in the second line.

V	D	A	S	G	K	I	H	X	O
5	1	3	9	0	8	2	4	7	6

How will the letters IVSHOD be coded?

- (A) 258416      (B) 259641  
(C) 254961      (D) 259461

37. Three circles representing GRADUATES, WORKING and KNOW COOKING are intersecting one another. The intersection areas are marked A, B, C, D, E, F and G. Which part represents GRADUATES KNOWING COOKING and are not WORKING?



- (A) E      (B) D  
(C) G      (D) F

38. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of Matrix I are numbered from 1 to 4 and that of Matrix II are numbered from 5 to 8. A letter from these matrices can be represented first by its row and next by its column, e.g., 'O' can be represented by 13, 21, etc., and 'E' can be represented by 65, 76

**6P | SSC Higher Secondary Level (10 + 2)**

etc. Similarly, you have to identify the set for the word 'TRAMPLE'.

I				
	1	2	3	4
1	L	A	O	R
2	O	R	L	A
3	R	L	A	O
4	A	O	R	L

II				
	5	6	7	8
5	M	T	P	E
6	E	M	T	P
7	P	E	M	T
8	T	P	E	M

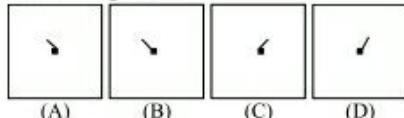
- (A) 85, 31, 41, 56, 68, 32, 76  
 (B) 56, 14, 12, 66, 68, 23, 78  
 (C) 67, 22, 24, 55, 86, 33, 76  
 (D) 78, 22, 12, 55, 68, 32, 58

39. Which answer figure will complete the pattern in the question figure?

**Question figure**



**Answer figures**



- (A) (B) (C) (D)

40. In a class, there are 80 students who study both Computer Science and Electronics. While 100 students study Computer Science, 120 students study Electronics. How many of them study Computer Science only?

- (A) 100 (B) 40  
 (C) 180 (D) 20

**Directions—(Q.41-42)** An equation is solved on the basis of a certain system. On that basis, find out the correct answer from amongst the four alternatives for the unsolved equation in question.

41.  $6 \times 9 \times 3 = 369$

$4 \times 6 \times 8 = ?$

$5 \times 6 \times 4 = 456$

- (A) 486 (B) 846  
 (C) 684 (D) 864

42.  $12(158)14(12(182)16)14(?)16$

- (A) 214 (B) 194  
 (C) 184 (D) 164

43. A stands for +, B for -, C for  $\times$  and D for  $\div$ .

**Premises—(3A5B2) C4D6**

- (A) 3 (B) 4  
 (C) 5 (D) 6

**Directions—(Q. 44-45)** Select the missing number from the given responses.

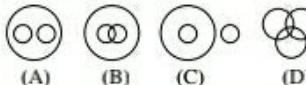
44.  $\begin{array}{ccc} 6 & 5 & 7 \\ & 7 & 8 \\ & 11 & 12 \\ & 462 & 480 \\ & 224 & \end{array}$

- (A) 7 (B) 8  
 (C) 6 (D) 9

45.  $\begin{array}{cccc} 4 & 3 & 11 & 9 \\ & & & 15 \\ 144 & 9801 & ? & 6 \end{array}$

- (A) 2250 (B) 8100  
 (C) 11036 (D) 1216

46. Which one of the following diagrams represents the relationship between Cows, Animals and Goats?

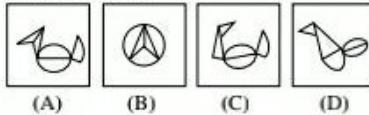


47. Among the four answer figures, which figure can be formed from the cut-pieces given below in the question figure?

**Question Figure**



**Answer Figures**

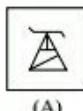


- (A) (B) (C) (D)

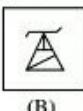
48. If a mirror is placed on the line LM, then which of the answer figures is the right image of the given question figure?

**Question Figure**



**Answer Figures**

(A)



(B)

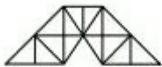


(C)



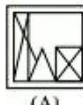
(D)

49. Count the number of triangles in the following figure—

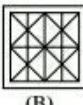


- (A) 27                                 (B) 23  
(C) 29                                 (D) 31

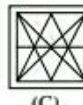
50. From the given answer figures, select the one in which the question figure is hidden / embedded.

**Question Figure****Answer Figures**

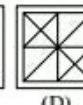
(A)



(B)



(C)



(D)

**Answers with Explanations**

1. (A) As,
- |   |   |   |   |
|---|---|---|---|
| A | B | C | D |
| X |   |   |   |
| B | A | C | D |

- Same as,  

Q	R	S	T
X			
R	Q	S	T

2. (C) As,

- |            |   |   |           |
|------------|---|---|-----------|
| B          | G | E | K         |
| Opposite ↓ | ↓ | ↓ | ↓ Letters |
| Y          | T | V | P         |

- Same as,

- |            |   |   |           |
|------------|---|---|-----------|
| A          | F | E | J         |
| Opposite ↓ | ↓ | ↓ | ↓ Letters |
| Z          | U | V | Q         |

3. (C) As bird flies with the help of feather.  
Same as fish can swim with the help of tail.

4. (B) Number 22684282483 →  
(01010100100000101101010111001110011)<sub>2</sub>  
 $\therefore$  The last two digits are 11.

5. (B) Rest are even numbers.  
6. (B) Rest are feminine animal.

7. (B) E      G      J      N      S      Y  
 $\downarrow$        $\downarrow$        $\downarrow$        $\downarrow$        $\downarrow$        $\downarrow$   
 +2      +3      +4      +5      +6      +6

8. (C) Rest are leap years.

9. (A) A      C      F      J      O      U  
 $\downarrow$        $\downarrow$        $\downarrow$        $\downarrow$        $\downarrow$        $\downarrow$   
 +2      +3      +4      +5      +6

10. (A) 60      46      34      24      16      10  
 $\downarrow$        $\downarrow$        $\downarrow$        $\downarrow$        $\downarrow$        $\downarrow$   
 -14      -12      -10      -8      -6

11. (D) '1966' is not a leap year.

12. (C) The letter 'S' is not present in the given word.

13. (C) As,

- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| N | A | S | C | E | N | T |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 2 | 7 | 3 | 4 | 5 | 2 | 6 |

Same as,

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| S | E | N | T | E | N | C | E |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 3 | 5 | 2 | 6 | 5 | 2 | 4 | 5 |

14. (B) As,  $7 - 1 = 6$

$$2 + 1 = 3$$

$$3 - 1 = 2$$

$$7 + 1 = 8$$

$$\therefore 72 + 37 = 6328$$

$$\text{and } 5 - 1 = 4$$

$$4 + 1 = 5$$

$$1 - 1 = 0$$

$$3 + 1 = 4$$

$$\therefore 54 + 13 = 4504$$

Same as,

$$6 - 1 = 5$$

$$1 + 1 = 2$$

$$5 - 1 = 4$$

$$3 + 1 = 4$$

$$\therefore 61 + 53 = 5244$$

15. (C) As,

$$\begin{array}{c}
 1 \times 2 \times 4 = 2 \quad 1 \quad 2 \\
 \boxed{1} \quad \boxed{2} \quad \boxed{4} \\
 +2
 \end{array}$$

and

$$5 \times 6 \times 8 = 6 \begin{smallmatrix} 5 \\ 4 \end{smallmatrix}$$

↓  
+2

Same as,

$$3 \times 7 \times 2 = 7 \begin{smallmatrix} 3 \\ 1 \end{smallmatrix}$$

↓  
+2

16. (C) Root → Stem → Leaf → Flower  
 17. (C) Egg → Larva → Pupa → Butterfly

18. (B) ~~a b c b c a l a b e b c a l a b a c h c a~~  
 19. (C)  $D \xrightarrow{+2} F \xrightarrow{+2} H \xrightarrow{+2} J \xrightarrow{+2} L$   
 $Z \xrightarrow{-1} Y \xrightarrow{-1} X \xrightarrow{-1} W \xrightarrow{-1} V$   
 $C \xrightarrow{+5} H \xrightarrow{+5} M \xrightarrow{+5} R \xrightarrow{+5} W$

20. (C)  $\begin{array}{c} 2 \quad 11 \quad 47 \quad 128 \quad ? \\ \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \\ +(3)^2 \quad +(6)^2 \quad +(9)^2 \quad +(12)^2 \end{array}$

21. (C)  $\begin{array}{c} 30 \quad 90 \quad 182 \quad 306 \quad 462 \quad ? \\ \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \\ +60 \quad +92 \quad +124 \quad +156 \quad +188 \\ \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \\ +32 \quad +32 \quad +32 \quad +32 \quad +32 \end{array}$

22. (C) All the rest are perfectcube.

23. (C) Left →  $\begin{array}{ccccccccc} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \\ \downarrow & \downarrow \\ 10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1 \end{array}$   
 Nitin → Right

Hence, the earlier position of Nitin from the right end will be '1'.

24. (B)   
 A Nephew B  
 Sister  
 Mother Daughter Father

∴ A is the nephew of B.

∴ Wife of B is the aunt of A.

25. (B) There is no 'A' in the given word.

26. (C) As, Similarly,  
 $P \xrightarrow{+1} Q \quad S \xrightarrow{+1} T$   
 $A \xrightarrow{+1} B \quad T \xrightarrow{+1} U$   
 $I \xrightarrow{+1} J \quad R \xrightarrow{+1} S$   
 $N \xrightarrow{+1} O \quad A \xrightarrow{+1} B$   
 $\quad \quad \quad I \xrightarrow{+1} J$   
 $\quad \quad \quad N \xrightarrow{+1} O$

27. (A) ∴  $\begin{array}{ccccccc} C & O & L & U & M & N \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ 1 & 9 & 8 & 3 & 2 & 7 \end{array}$

- Hence,  $\begin{array}{ccccccc} C & O & M & M & O & N \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ 1 & 9 & 2 & 2 & 9 & 7 \end{array}$

28. (B)  $3 \times 4 + 6 = 18$   
 29. (A)  $24 A 12 B 4 D 6 C 7$   
 $= 24 + 12 \times 4 + 6 - 7$   
 $= 2 \times 4 + 6 - 7$   
 $= 8 + 6 - 7$   
 $= 7$

30. (A) As,  $2 \times 8 \times 6 \times 9 \rightarrow 9 \ 6 \ 8 \ 2$  in reverse order

Similarly,  $8 \times 6 \times 4 \times 9 \rightarrow 9 \ 4 \ 6 \ 8$  in reverse order.

31. (D) 32. (A)  
 33. (C) In every next figure, a new small line appears on main design. The whole design is also moving  $90^\circ$ ,  $135^\circ$ ,  $90^\circ$ , ..... respectively.  
 34. (C) 35. (A) 36. (D) 37. (A)

38. (D) T → 56, 67, 78, 85.  
 R → 14, 22, 31, 43.  
 A → 12, 24, 33, 41.  
 M → 55, 66, 77, 88.  
 P → 57, 68, 75, 86.  
 L → 11, 23, 32, 44.  
 E → 58, 65, 76, 87

39. (C)  
 40. (D) The number of students study computer science only.

$$= 100 - 80 = 20$$

41. (B)  $6 \times 9 \times 3 = 3 \ 6 \ 9$

$$\begin{array}{ccc} 1 & 2 & 3 \\ & & \end{array} \quad \begin{array}{ccc} 3 & 1 & 2 \\ & & \end{array}$$

$$5 \times 6 \times 4 \rightarrow 4 \ 5 \ 6$$

$$\begin{array}{ccc} 1 & 2 & 3 \\ & & \end{array} \quad \begin{array}{ccc} 3 & 1 & 2 \\ & & \end{array}$$

Similarly,  $4 \times 6 \times 8 \rightarrow 8 \ 4 \ 6$

$$\begin{array}{ccc} 1 & 2 & 3 \\ & & \end{array} \quad \begin{array}{ccc} 3 & 1 & 2 \\ & & \end{array}$$

42. (A)  $12 \times 14 \rightarrow 168 - 10 = 158$   
 $12 \times 16 \rightarrow 192 - 10 = 182$

- Similarly,  
 $14 \times 16 \rightarrow 224 - 10 = 214$

43. (B)  $(3 \ A \ 5 \ B \ 2) \ C \ 4 \ D \ 6$   
 $= (3 + 5 - 2) \times 4 \div 6$   
 $= 6 \times \frac{4}{6}$   
 $= 4$

44. (B)  $6 \times 7 \times 11 = 462$

$5 \times 8 \times 12 = 480$

Similarly,  $7 \times 4 \times ? = 224$

$$\therefore ? = \frac{224}{7 \times 4} = 8$$

45. (B)  $4 \times 3 = 12 \rightarrow (12)^2$

$= 144$

$11 \times 9 = 99 \rightarrow (99)^2$

$= 9801$

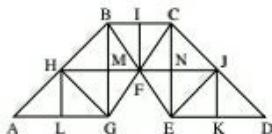
Similarly,  $? = (15 \times 6)^2$

$= 8100$

46. (A) Cows and Goats are separate animals but these are animals.

47. (B) 48. (B)

49. (C)



It has 29 triangles.

1. AHL 2. HGL 3. BHM

4. GHM 5. BFM 6. FGM

7. BIF 8. CFI 9. CFN

10. EFN 11. CJN 12. EJN

13. EJK 14. DJK 15. AGH

16. BGH 17. BFH 18. BFG

19. FGH 20. BCF 21. CEF

22. EFJ 23. CEJ 24. CFJ

25. DEJ 26. ABG 27. BCG

28. BCE 29. CDE

50. (B)

## Part-II English Language

**Directions—(Q. 1–10)** Sentences are given with blanks to be filled in with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate oval (●) in the Answer Sheet.

1. Go home immediately ..... your mother is looking for you.

(A) after (B) so that

(C) because (D) but

2. He was slow as usual. Even a snail would have seemed .....

(A) fastest (B) faster

(C) too fast (D) not fast

3. The father seems relieved as he has married ..... both of his daughters.

(A) of (B) off

(C) to (D) away

4. Mohan : Have you ever ..... before ? It's my first time in a plane and I am a little nervous.

(A) fled (B) flowed

(C) flown (D) flying

5. They have already completed the job, .....

(A) isn't it (B) has they

(C) haven't they (D) won't they

6. The whole class sympathised ..... the peon.

(A) at (B) for

(C) with (D) towards

7. Your tie does not go well ..... your shirt.

(A) above (B) with

(C) for (D) over

8. I am grateful ..... him.

(A) with (B) in

(C) for (D) to

9. The subordinate made a ..... remark against his boss that cost his job.

(A) derogatory (B) complimentary

(C) oblique (D) conscientious

10. He ..... before the court that he was innocent of the crime.

(A) denied (B) denounced

(C) demanded (D) declared

**Directions—(Q. 11–15)** Sentences are given with blanks to be filled in with an appropriate word. Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate rectangle (■) in the Answer Sheet.

10P | SSC Higher Secondary Level (10 + 2)

- |   |                   |                  |   |             |                   |
|---|-------------------|------------------|---|-------------|-------------------|
| 11. The delegates listened to the speaker .....   | (A) attend        | (B) attentively  | 22. Virtue  | (A) Truth   | (B) Vice          |
|   | (C) attention     | (D) attentive    |   | (C) Wisdom  | (D) Idiocy        |
| 12. The prices of foodgrains have gone up .....   | (A) consider      | (B) considerate  | 23. Notorious   | (A) Famous  | (B) Popular       |
|   | (C) consideration | (D) considerably |   | (C) Eminent | (D) Distinguished |
| 13. The officer ..... leave to his secretary.   | (A) offered       | (B) granted      | 24. Particular  | (A) Usual   | (B) Random        |
|   | (C) allowed       | (D) awarded      |   | (C) General | (D) Any           |
| 14. Nothing ..... like success.   | (A) success       | (B) succeed      | 25. Cheer   | (A) Fear    | (B) Threat        |
|   | (C) succeeds      | (D) successful   |   | (C) Abuse   | (D) Decry         |
| 15. Whenever I look at Mohan I am ..... of my brother.  | (A) recalled      | (B) recollect    | <b>Directions—(Q. 26–35)</b> Some of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the rectangle (■) corresponding to the appropriate letter (A, B, C). If a sentence is free from errors, blacken the rectangle corresponding to (D) in the Answer Sheet. |             |                   |
|   | (C) reminded      | (D) remembered   | 26. It should be obvious to you / that if you   | (A)         | (B)               |
| <b>Directions—(Q. 16–20)</b> Out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet. |                   |                  |   | (C)         |                   |
| 16. Absolutely  | (A) Partly        | (B) Really       |   |             | No error          |
|   | (C) Entirely      | (D) Exclusively  |   |             | (D)               |
| 17. Penury  | (A) Bribery       | (B) Injury       | 27. I and Raju / left for Delhi / last summer.  | (A)         | (B)               |
|   | (C) Poverty       | (D) Penalty      |   | (C)         | No error          |
| 18. Negligent   | (A) Ignorant      | (B) Unimportant  |   |             | (D)               |
|   | (C) Careless      | (D) Cheat        | 28. I certainly / differ with you / in this matter.   | (A)         | (B)               |
| 19. Impromptu   | (A) Unrehearsed   | (B) Uninfluenced |   | (C)         | No error          |
|   | (C) Unconvincing  | (D) Improbable   |   |             | (D)               |
| 20. Erudite   | (A) Snobbish      | (B) Scholarly    | 29. He had a suspected fracture, / so he was /  | (A)         | (B)               |
|   | (C) Saintly       | (D) Secretive    |   |             | No error          |
| <b>Directions—(Q. 21–25)</b> Choose the word opposite in meaning to the given word and mark it in the Answer Sheet.   |                   |                  |   | (C)         | (D)               |
| 21. Conclude  | (A) Preclude      | (B) Commence     | 30. The wages / of hard work / are sweet.   | (A)         | (B)               |
|   | (C) Seclude       | (D) Finish       |   | (C)         | No error          |
|   |                   |                  |   |             | (D)               |
|   |                   |                  | 31. I will certainly / avail of your offer / when   | (A)         | (B)               |
|   |                   |                  |   |             | No error          |
|   |                   |                  |   | (C)         | (D)               |

32. All the pupils / stood up respectively / as the  
     (A)    (B)  
     Guru entered the room.    No error  
     (C)    (D)
33. Many a men / attended the meeting /  
     (A)    (B)  
     last night.    No error  
     (C)    (D)
34. The hour / to prepare lessons / has arrived.  
     (A)    (B)  
   (C)  
   No error  
   (D)
35. Even at this late stage in her career, / Rekha  
     (A)  
     acts nicely. / doesn't she ?    No error  
     (B)    (C)  
   (D)

**Passage**  
**(Q. 36 to 45)**

India and 25 other countries agreed to the Copenhagen Accord even as other developing countries accepted it as an irreversible decision later. The Accord came out of ... (36)... bargaining lasting almost 20 hours among ... (37)... of governments of some of the most ... (38)... countries of the world. At the ... (39)... of the day on Saturday, India ... (40)... to have given ground on some ... (41)... but blocked intrusion on other red lines. It had become ... (42)... within the first week of the ... (43)... that the best even the four emerging and ... (44)... economies of the developing world were going to do was to defend the ... (45)... economic resource sharing regimes.

36. (A) difficult    (B) hard  
     (C) easy    (D) early
37. (A) rulers    (B) kings  
     (C) heads    (D) chiefs
38. (A) influential    (B) corrupted  
     (C) useless    (D) beautiful
39. (A) middle    (B) evening  
     (C) night    (D) end
40. (A) proved    (B) appeared  
     (C) viewed    (D) cleared
41. (A) materials    (B) thoughts  
     (C) issues    (D) discussions

42. (A) evident    (B) ambiguous  
     (C) vague    (D) indecisive
43. (A) accord    (B) talks  
     (C) issues    (D) thoughts
44. (A) economic    (B) political  
     (C) powerful    (D) praiseworthy
45. (A) expected    (B) existing  
     (C) resultant    (D) consequential

**Directions—(Q. 46–50)** In the following questions, you have two brief passages with 5 questions following each passage. Read the passages carefully and choose the best answer to each question out of the four alternatives and mark it in the Answer-Sheet.

**Passage I**  
**(Q. 46 to 50)**

The Stone Age was a period of history which began in approximately 2 million B.C. and lasted until 3000 B.C. Its name was derived from the stone tools and weapons that modern scientists discovered. This period was divided into the Paleolithic, Mesolithic, and Neolithic Ages. During the first period (2 million to 8000 B.C.) the fist hatchet and the use of fire for heating and cooking were developed. As a result of the Ice Age, which evolved about 1 million years in the Paleolithic Age, people were forced to seek shelter in caves, wear clothing and develop new tools.

During the Mesolithic Age (8000 to 6000 B.C.) people made crude pottery and the first fish hooks, took dogs for hunting, and developed a bow and arrow, which was used until the fourteenth century A.D.

The Neolithic Age (6000 to 3000 B.C.) saw human kind domesticating sheep, goats, pigs, and cattle, becoming less nomadic than in the previous Ages, establishing permanent settlements and creating governments.

**Questions :**

46. The Stone Age was divided into ..... periods.  
     (A) five    (B) four  
     (C) three    (D) six
47. What developed first in the Paleolithic period ?  
     (A) The bow and arrow  
     (B) Pottery  
     (C) The fist hatchet  
     (D) The fish hook

48. For how many years did Mesolithic Age exist ?  
 (A) 2000                    (B) 3000  
 (C) 4000                    (D) 5000
49. Which period lasted longest ?  
 (A) Paleolithic            (B) Ice Age  
 (C) Mesolithic            (D) Neolithic
50. When did people create governments ?  
 (A) 8000–6000 B.C.  
 (B) 2 million to 8000 B.C.  
 (C) 6000 to 3000 B.C.  
 (D) 2 million to 1 million B.C.

### Answers with Explanations

1. (C)      2. (B)      3. (B)      4. (C)      5. (C)  
 6. (C)      7. (B)      8. (D)      9. (A)      10. (D)  
 11. (B) Listening to someone carefully because we are interested.  
 12. (D) Much or a lot.  
 13. (B) 14. (C)  
 15. (C) The meaning of 'reminded' is to seem similar 'to someone or something else'.  
 16. (C) 17. (C) 18. (B) 19. (A) 20. (B)  
 21. (B) 22. (B) 23. (A) 24. (C) 25. (D)  
 26. (B) Delete 'that'. It is redundant.  
 27. (A) Third person comes before first person.  
 28. (B) Change 'with' to 'from'.  
 29. (C) Change 'into' to 'to'.  
 30. (C) Change 'are' to 'is'. The subject of the verb is singular.  
 31. (B) Avail is always followed by reflexive pronoun. Put myself after avail.  
 32. (B) Change 'respectively' to 'respectfully'.  
 33. (A) Change 'men' to 'man'.  
 34. (D) 35. (D) 36. (B) 37. (C) 38. (A)  
 39. (D) 40. (A) 41. (A) 42. (A) 43. (B)  
 44. (C) 45. (B) 46. (C) 47. (C) 48. (A)  
 49. (B) 50. (C)

### Part—III Quantitative Aptitude

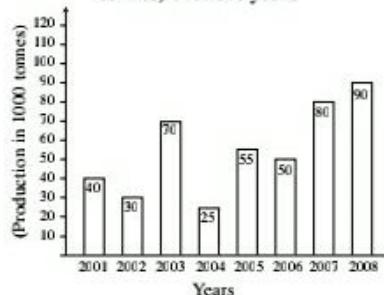
1. A and B were assigned to do a job for an amount of ₹ 1,200. A alone can do it in 15 days, while B can do it in 12 days. With the help of C, they can finish in 5 days. The share of amount that C earns is—  
 (A) ₹ 300                    (B) ₹ 400  
 (C) ₹ 500                    (D) ₹ 600
2. Which of these pipes will empty a pool the fastest ?  
 1. One pipe of diameter 60 cm  
 2. Two pipes of diameter 30 cm each  
 3. Three pipes of diameter 20 cm each  
 (A) 1                            (B) 2  
 (C) 3                            (D) None of these
3. The ratio of the area of an equilateral triangle and that of its circumcircle is—  
 (A)  $2\sqrt{3} : 2\pi$       (B)  $4 : \pi$   
 (C)  $3\sqrt{3} : 4\pi$       (D)  $7\sqrt{2} : 2\pi$
4. The dimensions of a rectangular parallelepiped are in the ratio 2 : 2 : 1 and the area of its whole surface is 144 sq. cm. Its volume is—  
 (A) 72 c.c.                    (B) 108 c.c.  
 (C) 288 c.c.                    (D) 144 c.c.
5. A machine is marked at ₹ 6,800 and available at a discount of 10%. The shopkeeper gives another off season discount to the buyer and sells the machine for ₹ 5,202. Find the off season discount—  
 (A) 10%                            (B) 12%  
 (C) 15%                            (D) 18%
6. A purchased a dining table, marked at ₹ 3,000 at a successive discounts of 10% and 15% respectively. He gave ₹ 105 as transportation charge and sold it at ₹ 3,200. What is his gain percentage ?  
 (A)  $22\frac{1}{3}\%$                     (B) 25%  
 (C)  $33\frac{1}{3}\%$                             (D)  $37\frac{17}{24}\%$
7. A shop offers 10% discount on every purchase of an article. It also offers an additional discount of 12%, if the payment is made in cash. If the original price of an item is ₹ 250, how much a customer will pay, if he wants to pay the price in cash ?  
 (A) ₹ 180                            (B) ₹ 192  
 (C) ₹ 198                            (D) ₹ 195
8. The ratio in which the Darjeeling tea at ₹ 32 per kg is mixed with the Assam tea at ₹ 25

- per kg so as to gain 20% by selling the mixture at ₹ 32.40 per kg is—  
 (A) 4 : 3                    (B) 3 : 4  
 (C) 5 : 2                    (D) 2 : 5
9. A box contains 420 coins in rupee, 50 paisa and 20 paisa coins, the ratio of their rupee values being 13 : 11 : 7. The number of 50 paisa coins is—  
 (A) 42                      (B) 78  
 (C) 66                      (D) 132
10. Divide 37 into two parts so that 5 times one part and 11 times the other are together 227—  
 (A) 15, 22                  (B) 20, 17  
 (C) 25, 12                  (D) 30, 7
11. The average age of four boys A, B, C and D is 5 years and the average age of A, B, D, E is 6 years. C is 8 years old. The age of E is (in years)—  
 (A) 12                      (B) 13  
 (C) 14                      (D) 15
12. What is the average of the first six (positive) odd numbers each of which is divisible by 7?  
 (A) 42                      (B) 43  
 (C) 47                      (D) 49
13. A businessman bought an article and sold it at a loss of 5%. If he had bought it for 10% less and sold it for ₹ 33 more, he would have had a profit of 30%. The cost price of the article is—  
 (A) ₹ 330                  (B) ₹ 155  
 (C) ₹ 150                  (D) ₹ 300
14.  $\frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}}$   
 $+ \frac{1}{\sqrt{5}-2}$  is equal to—  
 (A) 5                        (B) 3  
 (C) 1                        (D) 0
15. A and B can do a piece of work in 8 days, B and C can do it in 24 days, while C and A can do it in  $8\frac{4}{7}$  days. In how many days can C do it alone?  
 (A) 60                      (B) 40  
 (C) 30                      (D) 10
16. A is thrice as good a workman as B and therefore is able to finish a job in 40 days less than B. Working together, they can do it in—  
 (A) 14 days                (B) 13 days  
 (C) 20 days                (D) 15 days
17. In measuring the sides of a rectangle, there is an excess of 5% on one side and 2% deficit on the other. Then the error per cent in the area is—  
 (A) 3.3                    (B) 3.0  
 (C) 2.9                    (D) 2.7
18. An equilateral triangle and a regular hexagon have the same perimeter. The ratio of the area of the triangle to that of the hexagon is—  
 (A) 3 : 2                   (B) 2 : 3  
 (C) 1 : 2                   (D) 1 : 4
19. A sphere and a cube have equal surface areas. The ratio of the volume of the sphere to that of the cube is—  
 (A)  $\sqrt{\pi} : \sqrt{6}$   
 (B)  $\sqrt{6} : \sqrt{\pi}$   
 (C)  $\sqrt{2} : \sqrt{\pi}$   
 (D)  $\sqrt{\pi} : 3$
20. The difference between a discount of 35% and two successive discounts of 20% on a certain bill was ₹ 22. The amount of the bill was—  
 (A) ₹ 200                  (B) ₹ 220  
 (C) ₹ 1,100               (D) ₹ 2,200
21. Ratio between the monthly incomes of A and B is 9 : 8 and the ratio between their expenditures is 8 : 7. If they save ₹ 500 each, find A's monthly income.  
 (A) ₹ 3,500               (B) ₹ 4,000  
 (C) ₹ 4,500               (D) ₹ 5,000
22. If  $x : y = 3 : 4$ , then the value of  $\frac{5x-2y}{7x+2y} =$   
 (A)  $\frac{7}{25}$                    (B)  $\frac{7}{23}$   
 (C)  $\frac{7}{29}$                     (D)  $\frac{7}{17}$
23. The average of three numbers is 135. The largest number is 195 and the difference between the other two is 20. The smallest number is—

- (A) 65                    (B) 95  
 (C) 105                  (D) 115
24. If I purchased 11 books for ₹ 100 and sold 10 books for ₹ 110, the percentage of profit per book sold is—  
 (A) 10                    (B) 11.5  
 (C) 17.3                (D) 21
25. A cloth merchant sold half of his cloth at 40% profit, half of remaining at 40% loss and the rest was sold at the cost price. In the total transaction his gain or loss will be—  
 (A) 20% gain  
 (B) 25% loss  
 (C) 10% gain  
 (D) 15% loss
26. In an examination, 1100 boys and 900 girls appeared. 50% of the boys and 40% of the girls passed the examination. The percentage of candidates who failed is—  
 (A) 45                    (B) 45.5  
 (C) 50                    (D) 54.5
27. When the price of cloth was reduced by 25%, the quantity of cloth sold increased by 20%. What was the effect on gross receipt of the shop ?  
 (A) 5% increase  
 (B) 5% decrease  
 (C) 10% increase  
 (D) 10% decrease
28. Walking at the rate of 4 km an hour, a man covers a certain distance in 3 hours 45 minutes. If he covers the same distance on cycle, cycling at the rate of 16.5 km/hour, the time taken by him is—  
 (A) 55.45 minutes  
 (B) 54.55 minutes  
 (C) 55.44 minutes  
 (D) 45.55 minutes
29. In a certain time, the ratio of a certain principal and the simple interest obtained from it are in the ratio of 10 : 3 at 10% interest per annum. The number of years the money was invested is—  
 (A) 1                      (B) 3  
 (C) 5                      (D) 7

**Directions**—Study the following graph and answer questions No. 30—33.

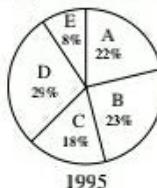
**Production of salt by a company (in 1000 tonnes) over the years**



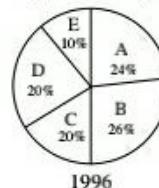
30. In how many of the given years was the production of salt more than the average production of the given years ?  
 (A) 1                      (B) 2  
 (C) 3                      (D) 4
31. The average production of 2004 and 2005 was exactly equal to the average production of which of the following pairs of years ?  
 (A) 2006, 2007            (B) 2005, 2006  
 (C) 2002, 2006            (D) 2001, 2005
32. What was the percentage decline in the production of salt from 2003 to 2004 ?  
 (A) 64.2                  (B) 180  
 (C) 62.4                  (D) 107
33. What was the percentage increase in production of salt in 2008 compared to that of 2001 ?  
 (A) 55.5                  (B) 125  
 (C) 150                    (D) 220

**Directions**—(Q. 34–38) Study the pie charts given below carefully and answer each of the questions based on it.

The following pie charts represent the percentage of the workers of five types for two years.



Number of total workers : 18000



Number of total workers : 20000

a = Award staff

b = Managers of first class

c = Managers of second class

d = Managers of third class

e = Executives

34. At the end of the year 1995, if 300 managers of first class left, then how many managers of first class entered in the year 1996 ?

(A) 340  
 (B) 460  
 (C) 280  
 (D) Data inadequate  
 (E) None of these

35. In 1996 if 500 managers of second class are on duty in the company then in 1996 how many managers of third class was on duty in the company ?

(A) 300  
 (B) 800  
 (C) 200  
 (D) Data inadequate  
 (E) None of these

36. In 1996 if 1000 executives joined the company then in the year 1995 how many executives left the company ?

(A) 540                   (B) 640  
 (C) 440                   (D) 240  
 (E) None of these

37. In which of the following types of workers the deviation was maximum between 1995 and 1996 ?

(A) E                     (B) B  
 (C) D                     (D) A  
 (E) C

38. What was the difference in the numbers of award staff during 1995 and 1996 ?

(A) 840  
 (B) 400  
 (C) 360  
 (D) Data inadequate  
 (E) None of these

**Directions—(Q. 39–40)** Study the following table carefully and answer each of the questions.

Number of types of different tyres sold, by a company over years

(Number in lakhs)

Years	Types of Tyres					Years
	A	B	C	D	E	
1989	35	20	40	15	25	135
1990	40	15	55	20	35	165
1991	30	25	45	25	30	155
1992	25	30	50	30	35	170
1994	42	28	34	42	30	176
1995	36	34	38	48	25	181

39. What is the approximate percentage increase in 'D' type of tyres from 1992 to 1993 ?

(A) 25                   (B) 30  
 (C) 35                   (D) 20  
 (E) 40

40. In which of the following years the percentage sale of 'D' type of tyres was maximum as compared total sale of that year ?

(A) 1992               (B) 1994  
 (C) 1990               (D) 1995  
 (E) None of these

41. The value of  $(\sqrt{4^3 + 15^2})^3$  is—

(A) 3943               (B) 4913  
 (C) 4313               (D) 4193

42. By selling 4 articles for 1 rupees, a man loses 4%. Had he sold three articles per rupee, the profit would have been—

(A) 12%               (B) 30%  
 (C) 28%               (D) 16%

43. If  $5.5 \text{ of } a = 0.65 \text{ of } b$ , then  $a : b$  is equal to—

(A) 110 : 13           (B) 13 : 11  
 (C) 11 : 13           (D) 13 : 110

44. An article is sold at a loss of 10%. Had it been sold for ₹ 90 more, there would have been a gain of 5%. The original sale price of the article (in ₹) is—

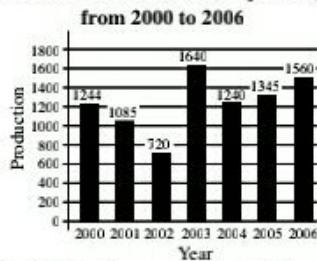
(A) 650               (B) 540  
 (C) 600               (D) 628

45. A contractor undertook to finish a work in 92 days and employed 110 men. After 48 days, he found that he had already done  $\frac{3}{5}$  part of the

- work, the number of men he can withdraw so that the work may still be finished in time is—  
 (A) 30                   (B) 45  
 (C) 40                   (D) 35
46. From a class of 42 boys, a boy aged 10 years goes away and in his place, a new boy is admitted. If on account of this change, the average age of the boys in that class increases by 2 months, the age of the newcomer is—  
 (A) 12 years 2 months  
 (B) 19 years  
 (C) 17 years  
 (D) 10 years 6 months
47. What is to be added to 15% of 160 so that the sum may be equal to 25% of 240 ?  
 (A) 36                   (B) 24  
 (C) 84                   (D) 60
48. Two trains starts from station A and B and travel towards each other at speeds of 16 miles/hour and 21 miles/hour respectively. At the time of their meeting, the second train has travelled 60 miles more than the first. The distance between A and B (in miles) is—  
 (A) 540                   (B) 444  
 (C) 496                   (D) 333

**Directions—(Q. 49 and 50)** The bar diagram below shows the production of potatoes (in quintals) from the year 2000 to 2006. Study the diagram and answer the questions.

**Production of Potatoes (in quintals)**



49. Considering the average production during this period, the number of years in which the production is above average is—  
 (A) 4                     (B) 1  
 (C) 2                     (D) 3

50. During this period, the highest rate of decline in production is—  
 (A) 35.32%             (B) 24.4%  
 (C) 28.22%             (D) 33.64%

## Answers with Explanations

$$\begin{aligned} \text{1. (A)} & \because \text{Work of A alone for 1 day} = \frac{1}{15} \\ & \Rightarrow \text{Work of B alone for 1 day} = \frac{1}{12} \\ & \Rightarrow \text{Work of (A + B + C) together for 1 day} \\ & \qquad\qquad\qquad = \frac{1}{5} \end{aligned}$$

$$\begin{aligned} \therefore \text{Work of C alone for 1 day} \\ & = \frac{1}{5} - \left( \frac{1}{15} + \frac{1}{12} \right) \\ & = \frac{1}{5} - \left( \frac{4+5}{60} \right) \\ & = \frac{1}{5} - \frac{3}{20} = \frac{1}{20} \end{aligned}$$

$$\begin{aligned} \therefore \text{Ratio of work done by A, B and C} \\ & = \frac{1}{15} : \frac{1}{12} : \frac{1}{20} \end{aligned}$$

$$\Rightarrow A : B : C = 4 : 5 : 3$$

$\therefore$  Share of amount that C earns

$$\begin{aligned} & = \frac{3}{(4+5+3)} \times ₹ 1200 \\ & = \frac{1}{4} \times ₹ 1200 \\ & = ₹ 300 \end{aligned}$$

2. (A)  $\because$  Area of cross-section of one pipe of diameter 60 cm

$$= \pi (30)^2 = 900 \pi \text{ sq. cm}$$

- $\Rightarrow$  Area of cross-section of two pipes at diameter 30 cm each

$$\begin{aligned} & = \pi (15)^2 + \pi (15)^2 \\ & = \pi (225 + 225) \\ & = 450 \pi \text{ sq. cm} \end{aligned}$$

- $\Rightarrow$  Area of cross-section of three pipes of diameter 20 cm each

$$\begin{aligned} & = \pi (10)^2 + \pi (10)^2 + \pi (10)^2 \\ & = \pi (100 + 100 + 100) \\ & = 300 \pi \text{ sq. cm} \end{aligned}$$

∴ It is clear that area of cross-section of one pipe of diameter 60 cm is biggest. Hence one pipe of diameter 60 cm will empty the pool fastest.

3. (C) Let one side of an equilateral triangle ABC

$$= a \text{ cm}$$

$$\therefore AD = AB \cdot \sin 60^\circ$$

$$= a \cdot \frac{\sqrt{3}}{2}$$

$$\Rightarrow \text{Radius of the circumcircle} = OA = OB = OC$$

$$= \frac{2}{3} \times AD$$

$$= \frac{2}{3} \times a \frac{\sqrt{3}}{2}$$

$$= \frac{a}{\sqrt{3}}$$

∴ Reqd. ratio

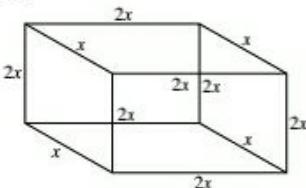
$$= \text{Area of an equilateral triangle} : \text{Area of its circumcircle}$$

$$= \frac{\sqrt{3}}{4} \cdot a^2 : \pi \left( \frac{a}{\sqrt{3}} \right)^2$$

$$= \frac{\sqrt{3}}{4} a^2 : \pi \frac{a^2}{3}$$

$$= 3\sqrt{3} : 4\pi$$

4. (B) Let the dimensions of a rectangular parallelepiped are  $2x$ ,  $2x$  and  $x$  respectively. Then,



∴  $144 \text{ sq. cm} = \text{Area of its whole surface}$

$$= 4x^2 + 4x^2 + 2x^2 + 2x^2 + 2x^2 + 2x^2 \\ = 16x^2$$

$$\Rightarrow x^2 = \frac{144}{16} = 9 = (3)^2$$

$$\therefore x = 3 \text{ cm}$$

∴ Volume of rectangular parallelopiped

$$= 2x \times 2x \times x$$

$$= 4x^3$$

$$= 4.(3)^3 \text{ c.c.}$$

$$= 108 \text{ c.c.}$$

5. (C) Let the off-season discount =  $x\%$

Then, single equivalent discount

$$= \left[ 10 + x - \frac{10 \times x}{100} \right] \%$$

$$= \left[ 10 + \frac{9}{10} x \right] \%$$

$$\left[ 100 - \left( 10 + \frac{9}{10} x \right) \right]$$

$$\therefore 6800 \times \frac{100}{100}$$

$$= 5202$$

$$\Rightarrow \left[ 90 - \frac{9}{10} x \right] = \frac{5202}{68}$$

$$\Rightarrow \frac{9}{10} x = 90 - 76.5 = 13.5$$

$$\therefore x = \frac{13.5 \times 10}{9} \\ = 15\%$$

6. (C) ∵ Single equivalent discount

$$= \left[ 10 + 15 - \frac{10 \times 15}{100} \right] \%$$

$$= [25 - 1.5]\%$$

$$= 23.5\%$$

⇒ Cost price of dining table

$$= 3000 \times \frac{(100 - 23.5)}{100} + 105$$

$$= 3000 \times \frac{76.5}{100} + 105$$

$$= 2295 + 105$$

$$= ₹ 2400$$

∴ Required gain percentage

$$= \frac{3200 - 2400}{2400} \times 100\%$$

$$= \frac{1}{3} \times 100\%$$

$$= 33\frac{1}{3}\%$$

7. (C) ∵ Single equivalent discount

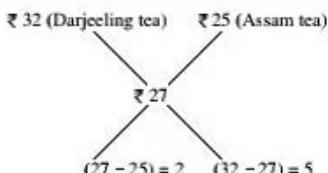
$$\begin{aligned} &= \left( 10 + 12 - \frac{10 \times 12}{100} \right)\% \\ &= (22 - 1.2)\% = 20.8\% \end{aligned}$$

If customer paid the price in cash, then

$$\begin{aligned} \text{Required price} &= \frac{(100 - 20.8)}{100} \times ₹ 250 \\ &= 79.2 \times 2.5 = ₹ 198 \end{aligned}$$

8. (D) ∵ Cost price of the mixture

$$\begin{aligned} &= ₹ 32.40 \times \frac{100}{(100 + 20)} \\ &= ₹ 32.4 \times \frac{5}{6} = ₹ 27.0 \end{aligned}$$



$$\therefore \text{Reqd. ratio} = \text{Darjeeling Tea : Assam Tea} = 2 : 5$$

9. (D) Let the box contains number of coins of one rupee, 50 paisa and 20 paisa are  $x, y$  and  $z$  respectively. Then,

$$x + y + z = 420 \quad \dots(1)$$

and ratio of their rupee value is—

$$\begin{aligned} x \times 1.00 : y \times 0.50 : z \times 0.20 &\therefore 13 : 11 : 7 \\ \Rightarrow 10x : 5y : 2z &= 13 : 11 : 7 \quad \dots(2) \end{aligned}$$

$$\begin{aligned} \because \frac{10x}{5y} &= \frac{13}{11} \\ \Rightarrow x &= \frac{13}{22}y \end{aligned}$$

$$\begin{aligned} \text{and } \frac{5y}{2z} &= \frac{11}{7} \\ \Rightarrow z &= \frac{35}{22}y \end{aligned}$$

Substitute the values of  $x$  and  $z$  in equation (2), we get—

$$\begin{aligned} \because \frac{13}{22}y + y + \frac{35}{22}y &= 420 \\ \Rightarrow y(13 + 22 + 35) &= 420 \times 22 \\ \therefore \text{Number of 50 paisa coins} &= y \\ &= \frac{420 \times 22}{70} \\ &= 132 \end{aligned}$$

10. (D) Let the two parts of 37 are  $x$  and  $(37 - x)$  respectively. Then,

$$\begin{aligned} \therefore x \times 5 + (37 - x) \times 11 &= 227 \\ \Rightarrow (11 - 5)x &= 407 - 227 \\ &= 180 \end{aligned}$$

$$\therefore x = \frac{180}{6} = 30$$

$$\therefore \text{Required two parts are } = 30 \text{ and } (37 - 30) = 30 \text{ and } 7$$

11. (A) As per question—

$$\therefore \text{Total age of 4 boys } (A + B + C + D)$$

$$\begin{aligned} &= 4 \times 5 \\ &= 20 \text{ years} \quad \dots(1) \end{aligned}$$

$$\Rightarrow \text{Total age of 4 boys } (A + B + D + E)$$

$$\begin{aligned} &= 4 \times 6 \\ &= 24 \text{ years} \quad \dots(2) \end{aligned}$$

Subtract equation (1) from equation (2), we get

Difference of age of  $(E - C)$

$$\begin{aligned} &= 24 - 20 \\ &= 4 \text{ years} \end{aligned}$$

$$\begin{aligned} \therefore \text{Age of } E &= \text{Age of } C + 4 \text{ years} \\ &= 8 \text{ years} + 4 \text{ years} \\ &= 12 \text{ years} \end{aligned}$$

12. (A) Required average

$$\begin{aligned} &= \frac{(7 + 21 + 35 + 49 + 63 + 77)}{6} \\ &= \frac{7(1 + 3 + 5 + 7 + 9 + 11)}{6} \\ &= \frac{7 \times 36}{6} = 42 \end{aligned}$$

13. (C) Let the C.P. of the article = ₹  $x$ . Then

$$\begin{aligned} \text{S.P. of the article} &= ₹ \frac{(100 - 5)}{100} \times x \\ &= \frac{95}{100}x \end{aligned}$$

$$\begin{aligned} \therefore \left( \frac{95}{100}x + 33 \right) &= \frac{(100 - 10)}{100} \cdot x \\ &\times \frac{(100 + 30)}{100} \end{aligned}$$

$$\Rightarrow \frac{95}{100}x + 33 = \frac{9}{10}x \times \frac{13}{10}$$

$$\Rightarrow \left( \frac{117}{100}x - \frac{95}{100}x \right) = 33$$

$$\therefore x = \frac{33 \times 100}{22} = ₹ 150$$

14. (A)  $\because \frac{1}{(3-\sqrt{8})} \times \frac{(3+\sqrt{8})}{(3+\sqrt{8})} = \frac{3+\sqrt{8}}{9-8}$   
 $= 3+\sqrt{8}$

similarly,

$$\begin{aligned}\frac{1}{\sqrt{8}-\sqrt{7}} &= \sqrt{8}+\sqrt{7}, \quad \frac{1}{\sqrt{7}-\sqrt{6}} = \sqrt{7}+\sqrt{6}, \\ \frac{1}{\sqrt{6}-\sqrt{5}} &= \sqrt{6}+\sqrt{5}, \quad \frac{1}{\sqrt{5}-2} = \sqrt{5}+2\end{aligned}$$

$\therefore$  Given Exp. =

$$(3+\sqrt{8}) - (\sqrt{8}+\sqrt{7}) + (\sqrt{7}+\sqrt{6}) - (\sqrt{6}+\sqrt{5}) + (\sqrt{5}+2) = 3+2=5$$

15. (A)  $\because$  Work of C for 1 day

$$\begin{aligned}&= \frac{1}{2} \left( -\frac{1}{8} + \frac{1}{24} + \frac{7}{60} \right) \\ &= \frac{1}{2} \left( \frac{-15+5+14}{120} \right) \\ &= \frac{1}{2} \left( \frac{4}{120} \right) \\ &= \frac{1}{60}\end{aligned}$$

$\therefore$  Reqd. No. of days to do work by C alone = 60 days.

16. (D) Let B does the work in  $x$  days, then the same work can be done by A in  $\frac{x}{3}$  days.

$$\therefore x - \frac{x}{3} = 40$$

$$\Rightarrow 2x = 120$$

$$\therefore x = 60$$

Required number of days to do work by both (A and B)

$$\begin{aligned}&= \frac{60 \times 20}{60+20} \\ &= 15 \text{ days}\end{aligned}$$

17. (C)  $\therefore$  Required percentage error to measure the area

$$\begin{aligned}&= \left[ +5 - 2 - \frac{2 \times 5}{100} \right]\% \\ &= [5 - 2 - 0.1]\% \\ &= 2.9\%\end{aligned}$$

18. (B) Let the sides of equilateral triangle and a regular hexagon are  $x$  and  $y$  respectively, then as per question—

$$\begin{aligned}\therefore 3x &= 6y \\ \therefore x &= 2y\end{aligned}$$

$\Rightarrow$  Area of equilateral triangle

$$\begin{aligned}&= \frac{\sqrt{3}}{4} x^2 \\ &= \frac{\sqrt{3}}{4} \times 4y^2 = \sqrt{3} y^2\end{aligned}$$

$$\Rightarrow \text{Area of regular hexagon} = \frac{3\sqrt{3}}{2} y^2$$

$\therefore$  Required ratio of areas

$$\begin{aligned}&= \frac{\text{Area of } \Delta}{\text{Area of Hexagon}} \\ &= \frac{\sqrt{3}y^2 \times 2}{3\sqrt{3}y^2} \\ &= \frac{2}{3} \approx 2 : 3\end{aligned}$$

19. (B) Let the radius is  $r$  of the sphere, then whole area of sphere =  $4\pi r^2$ .

Let the side of cube is  $a$ , then whole area of cube =  $6a^2$ .

$$\therefore a^2 = \frac{4}{6}\pi r^2$$

$$\Rightarrow a = \sqrt{\frac{4}{6}\pi r^2}$$

$\therefore$  Required ratio of volumes

$$\begin{aligned}&= \frac{\text{Vol. of sphere}}{\text{Vol. of cube}} = \frac{4/3\pi r^3}{a^3} \\ &= \frac{4}{3}\pi r^3 \times \frac{6}{4\pi r^2} \times \sqrt{\frac{6}{4\pi r^2}} \\ &= \frac{\sqrt{6}}{\sqrt{\pi}} \approx \sqrt{6} : \sqrt{\pi}\end{aligned}$$

20. (D) Let the bill amount was ₹  $x$ , then

Equivalent discount of two successive discounts of 20%

$$\begin{aligned}&= \left[ -20 - 20 + \frac{400}{100} \right]\% \\ &= -36\%\end{aligned}$$

$$\therefore 36x - 35x = 22 \times 100$$

$$\therefore x = ₹ 2200.$$

21. (C) Let the monthly incomes of A and B are ₹  $9x$  and ₹  $8x$  respectively and their expenditures are ₹  $8y$  and ₹  $7y$ , then as per question,

$$\begin{array}{l} 9x - 8y = 500 \quad \dots(1) \\ \text{and} \quad 8x - 7y = 500 \quad \dots(2) \\ \text{To solve (1) and (2),} \end{array}$$

$$x = 500$$

$$\therefore \text{Monthly income of A} = \text{₹ } 500 \times 9 \\ = \text{₹ } 4500$$

22. (C) ∵  $x : y = 3 : 4$ 

$$\Rightarrow \frac{x}{y} = \frac{3}{4}$$

Given Exp.  $= \frac{5x - 2y}{7x + 2y}$

$$= \frac{5 \times \frac{3}{4} - 2}{7 \times \frac{3}{4} + 2}$$

$$= \frac{15 - 8}{21 + 8} = \frac{7}{29}$$

23. (B) Let the smallest number is  $x$ , then as per question,

$$\begin{aligned} \therefore x + (x + 20) + 195 &= 135 \times 3 \\ \Rightarrow 2x &= 405 - 195 - 20 = 190 \\ \therefore x &= 95 \end{aligned}$$

24. (D) The cost price of one book

$$= \text{₹ } \frac{100}{11}$$

The selling price of one book

$$= \text{₹ } \frac{110}{10} = \text{₹ } 11$$

∴ Required percentage profit

$$\begin{aligned} &= \left( \frac{11 - \frac{100}{11}}{\frac{100}{11}} \right) \times 100\% \\ &= \frac{121 - 100}{100} \times 100\% \\ &= 21\% \end{aligned}$$

25. (C) Let the total cost price is ₹ 100, then as per question,

$$\begin{aligned} \therefore \text{Total S.P.} &= \frac{50 \times 140}{100} + \frac{25 \times 60}{100} \\ &\quad + \frac{25 \times 100}{100} \\ &= \text{₹ } 70 + 15 + 25 \\ &= \text{₹ } 110 \end{aligned}$$

Hence, 10% gain in the total transaction.

$$\begin{array}{ll} 26. (\text{D}) \text{No. of failed boys in the examination} \\ = \frac{1100 \times 50}{100} = 550 \end{array}$$

$$\begin{array}{ll} \text{No. of failed girls in the examination} \\ = \frac{900 \times 60}{100} = 540 \end{array}$$

$$\begin{array}{ll} \therefore \text{Failed candidates percentage} \\ = \frac{(550 + 540)}{2000} \times 100\% \\ = 54.5\% \end{array}$$

$$\begin{array}{ll} 27. (\text{D}) \text{Effect on gross receipt} \\ = \left( 20 - 25 \cdot \frac{500}{100} \right)\% \\ = -10\% \end{array}$$

Hence, 10% decrease.

$$\begin{array}{ll} 28. (\text{B}) \text{The distance covered by person} \\ = \text{speed} \times \text{time} \\ = 4 \times 3.75 \text{ km} \\ = 15 \text{ km} \end{array}$$

$$\begin{array}{ll} \text{The time taken to cover this distance} \\ = \frac{\text{Distance}}{\text{Speed}} \\ = \frac{15}{16.5} \times 60 \text{ minutes} \\ = 54.55 \text{ minutes.} \end{array}$$

$$29. (\text{B}) \text{Let the principal sum and simple interest are ₹ } 10x \text{ and ₹ } 3x \text{ respectively, then as per question,}$$

Hence, required number of years

$$= \frac{3x \times 100}{10x \times 10} = 3 \text{ years.}$$

$$\begin{array}{ll} 30. (\text{C}) \text{Average production of salt} \\ = \frac{40 + 30 + 70 + 25 + 55 + 50 + 80 + 90}{8} \end{array}$$

$$= \frac{440}{8} = 55 \text{ (1000 tonnes)}$$

Hence, the number of years for more than the average production i.e., 2003, 2007, 2008 = 3.

$$31. (\text{C}) \text{The average production of the years 2004 and 2005}$$

$$\begin{aligned} &= \frac{25 + 55}{2} \\ &= 40 \text{ (1000 tonnes)} \end{aligned}$$

The average production of the years 2002 and 2006

$$\begin{aligned} &= \frac{30 + 50}{2} \\ &= 40 \text{ (1000 tonnes)} \end{aligned}$$

32. (A) Hence, required percentage decline

$$\begin{aligned} &= \frac{70 - 25}{70} \times 100\% \\ &= \frac{4500}{70}\% \\ &= 64.2\% \end{aligned}$$

33. (B) ∵ Required percentage increased

$$\begin{aligned} &= \frac{90 - 40}{40} \times 100\% \\ &= \frac{5000}{40}\% \\ &= 125\% \end{aligned}$$

34. (E) Total number of first class managers in 1995

$$\begin{aligned} &= \frac{23 \times 18000}{100} \\ &= 4140 \end{aligned}$$

and the number of first class managers who left

$$= 300$$

∴ Remaining number of first class managers

$$= 4140 - 300 = 3840$$

Total number of first class managers in 1996

$$\begin{aligned} &= \frac{26 \times 20000}{100} \\ &= 5200 \end{aligned}$$

∴ No. of those who entered in 1996

$$\begin{aligned} &= 5200 - 3840 \\ &= 1360 \end{aligned}$$

35. (E) Since the percentage of second class and third class managers in 1996 is same

∴ The numbers of both classes of managers in 1996 will be same

Since 500 second class managers are on duty

∴ The number of third class manager on duty in 1996 = 500.

36. (C) Total number of executives in 1996

$$= \frac{10 \times 20000}{100} = 2000$$

and total number of executives in 1995

$$\begin{aligned} &= \frac{8 \times 18000}{100} \\ &= 1440 \end{aligned}$$

∴ No. of executives who left

$$\begin{aligned} &= 1440 + 1000 - 2000 \\ &= 440. \end{aligned}$$

37. (C) Deviation in award staff

$$\begin{aligned} &= \frac{24 \times 20000 - 22 \times 18000}{100} \\ &= 840 \end{aligned}$$

Deviation in first class managers

$$\begin{aligned} &= \frac{26 \times 20000 - 23 \times 18000}{100} \\ &= 1060 \end{aligned}$$

Deviation in second class managers

$$\begin{aligned} &= \frac{20 \times 20000 - 18 \times 18000}{100} \\ &= 760 \end{aligned}$$

Deviation in third class managers

$$\begin{aligned} &= \frac{20 \times 20000 - 29 \times 18000}{100} \\ &= 1220 \end{aligned}$$

Deviation in Executives

$$\begin{aligned} &= \frac{10 \times 20000 - 8 \times 18000}{100} \\ &= 560 \end{aligned}$$

Hence it is clear that maximum deviation is in the number of third class managers.

38. (A) Reqd. difference

$$\begin{aligned} &= \frac{24 \times 20000 - 22 \times 18000}{100} \\ &= 840. \end{aligned}$$

39. (A) Reqd. percentage increase

$$\begin{aligned} &= \frac{(38 - 30) \times 100}{30} - 26.6 \\ &= 25 \text{ (App.).} \end{aligned}$$

40. (D) Reqd. percentage in 1989 =  $\frac{15 \times 100}{135}$

$$= 11.11$$

Reqd. percentage in 1991 =  $\frac{25 \times 100}{155}$

$$= 16.13$$

Reqd. percentage in 1992 =  $\frac{30 \times 100}{170}$

$$= 17.65$$

$$\begin{aligned}\text{Reqd. percentage in 1993} &= \frac{38 \times 100}{175} \\ &= 21.71\end{aligned}$$

$$\begin{aligned}\text{Reqd. percentage in 1994} &= \frac{42 \times 100}{176} \\ &= 23.86\end{aligned}$$

$$\begin{aligned}\text{Reqd. percentage in 1995} &= \frac{48 \times 100}{181} \\ &= 26.51\end{aligned}$$

Hence it was maximum in 1995.

$$\begin{aligned}41. (\text{B}) \left(\sqrt{4^2 + 15^2}\right)^3 &= \left(\sqrt{64 + 225}\right)^3 \\ &= (\sqrt{289})^3 \\ &= (17)^3 \\ &= 4913\end{aligned}$$

42. (C) Let the C. P. of one article be ₹ x. Then—

$$\begin{aligned}\therefore x \times \frac{96}{100} &= \frac{1}{4} \\ \Rightarrow x &= \text{₹ } \frac{25}{96}\end{aligned}$$

∴ Reqd. profit percentage

$$\begin{aligned}&= \left(\frac{1}{3} - \frac{25}{96}\right) \times \frac{96}{25} \times 100\% \\ &= \frac{(96 - 75)}{3 \times 96} \times \frac{96}{25} \times 100\% \\ &= (7 \times 4)\% \\ &= 28\%\end{aligned}$$

43. (D) ∵  $a \times 5.5 = b \times 0.65$

$$\begin{aligned}\Rightarrow \frac{a}{b} &= \frac{0.65}{5.50} = \frac{65}{550} \\ \therefore a : b &= \frac{13}{110} \\ &= 13 : 110\end{aligned}$$

44. (C) Let the original sale price of the article be ₹ x, then,

$$\begin{aligned}\therefore x \times \frac{90}{100} + 90 &= x \times \frac{105}{100} \\ \Rightarrow 9x + 900 &= 10.5x \\ \Rightarrow 1.5x &= 900 \\ \therefore x &= ₹ 600\end{aligned}$$

45. (A) As per question, let the number of men be x, who can finish the remaining work

$$\begin{aligned}&= \left(1 - \frac{3}{5}\right) \text{ in 44 days. Then,} \\ \therefore \frac{x \times 44}{2/5} &= \frac{110 \times 48}{3/5}\end{aligned}$$

$$\Rightarrow 22x = 110 \times 16$$

$$\therefore x = 80 \text{ men}$$

∴ Reqd. number of men withdrawn by the contractor

$$= 30 \text{ men}$$

46. (C) Let the original average age

$$= x \text{ months and age of the newcomer}$$

$$= y \text{ months. Then, as per question—}$$

$$\frac{42 \times x - 10 \times 12 + y}{42} = x + 2$$

$$\Rightarrow 42x - 120 + y = 42x + 84$$

$$\Rightarrow y = 120 + 84$$

$$= 204 \text{ months}$$

$$= 17 \text{ years}$$

$$47. (\text{A}) \because 160 \times \frac{15}{100} + x = 240 \times \frac{25}{100}$$

$$\Rightarrow 24 + x = 60$$

$$\therefore \text{Reqd. number (x)} = 36$$

48. (B) Let both the trains meet after t hours. Then as per question—

$$16 \times t + 60 = 21 \times t$$

$$\Rightarrow 5t = 60$$

$$\therefore t = 12 \text{ hours.}$$

The distance between A and B (in miles)

$$\begin{aligned}&= 16 \times 12 + 21 \times 12 \\ &= 192 + 252 \\ &= 444 \text{ miles}\end{aligned}$$

49. (D) Average production during this period

$$\begin{aligned}&\frac{1244 + 1085 + 720 + 1640 + 1240}{7} \\ &= \frac{8834}{7}\end{aligned}$$

$$= 1262 \text{ Quintals}$$

∴ Required the number of years

$$= (2003, 2005, 2006)$$

$$= 3 \text{ years}$$

50. (D) Reqd. highest rate of decline in production

$$= \frac{(1085 - 720) \times 100}{1085} \%$$

$$= \frac{365}{1085} \times 100\%$$

$$= 33.64\%$$

## Part—IV

### General Awareness

- Which one of the following is not a benefit of Saliva ?
  - It facilitates swallowing
  - It increases RBCs in the body
  - It keeps the mouth and teeth clean
  - It aids speech by facilitating movements of lips and tongue
- Match List-I with List-II and select the correct answer using its codes given below the lists—

**List-I                      List-II**

- |                  |                |
|------------------|----------------|
| (a) Pulicat Lake | (1) Orissa     |
| (b) Chilka Lake  | (2) Rajasthan  |
| (c) Wular Lake   | (3) Tamil Nadu |
| (d) Sambhar Lake | (4) Kashmir    |

**Codes :**

- |         |     |     |     |
|---------|-----|-----|-----|
| (a)     | (b) | (c) | (d) |
| (A) (3) | (1) | (4) | (2) |
| (B) (3) | (4) | (2) | (1) |
| (C) (4) | (1) | (3) | (2) |
| (D) (1) | (2) | (4) | (3) |

- In West Bengal, Raniganj is associated with—
  - Coalfields
  - Iron ore
  - Manganese ore
  - Copper
- Who expounded "The Theory of Drain" ?
  - Tilak
  - Dadabhai Naoroji
  - Gokhale
  - Govinda Ranade
- The best Index of Economic Development is provided by—
  - Growth in Per capita Real Income from year to year
  - Growth in National Income at Current Prices
  - Growth in savings ratio
  - Improvement in the Balance of Payments Position
- The part of the eye having the largest refractive index is—
  - Cornea
  - Aqueous humor
  - Lens
  - Vitreous humor

- On May 17, 2010, India successfully test fired surface to surface ballistic missile (Agni II) from the wheeler island off—
    - Orissa coast
    - Gujarat coast
    - Andhra Pradesh coast
    - None of the above
  - Name the food crop which gives highest output in India—
    - Wheat
    - Jowar
    - Maize
    - Rice
  - The Zoji-La pass connects—
    - Srinagar and Leh
    - Arunachal Pradesh and Tibet
    - Chamba and Spiti
    - Kalimpong and Lhasa
  - Enzymes are—
    - Micro organisms
    - Proteins
    - Inorganic compounds
    - Moulds
  - Which one of the following appointments is not within the purview of the President of India ?
    - Chief Justice of India
    - Chairman, Finance Commission
    - Chief of Army Staff
    - Speaker of Lok Sabha
  - Match the following—
- | <b>List - I</b>  | <b>List - II</b> |
|------------------|------------------|
| (a) Aquaculture  | (1) Silk         |
| (b) Floriculture | (2) Grapes       |
| (c) Sericulture  | (3) Flower       |
| (d) Viticulture  | (4) Fisheries    |
- Codes :**
- |         |     |     |     |
|---------|-----|-----|-----|
| (a)     | (b) | (c) | (d) |
| (A) (4) | (3) | (2) | (1) |
| (B) (3) | (4) | (1) | (2) |
| (C) (3) | (4) | (2) | (1) |
| (D) (4) | (3) | (1) | (2) |
- In which region does rainfall occur throughout the year ?
    - Mediterranean
    - Equatorial
    - Tropical
    - Temperate

14. The place Sabarimala is situated in which of the following States ?  
 (A) Andhra Pradesh (B) Tamil Nadu  
 (C) Kerala (D) Karnataka
15. Which Himalayan Peak is also called 'Sagar Matha' ?  
 (A) Nanga Parbat (B) Dhaulagiri  
 (C) Mt. Everest (D) Kanchenjunga
16. The term 'Kraal' is used for—  
 (A) House of Masai herder  
 (B) Fenced villages of Masai herder  
 (C) Cattle shed of the Kikuyus  
 (D) Tent of the Kirghiz
17. Who among the following have venous heart ?  
 (A) Mammals (B) Reptilians  
 (C) Fishes (D) Amphibians
18. One of the following excretes uric acid as its excretory product—  
 (A) Amoeba (B) Tilapia  
 (C) Sparrow (D) Camel
19. Loose Smut of wheat is caused by—  
 (A) Ustilago maydis  
 (B) Puccinia graminis  
 (C) Ustilago tritici  
 (D) Colletotrichum falcatum
20. Which base in place of thymine is present in RNA ?  
 (A) Adenine (B) Guanine  
 (C) Uracil (D) Cytosine
21. Protein part of enzyme is known as—  
 (A) Isoenzyme (B) Holoenzyme  
 (C) Apoenzyme (D) All the above
22. The hydraulic press utilizes—  
 (A) Pascal's law  
 (B) Bernoulli's principle  
 (C) Archimedes principle  
 (D) Boyle's law
23. The unit of electrical conductance is—  
 (A) Ohm (B) Ohm-cu  
 (C) mho (D) mho-cu<sup>-1</sup>
24. The oil in the wick of lamp rises due to—  
 (A) Pressure difference  
 (B) Phenomenon of capillarity
- (C) Low viscosity of oil  
 (D) Force of cohesion
25. Kepler's law of planetary motion states that the square of the time period is proportional to the—  
 (A) semi-major axis  
 (B) square of the semi-major axis  
 (C) cube of the semi-major axis  
 (D) fourth power of the semi-major axis
26. Arithmetic & Logic Unit  
 I. Perform Arithmetic operations  
 II. Store Data  
 III. Perform comparisons  
 IV. Communicate with input devices  
 Which of the above is true ?  
 (A) I only (B) III only  
 (C) I & II (D) I & III
27. In Word Processing, moving text from one place to another within a document is called as .....  
 (A) Clip Art  
 (B) Search & Replace  
 (C) Cut and Paste  
 (D) Block Operation
28. What MS-DOS command is used to create a subdirectory ?  
 (A) DIR/MK (B) MKDIR  
 (C) CHDIR (D) RMDIR
29. Suspension particles have the size between—  
 (A) 10<sup>-2</sup> and 10<sup>-4</sup> cm  
 (B) 10<sup>-5</sup> and 10<sup>-7</sup> cm  
 (C) 10<sup>-8</sup> and 10<sup>-10</sup> cm  
 (D) 10<sup>-1</sup> and 10<sup>-2</sup> cm
30. Iodine value is used to estimate—  
 (A) Hydroxyl groups in oil  
 (B) Alkali content in oil  
 (C) Unsaturation in oil  
 (D) Carboxylic groups in oil
31. Element 106 was discovered by—  
 (A) Rutherford (B) Seaborg  
 (C) Lawrence (D) Kurchatov

32. What is meant by a 'pir' in the Sufi tradition ?  
 (A) The Supreme God  
 (B) The Guru of the Sufis  
 (C) The greatest of all Sufi saints  
 (D) The orthodox teacher who contests the Sufi beliefs
33. Khalsa Panth was created by Guru Gobind Singh in which year ?  
 (A) 1599                                 (B) 1699  
 (C) 1707                                 (D) 1657
34. Who propounded the Panchsheel Principles ?  
 (A) Mahatma Gandhi  
 (B) Lord Buddha  
 (C) Pandit Jawahar Lal Nehru  
 (D) Swami Dayanand Saraswati
35. On April 12, 1944 Subhash Chandra Bose hoisted the INA Flag in a town. In which State/Union Territory is that town now ?  
 (A) Andaman and Nicobar Islands  
 (B) Tripura  
 (C) Manipur  
 (D) Mizoram
36. Which one of the following is known as the 'immovable property' in the cell ?  
 (A) Carbohydrate                         (B) Fat  
 (C) Protein                                 (D) Nucleic acid
37. Water from soil enters into the root hairs owing to—  
 (A) Atmospheric pressure  
 (B) Capillary pressure  
 (C) Root pressure  
 (D) Osmotic pressure
38. Breeding and management of bees is known as—  
 (A) Sericulture                             (B) Silviculture  
 (C) Pisciculture                             (D) Apiculture
39. The vitamin necessary for coagulation of blood is—  
 (A) Vitamin B                                 (B) Vitamin C  
 (C) Vitamin K                                 (D) Vitamin E
40. The average life span of red blood corpuscles is about—  
 (A) 100 – 200 days                         (B) 100 – 120 days  
 (C) 160 – 180 days                         (D) 150 – 200 days
41. Dormancy period of animals during winter season is called—  
 (A) Aestivation                                 (B) Regeneration  
 (C) Hibernation                                 (D) Mutation
42. The angle in which a cricket ball should be hit to travel maximum horizontal distance is—  
 (A)  $60^\circ$  with horizontal  
 (B)  $45^\circ$  with horizontal  
 (C)  $30^\circ$  with horizontal  
 (D)  $15^\circ$  with horizontal
43. The minimum number of geostationary satellites needed for uninterrupted global coverage is—  
 (A) 3   (B) 4  
 (C) 2   (D) 1
44. The best conductor of electricity among the following is—  
 (A) Copper                                     (B) Iron  
 (C) Aluminium                                 (D) Silver
45. Flight Recorder is technically called—  
 (A) Dark box                                 (B) Blind box  
 (C) Black box                                 (D) Altitude meter
46. Which of the following is **not** a computer network ?  
 (A) Wide area network  
 (B) Local area network  
 (C) Personal network  
 (D) Metropolitan area network
47. When a group of computers is connected together in a small area without the help of telephone lines, it is called—  
 (A) Remote Communication Network (RCN)  
 (B) Local Area Network (LAN)  
 (C) Wide Area Network (WAN)  
 (D) Value Added Network (VAN)
48. Which one of the following elements is used in the manufacture of fertilizers ?  
 (A) Fluorine                                     (B) Potassium  
 (C) Lead   (D) Aluminium
49. Natural rubber is the polymer of—  
 (A) Isoprene                                     (B) Styrene  
 (C) Butadiene                                 (D) Ethylene

50. In addition to hydrogen, the other abundant element present on Sun's surface is—  
 (A) Helium                   (B) Neon  
 (C) Argon                   (D) Oxygen

### Answers with Explanations

1. (B)     2. (A)     3. (A)     4. (B)     5. (A)  
 6. (C)     7. (A)     8. (D)     9. (A)     10. (B)  
 11. (D)    12. (D)    13. (B)    14. (C)  
 15. (C) SagarMatha is the Nepali name of Mt. Everest.  
 16. (B)     17. (C)  
 18. (C) Birds excrete their nitrogenous waste as uric acid in the form of paste.  
 19. (C) Loose Smut of wheat is caused by *Ustilago tritici*, whereas Flag Smut is caused by *Urocystis tritici* in wheat.  
 20. (C)     21. (C)  
 22. (A) Hydraulic Press is based on the following Pascal's law :  
 "In a confined fluid, externally applied pressure is transmitted uniformly in all directions."  
 23. (C) Electrical conductance is quite opposite to electrical resistance. Electrical conductance of some material encourages the flow of current in that material. Its unit is 'mho', which is quite opposite to 'ohm'.  
 24. (B) Due to phenomenon of capillarity, the oil in the wick of the lamp rises from bottom to the flame.  
 25. (C) Kepler's third law : "The square of the period of a planet's orbit around the sun is proportional to the cube of the semi-major axis of the ellipse." If 'a' is the semi-major axis and 'T' is the time period of one rotation around the sun, then  $T^2 \propto a^3$ .  
 26. (D)     27. (C)    28. (B)    29. (A)  
 30. (C) Iodine value is the measure of the iodine absorbed in a given time by a chemically unsaturated material, such as a vegetable oil or a rubber. It is also used to measure the unsaturation of a compound or a mixture.  
 31. (B) Element 106 was discovered in June 1974 and is known as Seaborgium.  
 32. (B)     33. (B)    34. (C)    35. (C)    36. (D)  
 37. (D)     38. (D)    39. (C)    40. (B)    41. (C)  
 42. (B)     43. (A)    44. (D)    45. (C)    46. (C)  
 47. (B)     48. (B)    49. (A)    50. (A)

## Practice Set-2

### Part—I General Intelligence

- If the day before yesterday was Friday, what day will two days after the day after tomorrow be ?  
(A) Saturday      (B) Thursday  
(C) Friday      (D) Sunday
- Your mother is 4 years younger than your father who is six times older than you. If your age is 6 years, what is your mother's age ?  
(A) 36 years      (B) 34 years  
(C) 28 years      (D) 32 years
- If A is the mother of D, B is not the son of C, C is the father of D, D is the sister of B, then how is A related to B ?  
(A) Mother      (B) Brother  
(C) Stepson      (D) Sister
- In an examination, Rahul got the 11th rank and he was 47th from the bottom among those who passed. 3 students could not appear for the exam. 1 student failed. What is the total no. of students ?  
(A) 60      (B) 62  
(C) 59      (D) 61
- Raju is Ramu's neighbour and he stays 100 metres away towards southeast. Venu is Raju's neighbour and he stays 100 metres away towards southwest. Khader is Venu's neighbour and he stays 100 metres away towards north-west. Then where is the position of Khader's home in relation to Ramu's ?  
(A) South-East      (B) South-West  
(C) North-West      (D) North
- Sanmitra walks towards north 4 kms, turns right and walks 5 km. Then he turns towards south and walks 2 km. Again he takes a turn towards west walks 3 km and stops for a

while. Then he further walks 2 km. What is the distance of Sanmitra from starting point ?

- (A) 16 km      (B) 2 km  
(C) 4 km      (D) 3 km
- A statement is given followed by two conclusions I and II. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statement.

**Statement :** Tension is detrimental to physical and mental health.

**Conclusions :**

- To be healthy one should be free from tension.
  - Mental health depends upon the tension one experiences.
- (A) Only I follows  
(B) Only II follows  
(C) Neither I nor II follows  
(D) Both I and II follow
- Two statements are given followed by four conclusions I, II, III and IV. You have to consider the two statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follow from the given statements.

**Statements :**

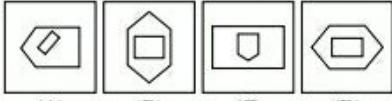
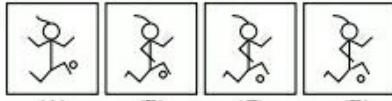
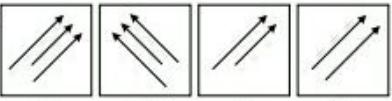
- Some skirts are benches.
- No bench is a table.

**Conclusions :**

- Some skirts are tables.
  - Some benches are skirts.
  - All benches are skirts.
  - Some tables are skirts.
- (A) Only I follows  
(B) Only II follows

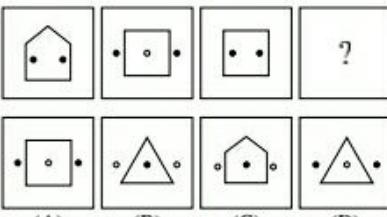
- (C) Only II and IV follow  
 (D) Only I and III follow
9. There are five houses A, B, C, D, O in a row. A is right side of B and left side of C. O is the right side of A. B is right of D. Which house is in the middle ?  
 (A) O                      (B) A  
 (C) B                      (D) D
10. If  $C = 3$  and  $CAT = 24$ , what is FAULT ?  
 (A) 60                    (B) 57  
 (C) 64                    (D) 72
11. From the given alternative words, select the word which **cannot** be formed using the letters of the given word.
- PRONUNCIATION
- (A) RATION                (B) PRONOUN  
 (C) PRINT                  (D) NATURAL
12. Rearrange the jumbled letters in meaningful words to identify the word which is not a colour.  
 (A) LTEOIV                (B) ENGRAO  
 (C) PELRUP                (D) REOWLFI
13. If EXPANSION is written as 248537693 in a certain code, how would PENSION be written in that code ?  
 (A) 8236793               (B) 8237639  
 (C) 8237693               (D) 8233769
14. If in a code language 'PUTREFY' is written as 'XPQSTRL' and 'NAVIGATE' is written as 'GYMOWYQT', how is 'AVIARY' written in that language ?  
 (A) YOMYLS                (B) YMOYLS  
 (C) YMOYSL                (D) YOMYSL
- Directions—(Q. 15–22)** Select the related word/letters/number from the given alternatives.
15. Fast : Hunger :: Race : ?  
 (A) Smartness              (B) Strength  
 (C) Horse                  (D) Fatigue
16. Antonym : Synonym :: Analysis : ?  
 (A) Synthesis              (B) Synchronize  
 (C) Simplify               (D) Summarise
17. FLRX : EJOT :: CKTY : ?  
 (A) BIQV                   (B) DIPQ  
 (C) DHQU                   (D) BIQU
18. BEHK : YVSP :: ADGI : ?  
 (A) ZUTR                   (B) ZVSP  
 (C) ZWTQ                   (D) ZWXZ
19.  $\frac{C}{L} : \frac{24}{27} :: \frac{E}{N} : ?$
- (A)  $\frac{54}{50}$                 (B)  $\frac{56}{45}$   
 (C)  $\frac{125}{197}$                (D)  $\frac{56}{54}$
20.  $68 : 130 :: ? : 350$
- (A) 210                    (B) 222  
 (C) 240                    (D) 282
21.  $128 : 96 :: 244 : ?$
- (A) 183                    (B) 122  
 (C) 138                    (D) 302
22.  $C\ 3\ F\ 6\ : I\ 9\ L\ 12\ :: K\ 11\ N\ 14\ : ?$
- (A) O 15 R 18             (B) R 18 U 21  
 (C) Q 17 T 20             (D) L 12 O 15
- Directions—(Q. 23–29)** Select the one which is different from the other three responses.
23. (A) Brother – Sister    (B) Mother – Father  
 (C) Uncle – Aunt          (D) Husband – Wife
24. (A) Snooker              (B) Table Tennis  
 (C) Badminton              (D) Billiards
25. (A) PQ                    (B) AU  
 (C) CD                      (D) RB
26. (A) CPBO                (B) BODQ  
 (C) ANHU                   (D) ESGT
27. (A) BFJNRV              (B) CGKOSW  
 (C) DHLPTX                (D) EIMPSW
28. (A) 81                    (B) 8  
 (C) 16                      (D) 625
29. (A) 576 – 12            (B) 611 – 13  
 (C) 198 – 11              (D) 824 – 14
30. Find out a set of numbers amongst the four sets of numbers given in the alternatives, which is most like the set given in the question.
- (14, 20, 3)
- (A) (7, 13, 3)            (B) (5, 10, 15)  
 (C) (3, 6, 9)            (D) (4, 8, 16)

**Directions—(Q. 31 to 41)** Select the one which is different from the other three responses.

31. (A) C X D W              (B) G T H S  
       (C) J Q K P              (D) H R I S
32. (A) Wool              (B) Feather  
       (C) Hair              (D) Grass
33.   
       (A)              (B)              (C)              (D)
34. (A) 57–47              (B) 39–29  
       (C) 19–9              (D) 59–39
35.   
       (A)              (B)              (C)              (D)
36. (A) 6–36              (B) 8–64  
       (C) 5–25              (D) 4–16
37. (A) Giraffe              (B) Horse  
       (C) Camel              (D) Bullock
38. (A) E D H G              (B) L K O N  
       (C) U V W X              (D) Q P T S
39. (A) Foreword              (B) Text  
       (C) Index              (D) Preface
40. (A) Sports-Ground              (B) Cinema-Screen  
       (C) Drama-Stage              (D) Rubber-Erase
41.   
       (A)              (B)              (C)              (D)

**Directions—(Q. 42–50)** Select the related letters/word/number/figure from the given alternatives.

42. MAN : BIOGRAPHY : NATION : ?  
       (A) PEOPLE              (B) POPULATION  
       (C) GEOGRAPHY              (D) HISTORY
43. Crop : Farm :: Ore : ?  
       (A) Iron              (B) Volcano  
       (C) Mine              (D) Factory

44.   
       (A)              (B)              (C)              (D)

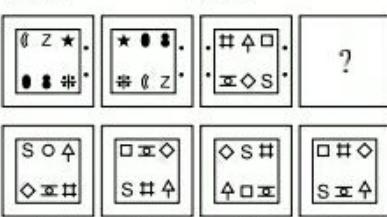
45. 21 : 3 :: 574 : ?  
       (A) 23              (B) 82  
       (C) 97              (D) 113

46. BELL : AFKM :: DOOR : ?  
       (A) CNPQ              (B) ENPS  
       (C) EPNS              (D) CPNS

47. 11 : 119 :: 15 : ?  
       (A) 154              (B) 223  
       (C) 233              (D) 152

48. JLNP : OMKI :: SUWY : ?  
       (A) MLKJ              (B) PLHD  
       (C) XVTR              (D) FGHI

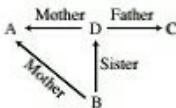
49. 2 : 0 :: 3 : ?  
       (A) 18              (B) 19  
       (C) 20              (D) 21

50.   
       (A)              (B)              (C)              (D)

### Answers with Explanations

1. (B) The day before yesterday was Friday.  
    ∴ It is today Sunday.  
    and the day, two days after tomorrow will be Thursday.
2. (D) ∵ Your age is 6 years.  
    ∴ Your father's age =  $6 \times 6$   
                                 = 36 years  
    ∴ Your mother's age =  $36 - 4$   
                                 = 32 years

3. (A)

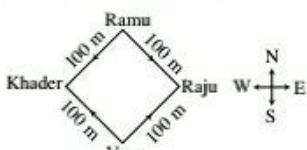


$\therefore$  A is the mother of B.

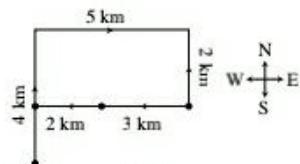
4. (D) Total number of students

$$= 11 + 47 - 1 + 3 + 1 = 61$$

5. (B)



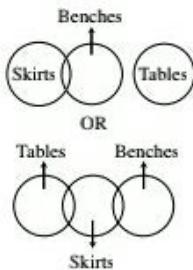
6. (B)



$$\therefore \text{Reqd. distance} = 4 - 2 \\ = 2 \text{ km.}$$

7. (D)

8. (B)



9. (B)  $\bullet$   $\bullet$   $\bullet$   $\bullet$   $\bullet$   
D B A O C

$\therefore$  House A is in the middle.

10. (A) FAULT  $\rightarrow$  6 + 1 + 21 + 12 + 20  
 $= 60$

11. (D) There is not L in the given word. Hence, NATURAL cannot be made.

12. (D) Meaningful words are—VIOLET, ORANGE, PURPLE and FLOWER.

13. (C) EXPANSION  $\rightarrow$  2 4 8 5 3 7 6 9 3  
 $\therefore$  PENSION  $\rightarrow$  8 2 3 7 6 9 3

14. (C) As,

P	$\rightarrow$	X	and	N	$\rightarrow$	G
U	$\rightarrow$	P	A	$\rightarrow$	Y	
T	$\rightarrow$	Q	V	$\rightarrow$	M	
R	$\rightarrow$	S	I	$\rightarrow$	O	
E	$\rightarrow$	T	G	$\rightarrow$	W	
F	$\rightarrow$	R	A	$\rightarrow$	Y	
Y	$\rightarrow$	L	T	$\rightarrow$	Q	
E	$\rightarrow$	T				

Similarly,

A	$\rightarrow$	Y
V	$\rightarrow$	M
I	$\rightarrow$	O
A	$\rightarrow$	Y
R	$\rightarrow$	S
Y	$\rightarrow$	L

15. (D) As, there is effect of fast as hunger. Similarly, the effect of race is fatigue.

16. (D) The opposite word of antonym is synonym. Similarly, the opposite word of analysis is summarise.

17. (D) As,

F	$\xrightarrow{-1}$	E
L	$\xrightarrow{-2}$	J
R	$\xrightarrow{-3}$	O
X	$\xrightarrow{-4}$	T

C	$\xrightarrow{-1}$	B
K	$\xrightarrow{-2}$	I
T	$\xrightarrow{-3}$	Q
Y	$\xrightarrow{-4}$	U

18. (C) As,

B	+	Y	$\rightarrow$	27
E	+	V	$\rightarrow$	27
H	+	S	$\rightarrow$	27
K	+	P	$\rightarrow$	27

A	+	Z	$\rightarrow$	27
D	+	W	$\rightarrow$	27
G	+	T	$\rightarrow$	27
J	+	Q	$\rightarrow$	27

19. (B) As,

$$C \rightarrow 3, L \rightarrow 12$$

$$\frac{C}{L} = \frac{12 \times (3-1)}{3 \times 9} = \frac{24}{27}$$

Similarly,

$$E \rightarrow 5, N \rightarrow 14$$

$$\frac{E}{N} = \frac{14 \times (5-1)}{5 \times 9} = \frac{56}{45}$$

20. (A) As, the numbers of factor are same of 68 and 130. Similarly, the numbers of factor are same of 210 and 350.

$$68 = 2 \times 2 \times 17$$

$$\text{and } 130 = 2 \times 5 \times 13$$

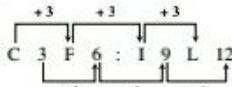
$$\text{Similarly, } 210 = 2 \times 3 \times 5 \times 7$$

$$\text{and } 350 = 2 \times 5 \times 5 \times 7$$

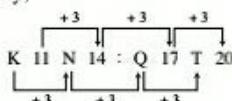
21. (A) As,  $128 : 96 = \frac{4}{3}$

$$\text{Similarly, } 244 : 183 = \frac{4}{3}$$

22. (C) As,



Similarly,



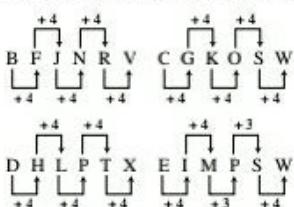
23. (A) All the rest are represent the pair of husband-wife.

24. (C) All the rest game are related to table.

25. (B) All the rest have two letters as consonant.

26. (C) All the rest have only one letter as vowel.

27. (D)



28. (B)  $81 = (3)^4$ ,

$$16 = (2)^4$$

$$625 = (5)^4$$

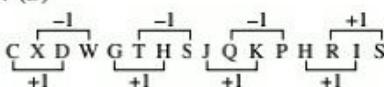
But,  $8 = 2^3$

29. (D) All the rest have first number completely divisible by second number but 824 is not divisible by 14.

30. (A)  $\frac{20 - 14}{3} = 2$

$$\text{Similarly, } \frac{13 - 7}{3} = 2$$

31. (D)



32. (D) All the rest are parts of animal.

33. (C) In all the rest inner design is a quadrilateral.

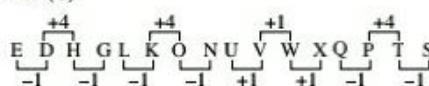
34. (D) In all the rest, the difference between the two numbers is 10.

35. (A) In all the rest, the ball is between two feet.

36. (C) In all the rest, the numbers are even.

37. (A) The speed of the Giraffe is the highest.

38. (C)



39. (A) All the rest are related to the book-topic.

40. (D) In all the rest, second is the work-field of the first.

41. (B) In all the rest, the direction of arrows is North-East.

42. (D) As in Biography, there is the description from the early to end of the Man, similarly in History there is the description from early to end of the Nation.

43. (C) As crop is found from the farm, similarly Ore is found from the Mine.

44. (D) From P.F. (1) to (2) one side of the main design is decreased and both inner black spots come out while one white spot is increased inside.

45. (C) As,  $21 \rightarrow 2 + 1 = 3$

$$\text{Similarly, } 574 + 574 \rightarrow 5 + 7 + 4 = 16$$

$$\text{and } 97 \rightarrow 9 + 7 = 16.$$

46. (D) As,

$$B \xrightarrow{-1} A$$

$$E \xrightarrow{+1} F$$

$$L \xrightarrow{-1} K$$

$$L \xrightarrow{+1} M$$

Similarly,  $D \xrightarrow{-1} C$

$$O \xrightarrow{+1} P$$

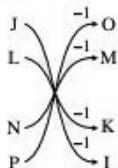
$$O \xrightarrow{-1} N$$

$$R \xrightarrow{+1} S$$

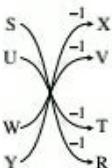
47. (B) As,  $(11)^2 - 2 = 119$

Similarly,  $(15)^2 - 2 = 223$

48. (C) As,



Similarly,

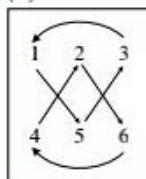


49. (B) As,

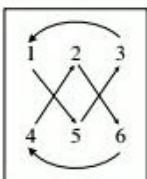
$$\begin{array}{r} 2 \\ \underline{-} 0 \\ (2)^3 - 8 \end{array}$$

Similarly,  $\begin{array}{r} 3 \\ \underline{-} 19 \\ (3)^3 - 8 \end{array}$

50. (B)



From (I) to (II)



From (III) to (IV)

## Part-II English Language

**Directions**—In questions (1 to 5) some of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the rectangle (■) corresponding to the appropriate letter (A), (B), (C). If a sentence is free from errors, blacken the rectangle corresponding to (D) in the Answer Sheet.

- The children's dog / slept quietly / in their  
(A) (B)  
uncle's house. No error.  
(C) (D)
- When Anand reached the village / he found  
(A) (B)  
that / reports about him preceded him.  
(C) No error.  
(D)

3. Our success or our failure / largely depend /

(A) (B)  
upon our actions. No error.

(C) (D)

4. The poor man / poisoned him / and his own

(A) (B) (C)  
children. No error.

(D)

5. It was in 2006 / that we first flew / to the

(A) (B)  
United States. No error.

(C) (D)

**Directions**—In questions (6 to 10) sentences are given with blanks to be filled in with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate rectangle (■) in the Answer Sheet.

6. As the bare mountains turned green, the people found ..... looking forward to spring.

(A) they (B) them  
(C) their (D) themselves

7. We must ..... help to the people hit by the cyclone.

(A) contribute (B) summon  
(C) impart (D) render

8. The metals and minerals sector ..... currently highly volatile.

(A) are (B) is  
(C) was (D) were

9. We should not mix with those people who have an ..... reputation.

(A) unsavoury (B) unsteady  
(C) unsafe (D) unsanctified

10. It was said of Akbar that he rarely ..... more than three hours a day.

(A) sleeps (B) is sleeping  
(C) had slept (D) slept

**Directions**—In questions (11 to 15) out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

11. appear

(A) see (B) allow  
(C) seem (D) enter

12. cease  
 (A) stop                   (B) lapse  
 (C) close               (D) arrest
13. liability  
 (A) debt                   (B) debit  
 (C) asset               (D) credit
14. integration  
 (A) symmetry           (B) unity  
 (C) coordination       (D) compromise
15. discriminate  
 (A) compare           (B) distinguish  
 (C) comprehend       (D) connect
23. Unless you **grease his palms** he will not do your work.  
 (A) talk to him           (B) flatter him  
 (C) beat him           (D) bribe him
24. The police **closed the book on** the murder case.  
 (A) solved the case of  
 (B) stopped working on  
 (C) handed the case over to another agency  
 (D) refused to take up

**Directions**—In questions (16 to 20) choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

16. block  
 (A) clean                   (B) ease  
 (C) cure                   (D) clear
17. vanity  
 (A) honesty               (B) truthfulness  
 (C) modesty               (D) decency
18. negligent  
 (A) inattentive           (B) imprudent  
 (C) insignificant       (D) careful
19. neat  
 (A) sloppy                   (B) fragrant  
 (C) spruce                   (D) orderly
20. wicked  
 (A) cunning                   (B) good  
 (C) tricky                   (D) crooked

**Directions**—In questions (21 to 25) four alternatives are given for the **bold** idiom/phrase. Choose the alternative which best expresses the meaning of the given idiom/phrase and blacken the appropriate rectangle (■) in the Answer Sheet.

21. There was a job for me **to cut my teeth on**.  
 (A) to gain experience  
 (B) to try  
 (C) to sharpen my wits  
 (D) to earn a decent salary
22. The **carrot and stick** policy pays dividends in every organisation.

- (A) fair and foul  
 (B) continuous vigilance  
 (C) democratic  
 (D) reward and punishment
25. His arguments **cut no ice with me**.  
 (A) had no influence on me  
 (B) did not hurt me  
 (C) did not benefit me  
 (D) did not make me proud

**Directions**—In questions (26 to 30) a part of the sentence is **bold**. Below are given alternatives to the **bold** part at (A), (B) and (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed your answer is (D).

26. I prefer to **ride than to walk**.  
 (A) ride to walk  
 (B) riding than walking  
 (C) riding to walking  
 (D) No improvement
27. They were astonished **through** his failure in the examination.  
 (A) from                   (B) at  
 (C) with                   (D) No improvement
28. The increasing sale of luxuries is an **index of** the country's prosperity.  
 (A) appendix  
 (B) pointer  
 (C) mark  
 (D) No improvement
29. When are you **starting** to write to your friend ?  
 (A) wanting               (B) going  
 (C) thinking               (D) No improvement

30. **If I was you** I would not sign the document.
- If I have been you
  - If I were you
  - If I had been you
  - No improvement

**Directions**—In questions (31 to 35) out of the four alternatives choose the one which can be substituted for the given words/sentence.

31. High sea waves caused by underwater earthquake—  
 (A) Tsunami      (B) Tornado  
 (C) Hurricane    (D) Cyclone
32. To give one's authority to another—  
 (A) Assign        (B) Delegate  
 (C) Represent    (D) Designate
33. One who intervenes between two or more parties to settle differences—  
 (A) Neutral       (B) Intermediary  
 (C) Judges        (D) Connoisseur
34. The absence of law and order—  
 (A) Rebellion     (B) Mutiny  
 (C) Revolt        (D) Anarchy
35. A voice that cannot be heard—  
 (A) Unheard      (B) Faint  
 (C) Audible       (D) Inaudible

**Directions**—In questions (36 to 40) groups of four words are given. In each group, one word is correctly spelt. Find the correctly spelt word and mark your answer in the Answer Sheet.

36. (A) embarrassed    (B) embrassed  
 (C) embarrased    (D) embarased
37. (A) seperately    (B) separately  
 (C) seperatley    (D) separatly
38. (A) occurence    (B) occurrence  
 (C) oturence      (D) occurance
39. (A) pidistrian    (B) pedestrian  
 (C) pedestrian    (D) pidestrian
40. (A) budgetery    (B) bugetary  
 (C) budgetary     (D) budgetry

**Directions**—In the following passage questions 41 to 50, some of the words have been left out. First read the passage over and try to understand what it is about. Then fill in the with the

blank help of the alter-natives given. Mark your answer in the Answer Sheet.

When Anil passed his final university examination and got his ...41... he decided to ...42... and invited all his friends to a party to be ...43... the following Sunday. He spent most of that Saturday ...44... things ready and at 7:40 the first guest arrived. After that a steady ...45... of people ...46... and Anil was busy chatting to people and introducing them to one another. Anil had a wide ...47... of friends and not everyone at the party knew everyone ...48... 'A party is always a good way to break the ...49... and get people talking', Anil thought. The party soon got going and there was a feeling of relief at the ...50... that the examinations were over and that a long summer holiday lay ahead.

- |                    |                  |
|--------------------|------------------|
| 41. (A) licence    | (B) bachelorhood |
| (C) degree         | (D) diploma      |
| 42. (A) celebrate  | (B) feast        |
| (C) entertain      | (D) commemorate  |
| 43. (A) planned    | (B) celebrated   |
| (C) offered        | (D) held         |
| 44. (A) preparing  | (B) putting      |
| (C) getting        | (D) doing        |
| 45. (A) stream     | (B) current      |
| (C) river          | (D) movement     |
| 46. (A) turned out | (B) turned up    |
| (C) turned in      | (D) turned down  |
| 47. (A) number     | (B) group        |
| (C) circle         | (D) round        |
| 48. (A) else       | (B) other        |
| (C) different      | (D) person       |
| 49. (A) silence    | (B) atmosphere   |
| (C) monotony       | (D) ice          |
| 50. (A) subject    | (B) point        |
| (C) fact           | (D) matter       |

### Answers

- |         |         |         |         |         |
|---------|---------|---------|---------|---------|
| 1. (D)  | 2. (C)  | 3. (B)  | 4. (B)  | 5. (D)  |
| 6. (B)  | 7. (D)  | 8. (A)  | 9. (A)  | 10. (D) |
| 11. (C) | 12. (A) | 13. (A) | 14. (B) | 15. (A) |
| 16. (D) | 17. (C) | 18. (A) | 19. (D) | 20. (B) |
| 21. (A) | 22. (D) | 23. (D) | 24. (B) | 25. (A) |

26. (A) 27. (B) 28. (B) 29. (B) 30. (B)  
 31. (A) 32. (B) 33. (B) 34. (D) 35. (D)  
 36. (A) 37. (B) 38. (B) 39. (C) 40. (C)  
 41. (C) 42. (B) 43. (C) 44. (A) 45. (A)  
 46. (A) 47. (C) 48. (A) 49. (D) 50. (B)

### Part – III Quantitative Aptitude

**Directions—(Q. 1–25)** What will come in place of question mark (?) .

1.  $2\frac{1}{2} + 2\frac{1}{2} + 2\frac{1}{2} + 2\frac{1}{2} = ?$   
 (A)  $\frac{5}{2}$  (B)  $\frac{2}{5}$   
 (C) 0.16 (D) 1.6  
 (E) None of these
2.  $44 \times 44 \div 11 - ? = 150$   
 (A) 26 (B) 20  
 (C) 23 (D) 25  
 (E) None of these
3.  $\frac{4 \cdot 4 \times 4 \cdot 4 - 2 \cdot 2 \times 2 \cdot 2}{4 \cdot 4 - 2 \cdot 2} = ?$   
 (A) 2.2 (B) 4.4  
 (C) 6.6 (D) 5.5  
 (E) None of these
4.  $\frac{1}{4} + 3\frac{1}{2} - 1\frac{1}{4} + 1\frac{1}{2} = ?$   
 (A)  $2\frac{1}{2}$  (B)  $5/21$   
 (C) 3 (D) 4  
 (E) None of these
5.  $0 \cdot 121 + 0 \cdot 00121 + 0 \cdot 000121 = ?$   
 (A) 0.122331 (B) 0.3630  
 (C) 0.00363 (D) 0.212331  
 (E) None of these
6.  $6^{2^3} \times 6^{4^3} \times 6^{5^3} = ?$   
 (A)  $4^{40 \cdot 27}$  (B)  $6^{10^9}$   
 (C)  $6^{12^6}$  (D)  $6^{11^9}$   
 (E) None of these
7.  $? \div 125 \times 25 = 500$   
 (A) 125 (B) 225  
 (C) 325 (D) 425  
 (E) None of these
8.  $225 \times 125 \div ? = 225$   
 (A) 125 (B)  $1/125$   
 (C) 25 (D)  $1/25$   
 (E) None of these
9.  $25\% \text{ of } 25\% \div 5 \times 6 = ?$   
 (A)  $1\frac{4}{5}$  (B)  $2\frac{6}{5}$   
 (C)  $9\frac{2}{3}$  (D) 2.5  
 (E) None of these
10.  $6 \cdot 2 \times ? = 12462$   
 (A) 2010 (B) 2020  
 (C) 1020 (D) 2030  
 (E) None of these
11.  $11 \times 11 + (?)^2 + 13 \times 13 = 1068$   
 (A) 8 (B) 6  
 (C) 5 (D) 11  
 (E) None of these
12.  $2\frac{1}{2} - 5\frac{2}{3} + 1\frac{1}{5} \div 1\frac{1}{5} = ?$   
 (A)  $\frac{13}{6}$  (B)  $-\frac{13}{6}$   
 (C)  $\frac{6}{13}$  (D)  $-\frac{6}{13}$   
 (E) None of these
13.  $33 \times 33 - ?^{1/2} + 10 \times 10 = 1068$   
 (A)  $11^4$  (B)  $11^5$   
 (C)  $10^4$  (D)  $10^5$   
 (E) None of these
14.  $10 \times 10\% + 10\% - 5 = ?$   
 (A) 5 (B) 6  
 (C) 3 (D) 2  
 (E) None of these
15.  $5 \cdot 2 \times 5 \cdot 1 \times 5 \cdot 0 = ?$   
 (A) 5.55 (B) 1.250  
 (C) 0.125 (D) 130.50  
 (E) None of these
16.  $7 \cdot 005 - 2 \cdot 889 = ?$   
 (A) 4.006 (B) 4.116  
 (C) 4.216 (D) 4.661  
 (E) None of these

17.  $\frac{2.5 \times 3.5 - 1.5}{0.1 \times 0.1} = ?$
- (A) 0.0725      (B) 725  
 (C) 7.25      (D) 0.725  
 (E) None of these
18.  $0.\overline{5} + 0.\overline{3}$  of  $0.\overline{11} = ?$
- (A) 528      (B) 891  
 (C) 530      (D) 890  
 (E) None of these
19.  $\sqrt{11} \times (11)^{1/2} = ?$
- (A)  $(11)^{4/3}$       (B)  $(11)^{5/3}$   
 (C)  $(11)^{1/2}$       (D)  $(11)^{12}$   
 (E) None of these
20.  $A^{2/3} \times A^{3/2} \times A^{1/2} = ?$
- (A)  $A^{8/3}$       (B)  $A^{38}$   
 (C)  $A^{1/8}$       (D)  $A^{25}$   
 (E) None of these
21.  $(10)^{0.25} \times (10)^{0.50} \times 10^{0.100} = ?$
- (A)  $10^{20/17}$       (B)  $10^{17/20}$   
 (C)  $10^{5/17}$       (D)  $10^{33}$   
 (E) None of these
22.  $5 \times 3 \times 8 \times 2 - 2 \times 8 = ?$
- (A) 224      (B) 226  
 (C) 228      (D) 230  
 (E) None of these
23.  $303 \times 125 - 25 \times 201 = ?$
- (A) 31850      (B) 30850  
 (C) 32850      (D) 32750  
 (E) None of these
24.  $(7^2)^3 + 7^3 = ?$
- (A)  $7^3$       (B)  $7^2$   
 (C)  $7^9$       (D) 7  
 (E) None of these
25.  $3.2 \times 1.1 - 1.1 \times 3.3 + 3.3 \times 2 = ?$
- (A) 6.49      (B) 5.49  
 (C) 64.9      (D) 54.9  
 (E) None of these
26. A man has 3 bags costed ₹ 30 each. In how much amount should be sell them to get the profit of 12%?
- (A) ₹ 100.80      (B) ₹ 98.80  
 (C) ₹ 110      (D) ₹ 102.60  
 (E) None of these
27. The ratio of two numbers is 2 : 3. If 20 is subtracted by each number, the ratio becomes 1 : 2. The numbers are—
- (A) 40, 60      (B) 30, 50  
 (C) 50, 70      (D) 10, 30  
 (E) None of these
28. A man completes a work in 10 days by doing 5 hours per day. By doing 7 hours per day, he can complete this work in—
- (A) 12 days      (B) 10 days  
 (C) 7 days      (D) 5 days  
 (E) None of these
29. If the cost price of 3 items is equal to selling price of 5 items. How much loss in percentage will be made?
- (A) 20%      (B) 30%  
 (C) 40%      (D) 50%  
 (E) None of these
30. A square of 100 metre perimeter has it's area—
- (A) 10000 m<sup>2</sup>      (B) 1000 m<sup>2</sup>  
 (C) 2500 m<sup>2</sup>      (D) 625 m<sup>2</sup>  
 (E) None of these
31. What will be the average of first 20 odd numbers?
- (A) 19      (B) 22  
 (C) 20      (D) 12  
 (E) None of these
32. In how many years, the interest of a money will be 3 times of the money by the rate of 2% yearly?
- (A) 50      (B) 150  
 (C) 100      (D) 125  
 (E) None of these
33. If 16% of  $x = 48\%$  of  $y$ , then  $x : y$  will be—
- (A) 3 : 1      (B) 1 : 3  
 (C) 2 : 3      (D) 3 : 2  
 (E) None of these
34. A circle of  $2\pi$  metre perimeter has it's area—
- (A)  $\pi m^2$       (B)  $2\pi m^2$   
 (C)  $\pi^2 m$       (D)  $4\pi^2 m^2$   
 (E) None of these

35. If  $x^{\frac{1}{2}} = \sqrt{11}$  then, value of  $x$  will be—  
 (A) 121      (B)  $\sqrt{11}$   
 (C) 11      (D) 22  
 (E) None of these
36. Printed rate of a book is ₹ 250 and available at ₹ 225. What is the rate of discount ?  
 (A) 10%      (B) 15%  
 (C) 20%      (D) 12%  
 (E) None of these
37. If  $P^{-1/2} = \left(\frac{1}{25}\right)^2$ , then the value of  $P$  will be—  
 (A)  $5^3$       (B)  $5^5$   
 (C)  $5^8$       (D)  $5^2$   
 (E) None of these
38. The cost of  $\frac{1}{2}$  metre sheet is ₹ 150, what will be the cost of 1 metre sheet ?  
 (A) Approx. ₹ 43      (B) ₹ 43  
 (C) ₹ 44      (D) Approx. ₹ 43.50  
 (E) None of these
39. A boat can bear the weight of 4 men or 12 boys. How many boys can go with 3 men in the boat at a time ?  
 (A) 6 boys      (B) 3 boys  
 (C) 9 boys      (D) 2 boys  
 (E) None of these
40. If  $P - \frac{1}{P} = 6$ , then the value of  $P^2 + \frac{1}{P^2}$  will be—  
 (A) 38      (B) 36  
 (C) 37      (D) 40  
 (E) None of these
41. The number of primes between 1 to 100 is—  
 (A) 20      (B) 25  
 (C) 30      (D) 18  
 (E) None of these
42. 1 is—  
 (A) Prime  
 (B) Composite  
 (C) Both Prime and Composite  
 (D) Neither Prime nor Composite  
 (E) None of these
43. A irrational number can be rational by the process of—  
 (A) Squaring of itself  
 (B) Cube of itself  
 (C) Addition of itself  
 (D) Both (A) and (B)  
 (E) None of these
44.  $n^2(n^2 - 1)$  is always divisible by—  
 (A) 11      (B) 4  
 (C) 12      (D) 10  
 (E) None of these
45. If  $x = \sqrt{6 + \sqrt{6 + \sqrt{6 + \dots}}}$ , then the value of  $x$  will be—  
 (A) 2.5      (B) 3  
 (C) 6      (D) 8  
 (E) None of these
46. The square root of  $(7 + 2\sqrt{10})$  will be—  
 (A)  $\sqrt{3} + \sqrt{10}$       (B)  $\sqrt{6} + 1$   
 (C)  $2 + \sqrt{5}$       (D)  $\sqrt{5} + \sqrt{2}$   
 (E) None of these
47. The value of  $\sqrt{P^3\sqrt{P^3\sqrt{P^3}}}$  is—  
 (A)  $P^{21/8}$       (B)  $P^{27/8}$   
 (C)  $P^{1/27}$       (D)  $P^{8/21}$   
 (E) None of these
48. Mohan can complete his work in 3 days by doing 2 hours per day. How much work can be complete in one day ?  
 (A)  $\frac{1}{3}$  Part      (B)  $\frac{1}{2}$  Part  
 (C)  $\frac{1}{6}$  Part      (D)  $\frac{2}{3}$  Part  
 (E) None of these
49. The ratio of two partners A and B is 2 : 3. If they share the profit of ₹ 3000. What will be their shares ?  
 (A) 1200, 1800      (B) 600, 1200  
 (C) 1800, 2400      (D) 300, 700  
 (E) None of these
50. If 10% of 15 kg =  $x$ % of 12.5 kg, then value of  $x$  will be—  
 (A) 12      (B) 12.5  
 (C) 15      (D) 10  
 (E) None of these

## Answers with Explanations

1. (C)  $\frac{5}{2} \times \frac{2}{5} \times \frac{2}{5} \times \frac{2}{5} = \frac{4}{25} = 0.16$

2. (A)  $? = 44 \times 44 + 11 - 150$   
 $= 44 \times 4 - 150 = 26$

3. (C)  $? = \frac{(4.4+2.2)(4.4-2.2)}{(4.4-2.2)}$   
 $= 4.4 + 2.2 = 6.6$

4. (D)  $? = \frac{1}{4} + \frac{7}{2} - \frac{5}{4} + \frac{3}{2}$   
 $= \frac{1+14-5+6}{4} = \frac{16}{4} = 4$

5. (A)  $? = 0.121 + 0.00121 + 0.000121$   
 $= 0.122331$

6. (D)  $? = 6^{2.3+4.3+5.3}$   
 $= 6^{11.9}$

7. (E)  $\therefore ? \times \frac{1}{125} \times 25 = 500$   
 $\therefore ? = 500 \times 5 = 2500$

8. (A)  $\therefore \frac{225 \times 125}{?} = 225$   
 $\therefore ? = 125$

9. (E)  $\frac{25}{100} \times \frac{25}{100} \times \frac{1}{5} \times 6 ?$   
 $? = \frac{3}{40}$

10. (A)  $? = \frac{12462}{6.2} = \frac{124620}{62}$   
 $= 2010$

11. (E)  $\therefore 121 + (?)^2 + 169 = 1068$   
 $\Rightarrow (?)^2 = 1068 - 290 = 778$   
 $? = \sqrt{778}$

12. (B)  $? = \frac{5}{2} - \frac{17}{3} + \frac{6}{5} \times \frac{5}{6}$   
 $= \frac{5}{2} - \frac{17}{3} + 1$   
 $= \frac{15-34+6}{6} = -\frac{13}{6}$

13. (A)  $\therefore 33 \times 33 - ?^{12} + 10 \times 10$   
 $= 1068$   
 $\therefore ?^{12} = 33 \times 33 + 10 \times 10 - 1068$   
 $= 1189 - 1068 = 121$

Squaring both sides  
 $\therefore ? = 121 \times 121 = 11^4$

14. (A)  $? = 10 \times \frac{10}{100} \times \frac{100}{10} - 5 = 5$

15. (E)  $? = 5.2 \times 5.1 \times 51 = 132.60$   
 $16. (B) ? = 7.005 - 2.889 = 4.116$

17. (B)  $? = \frac{8.75 - 1.5}{0.01}$   
 $= \frac{7.25}{0.01} = \frac{725}{1} = 725$

18. (E)  $? = 0.\overline{5} + 0.\overline{3}$  of  $0.\overline{1}\overline{1}$   
 $= \frac{5}{9} + \frac{3}{9} \times \frac{11}{99}$   
 $= \frac{5}{9} + \frac{33}{891} = \frac{495+33}{891}$   
 $= \frac{528}{891}$

19. (A)  $? = \sqrt{11} \times (11)^{1/2}$   
 $= \sqrt{11} \times \sqrt{11} = 11$   
 $= (11)^{4-3}$

20. (A)  $A^{\frac{2}{3}+\frac{3}{2}+\frac{1}{2}} = A^{\frac{4+9+3}{6}}$   
 $= A^{16/6}$   
 $= A^{8/3}$

21. (B)  $? = (10)^{0.25} \times (10)^{0.50} \times (10)^{0.400}$   
 $= 10^{(1/4)} \times 10^{(1/2)} \times 10^{(4/10)}$   
 $= 10^{(1/4)+(1/2)+(4/10)} = 10^{(17/20)}$

22. (A)  $? = 16(15-1)$   
 $= 16 \times 14 = 224$

23. (C)  $? = (300+3) \times 125 - 25 \times 201$   
 $= 37500 + 375 - 5025$   
 $= 37875 - 5025$   
 $= 32850$

24. (A)  $? = 7^{2 \times 3 - 3} = 7^3$   
 $25. (A) ? = 1.1(3.2 - 3.3 + 3 \times 2)$   
 $= 1.1(-0.1 + 6)$   
 $= 1.1 \times 5.9 = 6.49$

26. (A) Reqd. S. P.  
 $= \frac{90 \times (100+12)}{100}$   
 $= \frac{90 \times 112}{100}$   
 $= ₹100.80$

27. (A) Let the numbers are  $2x$  and  $3x$ .

$$\begin{aligned} \therefore \frac{2x-20}{3x-20} &= \frac{1}{2} \\ \Rightarrow 3x-4x &= -40+20 \\ \therefore x &= 20 \\ \text{1st number} &= 2x = 2 \times 20 = 40 \\ \text{2nd number} &= 3x = 3 \times 20 = 60 \end{aligned}$$

$$28. (\text{E}) \text{ Required days} = \frac{10 \times 5}{7} = \frac{50}{7} = 7\frac{1}{7} \text{ days}$$

$$29. (\text{C}) \text{ Let the C.P. of 3 Items} \\ = \text{₹ } x$$

$$\text{Selling price of 5 Items} \\ = \text{₹ } x$$

$$\text{Selling price of 3 Items} \\ = \text{₹ } \frac{x}{5} \times 3$$

$$\begin{aligned} \therefore \text{Loss on 3 Items} \\ &= x - \frac{3x}{5} \\ &= \frac{5x-3x}{5} = \frac{2x}{5} \\ \therefore \text{Loss \%} &= \frac{2x}{5} \times \frac{100}{x} \% \\ &= 40\% \end{aligned}$$

30. (D) Side of the square

$$= \frac{100}{4} = 25 \text{ m}$$

$$\text{Reqd. area} = 25 \times 25 = 625 \text{ m}^2$$

$$31. (\text{C}) \text{ Sum of 1st 20 odds} = n^2 \\ = 20 \times 20$$

$$\therefore \text{Reqd. average} = \frac{20 \times 20}{20} = 20$$

$$32. (\text{B}) \therefore 3P = \frac{P \times 2 \times T}{100}$$

$$T = \frac{3P \times 100}{P \times 2} \\ = 150 \text{ years}$$

$$33. (\text{A}) \therefore \frac{16 \times x}{100} = \frac{48 \times y}{100} \\ \Rightarrow x = 3y$$

$$\Rightarrow \frac{x}{y} = \frac{3}{1} \\ \therefore x:y = 3:1$$

$$34. (\text{A}) \because 2\pi r = 2\pi$$

$$\Rightarrow r = 1 \text{ m} \\ \therefore \text{Area} = \pi r^2 \\ = \pi \times 1 \times 1 = \pi \text{ m}^2$$

$$35. (\text{C}) \because x^{1/2} = \sqrt{11}$$

$$\Rightarrow x^{1/2} = (11)^{1/2} \\ \therefore x = 11$$

$$36. (\text{A}) \text{ Discount} = 250 - 225 \\ = \text{₹ } 25$$

$$\text{Discount \%} = \frac{25 \times 100}{250} \\ = 10\%$$

$$37. (\text{C}) \because P^{-1/2} = \left(\frac{1}{25}\right)^2$$

Squaring both sides

$$\Rightarrow \frac{1}{P} = \left(\frac{1}{25}\right)^4 \\ \therefore P = (25)^4 = 5^8$$

$$38. (\text{A}) \text{ Cost of } \frac{7}{2} \text{ metre} = \text{₹ } 150$$

$$\therefore \text{Cost of 1 metre} = \frac{150 \times 2}{7} \\ = \text{₹ } 42.86 \\ \approx \text{₹ } 43 \text{ (Approx.)}$$

$$39. (\text{B}) \because 4 \text{ men} = 12 \text{ boys}$$

$$\therefore 1 \text{ man} = 3 \text{ boys}$$

$$\therefore 3 \text{ men} = 3 \times 3 = 9 \text{ boys}$$

$$\text{Required boys} = 12 - 9 \\ = 3 \text{ boys}$$

$$40. (\text{A}) \because P - \frac{1}{P} = 6 \text{ Squaring both sides}$$

$$\Rightarrow P^2 + \frac{1}{P^2} - 2P \cdot \frac{1}{P} = 36$$

$$\therefore P^2 + \frac{1}{P^2} = 36 + 2 \\ = 38$$

$$41. (\text{B}) \text{ Primes between 1 to 100} = 25.$$

$$42. (\text{D}) \text{ Neither prime nor composite.}$$

$$43. (\text{A}) \text{ Squaring of itself.}$$

44. (C) Put  $n = 2, 3$  in the exp.

$$(2)^2(2^2 - 1) = 4 \times 3 = 12$$

$$3^2 \times 3^2 - 1 = 9 \times 8 = 72$$

$\therefore$  Expression is divisible by 12.

45. (B)  $\because x = \sqrt{6+x}$

$$\Rightarrow x^2 = (\sqrt{6+x})^2$$

$$\Rightarrow x^2 - x - 6 = 0$$

$$\Rightarrow (x-3)(x+2) = 0$$

$$\therefore x = 3$$

46. (D)  $\because 7 + 2\sqrt{10}$

$$= 5 + 2 + 2\sqrt{5} \cdot \sqrt{2}$$

$$= (\sqrt{5})^2 + (\sqrt{2})^2 + 2\sqrt{5}\sqrt{2}$$

$$= (\sqrt{5} + \sqrt{2})^2$$

$$\therefore \sqrt{7 + 2\sqrt{10}} = (\sqrt{5} + \sqrt{2})$$

47. (A) Given exp. =  $[P^3]^{1 - 1/2^3}$   
 $= [P^3]^{1 - 1/8}$   
 $= [P^3]^{7/8}$   
 $= P^3 \times 7/8 = P^{21/8}$

48. (A)  $\because$  In 3 days = 1 work

$$\therefore 1 \text{ day} = \frac{1}{3} \text{ Part of work}$$

49. (A) Part of A =  $\frac{3000 \times 2}{5}$   
 $= ₹ 1200$

$$\text{Part of B} = \frac{3000 \times 3}{5}$$

$$= ₹ 1800$$

50. (A)  $\because \frac{10}{100} \times 15 = \frac{x}{100} \times 12.5$

$$\therefore x = \frac{10 \times 15}{12.5}$$

$$= 12$$

## Part—IV General Awareness

1. Production function refers to the functional relationship between input and—  
 (A) product                   (B) produce  
 (C) output                   (D) service

2. ‘Self Reliance’ was the main objective of—

- (A) Fourth Plan           (B) Seventh Plan  
 (C) Third Plan           (D) Sixth Plan

3. District Judge is under the control of—

- (A) State Government  
 (B) High Court  
 (C) Supreme Court  
 (D) Governor

4. What is meant by social justice ?

- (A) All should have same economic rights  
 (B) All should have same political rights  
 (C) All kind of discrimination based on caste, creed, colour and sex should be eliminated  
 (D) All should be granted right to freedom of religion

5. .... are essential for liberty.

- (A) Restrictions           (B) Rights  
 (C) Privileges           (D) Laws

6. Name the country which launched the first Satellite ‘Sputnik’ into the space.

- (A) United States of America  
 (B) Soviet Union  
 (C) Japan  
 (D) England

7. Who is commonly known as the Iron Man ?

- (A) Sardar Vallabh Bhai Patel  
 (B) Vittal Bhai Patel  
 (C) Bal Gangadhar Tilak  
 (D) Bipin Chandra Pal

8. Mahavira’s first disciple was—

- (A) Bhadrabahu           (B) Sthulabhadra  
 (C) Charvaka           (D) Jamali

9. Which of the following is the most numerous tribe in India ?

- (A) Todas                   (B) Bhils  
 (C) Garos                   (D) Gonds

10. Soils of Western Rajasthan have a high content of—

- (A) Aluminium           (B) Calcium  
 (C) Nitrogen                   (D) Phosphorus

11. Activity of an enzyme can be modulated by change of—  
 (A) pH                   (B) Light  
 (C) Humidity           (D) Rainfall
12. Proteins are digested by—  
 (A) Proteases           (B) Amylases  
 (C) Lipases           (D) Nucleases
13. Jaundice is a disease which affects—  
 (A) Heart               (B) Liver  
 (C) Spleen              (D) Gall bladder
14. Which metal is the heaviest in periodic table among the following ?  
 (A) Os                   (B) Pt  
 (C) Pb                   (D) W
15. The chemical formula of the laughing gas is  
 (A) NO                   (B) N<sub>2</sub>O  
 (C) NO<sub>2</sub>               (D) N<sub>2</sub>O<sub>3</sub>
16. Outside of cooking utensils are generally left black from below because—  
 (A) it is difficult to clean daily  
 (B) black surface is a good conductor of heat  
 (C) black surface is a poor conductor of heat  
 (D) black surface is a good absorber of heat
17. The colour of the sky appears blue due to—  
 (A) reflection  
 (B) refraction  
 (C) scattering of shorter wave-lengths  
 (D) dispersion
18. GUI stands for—  
 (A) Graphical User Interface  
 (B) Graphical User Information  
 (C) Graphical User Interaction  
 (D) Graphical User Instruction
19. Indian Council of Forestry Research and Education is located in—  
 (A) Dehradun           (B) Ranchi  
 (C) New Delhi          (D) Raipur
20. Cholesterol is absent in  
 (A) Groundnut oil     (B) Butter oil  
 (C) Butter milk       (D) Ice Cream
21. ‘Bhangra’ is a dance of—  
 (A) Haryana           (B) Rajasthan  
 (C) Delhi               (D) Punjab
22. ‘Dandia’ is a popular dance of—  
 (A) Gujarat           (B) Assam  
 (C) Jharkhand       (D) Maharashtra
23. ‘Natya Shastra’ was written by—  
 (A) Bharat Muni      (B) Narad Muni  
 (C) Jhandu Muni      (D) Vyasa Muni
24. Vardhman Mahavir is also known as—  
 (A) Jena               (B) Great teacher  
 (C) Great Preacher   (D) Jain
25. ‘Ranji Trophy’ is associated with—  
 (A) Hockey           (B) Football  
 (C) Cricket           (D) Kabaddi
26. Euclid was—  
 (A) Greek Mathematician  
 (B) Contributor to the use of deductive principles of logic as the basis of geometry  
 (C) Propounded the geometrical theorem  
 (D) All of these
27. Goa Shipyard Limited (GSL) was established in—  
 (A) 1958               (B) 1957  
 (C) 1956               (D) 1955
28. Who was the first Indian Chief of Army Staff of the Indian Army ?  
 (A) Gen. K. M. Cariappa  
 (B) Vice-Admiral R. D. Khatri  
 (C) Gen. Maharaja Rajendra Singhji  
 (D) None of these
29. FRS stands for—  
 (A) Fellow Research System  
 (B) Federation of Regulation Society  
 (C) Fellow of Royal Society  
 (D) None of these
30. Golden Temple, Amritsar is India’s—  
 (A) Oldest Gurudwara  
 (B) Largest Gurudwara  
 (C) Both A and B are correct  
 (D) None of these
31. Which of the following pairs is *wrong* ?  
 (A) K. M. Chandy—Governor  
 (B) Bhagwant Rao Mandloi—Chief Minister

- (C) Digvijay Singh—Opposition Leader, Legislative Assembly  
 (D) Kunil Lal Dubey—Speaker, Legislative Assembly
32. Where is Usha Raje Stadium located ?  
 (A) Rewa                    (B) Gwalior  
 (C) Indore                (D) Bhopal
33. Which of the following districts is *not* included among three districts having minimum schedule tribe population ?  
 (A) Bhind                (B) Datia  
 (C) Shahapur            (D) Mandla
34. In which of the following is Cement Sheet Industry located ?  
 (A) Balaghat            (B) Katni  
 (C) Hoshangabad        (D) Tikamgarh
35. District Khandwa is famous for the production of—  
 (A) Onion                (B) Opium  
 (C) Wheat                (D) Rice
36. Where is the largest Asian Factory of Soybean situated ?  
 (A) Ujjain                (B) Bhopal  
 (C) Dhar                  (D) Jabalpur
37. Where is the Mazar of Baba Shahabuddin located ?  
 (A) Nimad                (B) Neemuch  
 (C) Seoni                (D) Narsinghpur
38. Which of the following pairs is *correct* ?  
 (A) Makbara of Hoshangabad —Bhopal  
 (B) Makbara of Nawab Hasan —Mandu  
 (C) Makbara of Gaus Mohammed —Shivpuri  
 (D) Samadhi of Jhalkaribai —Mandla
39. The State sport of Madhya Pradesh is—  
 (A) Kabaddi              (B) Karate  
 (C) Malkhamb            (D) Hockey
40. In which district is the 'Hira Bhumiya Fair' organised ?  
 (A) Dewas                (B) Dhar  
 (C) Gwalior             (D) Balaghat
41. With which country's collaboration AGASOH (Beena) Oil Refinery has been set up ?  
 (A) Kuwait                (B) Iraq  
 (C) Jordan                (D) Oman
42. Which of the following works is *not* composed by Bhavbhuti ?  
 (A) Uttar Ramcharit  
 (B) Niti Shatak  
 (C) Malati Madhav  
 (D) Mahavir Charitra
43. Which of the following works is *not* composed by Makhan Lal Chaturvedi ?  
 (A) Banwasi              (B) Samarpan  
 (C) Samay Ke Paon        (D) Jhansi Ki Rani
44. In which year 'Ram Roti Yojana' was started by Madhya Pradesh Government ?  
 (A) 2008                (B) 2009  
 (C) 2010                (D) 2011
45. For which Act, Madhya Pradesh was given United Nations Public Service Award—  
 (A) Public Service Guarantee Act  
 (B) Right to Information Act  
 (C) Old Aged Service Act  
 (D) Child Service Act
46. Grampani Sanctuary is located at—  
 (A) Junagarh, Gujarat  
 (B) Diphu, Assam  
 (C) Kohima, Nagaland  
 (D) Gangtok, Sikkim
47. FFC stands for—  
 (A) Federation of Football Council  
 (B) France Finance Corporation  
 (C) Foreign Finance Corporation  
 (D) Film Finance Corporation
48. Fastest shorthand writer was—  
 (A) Dr. G. D. Bist        (B) J. R. D. Tata  
 (C) J. M. Tagore          (D) Khudada Khan
49. Golf player Vijay Singh belongs to which country ?  
 (A) U.S.A.                (B) India  
 (C) Fiji                    (D) U. K.
50. First Afghan war took place in—  
 (A) 1833                (B) 1839  
 (C) 1840                (D) 1848

## Answers with Explanations

1. (C) 2. (B) 3. (B) 4. (C) 5. (B) 6. (B) 7. (A) 8. (D) 9. (D) 10. (B) 11. (A) 12. (A) 13. (B) 14. (A) 15. (B) 16. (D) 17. (C) 18. (A) 19. (A) 20. (D) 21. (D) 22. (A) 23. (A) 24. (A) 25. (C) 26. (D) 27. (B) 28. (A) 29. (C) FRS stands for Fellow of Royal Society. 30. (C) Golden Temple is India's oldest and biggest Gurudwara. 31. (C) Digvijay was the leader of ruling party not of opposition party. 32. (C) 33. (D) 34. (B) 35. (A) 36. (A) 37. (B) 38. (A) 39. (C) Although now-a-days—cricket, hockey, badminton etc. are very popular, but tradition-ally Malkhamb is a state sport of Madhya Pradesh.
40. (C) Hira Bhumiya Fair is organised in Gwalior during Bhadon to be run for a month or so. 41. (D) AGASOH (Beena) Oil Refinery has been set up with the collaboration of Oman. 42. (B) Bhavbhuti did not compose 'Niti Shatak'. 43. (D) Makhan Lal Chaturvedi did not compose Jhansi Ki Rani. 44. (C) 'Ram Roti Yojana' was launched by M. P. Government in the year 2010, with the objective to provide food for ₹ 5 only. 45. (A) 46. (B) Grampani Sanctuary is located at Diphu, Assam. 47. (D) FFC stands for Film Finance Corporation. 48. (A) 49. (C) 50. (B)

## Practice Set-3

### Part—I General Intelligence

**Directions—(Q. 1–4)** Select the related word /letters/number from the given alternatives.

1. ACEG : JLNP :: BDFH : ..... ?.....

- (A) KMPQ      (B) BEFI  
(C) KMOQ      (D) KLOR

2. ABJK : EFNO :: CDLM : ..... ?.....

- (A) GHPR      (B) GHRG  
(C) GHPQ      (D) GHSR

3. Rashtrapati Bhavan : India, Downing Street : U.K., White House : USA, Kremlin : ..... ?.....

- (A) Russia      (B) Germany  
(C) Norway      (D) Nepal

4. 64 : 8 :: 16 : 4 :: ..... ? ..... : 2 ..

- (A) 4      (B) 5  
(C) 6      (D) 3

**Directions—(Q. 5–7)** Find the odd number/words from the given alternatives.

5. (A) 13458      (B) 13791  
(C) 13678      (D) 13565

6. (A) 49      (B) 9  
(C) 19      (D) 29

7. (A) Vacate      (B) Abandon  
(C) Avoid      (D) Discard

8. Which is the third word when put in an alphabetic order ?

- (A) Dialysis      (B) Diarchy  
(C) Diamond      (D) Diagonal

**Directions—(Q. 9–11)** A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.

9. 5, 17, 37, 65, ... ? ..., 145

- (A) 101      (B) 95  
(C) 97      (D) 99

10. X Y Z A B C U V W ... ? ... .

- (A) D      (B) E  
(C) F      (D) G

11. 4, 8, 12, 16, ... ? ..., 24.

- (A) 40      (B) 10  
(C) 20      (D) 30

12. If RHYTHMIC is written as QGXSGLHB, how MUSIC can be written in that code ?

- (A) NVRHB      (B) LTRHB  
(C) NVTJD      (D) LVTHB

13. 120% of 5100 ?

- (A) 4,000      (B) 6,120  
(C) 8,000      (D) 10,000

14. From the given alternative words, select the word which cannot be formed using the letters of the given word.

'MINERVA'

- (A) NINE      (B) VEIN  
(C) MINE      (D) RAIN

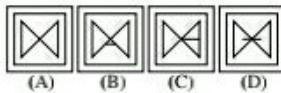
15. Pointing to a woman, Malar said, "Her only sister is the mother of my daughter's mother". How is the woman related to Malar ?

- (A) Grand mother      (B) Mother-in-law  
(C) Sister      (D) Aunt

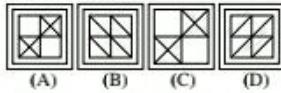
16. If  $52 + 26 = 30$  and  $80 + 24 = 28$ , then  $27 + 54 = ?$

- (A) 36      (B) 81  
(C) 48      (D) 38

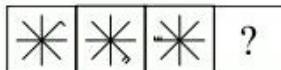
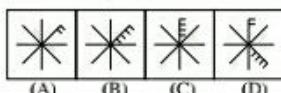
17. From the given answer figures, select the one in which the question figure is hidden/embedded.

**Question figure****Answer figures**

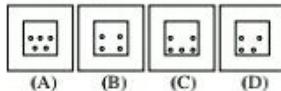
18. If a mirror is placed on the line X then which of the answer figures is the right image of the given figure ?

**Question figure****Answer figures**

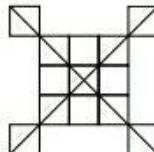
19. Find the missing figure of the series from the given alternatives.

**Question figures****Answer figures**

20. Identify the answer figure which yields the punched pattern in the question figure, when the square paper is folded once.

**Question figure****Answer figures**

21. Find out the number of triangles in the given figure.



- (A) 32  
(C) 24  
(B) 20  
(D) 28

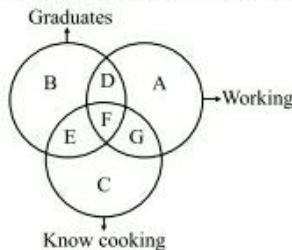
22. Letters given in the first line have codes as in the second line.

V	D	A	S	G	K	I	H	X	O
5	1	3	9	0	8	2	4	7	6

How will the letters IVSHOD be coded ?

- (A) 258416                   (B) 259641  
(C) 254961                   (D) 259461

23. Three circles representing GRADUATES, WORKING and KNOW COOKING are intersecting one another. The intersection areas are marked A, B, C, D, E, F and G. Which part represents GRADUATES KNOWING COOKING and are not WORKING ?



- (A) E                           (B) D  
(C) G                           (D) F

24. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of Matrix I are numbered from 1 to 4 and that of Matrix II are numbered from 5 to 8. A letter from these matrices can be represented first by its row and next by its column, e.g., 'O' can be represented by 13, 21, etc., and 'E' can be represented by 65, 76 etc. Similarly, you have to identify the set for the word 'TRAMPLE'.

**Matrix I**

	1	2	3	4
1	L	A	O	R
2	O	R	L	A
3	R	L	A	O
4	A	O	R	L

**Matrix II**

	5	6	7	8
5	M	T	P	E
6	E	M	T	P
7	P	E	M	T
8	T	P	E	M

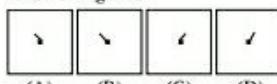
(A) 85, 31, 41, 56, 68, 32, 76

(B) 56, 14, 12, 66, 68, 23, 78

(C) 67, 22, 24, 55, 86, 33, 76

(D) 78, 22, 12, 55, 68, 32, 58

25. Which answer figure will complete the pattern in the question figure ?

**Question figure****Answer figures**

(A)

(B)

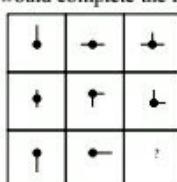
(C)

(D)

- Directions—(Q. 26–28)** Select the one which is different from the other three.

26. (A) Week (B) Month  
(C) Session (D) Fortnight27. (A) 97 (B) 61  
(C) 13 (D) 11728. (A) Geography (B) Chemistry  
(C) Physics (D) Botany29. If  $a + b > c + d$  and  $b + c > a + d$ , then it is definite that—  
(A)  $c > d$  (B)  $b > d$   
(C)  $a > d$  (D)  $b > c$ 

30. Select a suitable figure from the four alternatives that would complete the figure matrix—



- (1) (2) (3) (4)

- (A) 3 (B) 2  
(C) 1 (D) 4

31. If  $\times$  stands for addition,  $\div$  stands for subtraction,  $+$  stands for multiplication and  $-$  stands for division, then

 $20 \times 8 \div 8 - 4 + 2$  is equal to—

- (A) 24 (B) 25  
(C) 80 (D) 5

32. If ' $-$ ' stands for ' $\times$ ', ' $\times$ ' stands for ' $+$ ', ' $+$ ' stands for ' $/$ ' and ' $/$ ' stands for ' $-$ ', then what is the value of  $9 \div 18 \times 15 + 3 - 6 \times 12$  ?

- (A) 33 (B) 30  
(C) 24 (D) 42

33. Introducing a man, a woman said that he is the only son of my mother's mother. How is women related to the man ?

- (A) Niece (B) Cousin  
(C) Grandmother (D) Aunt

34. X introduces Y saying, "He is the husband of the granddaughter of the father of my father". How is Y related to X ?

- (A) Brother-in-law (B) Son  
(C) Brother (D) Nephew

35. Introducing a boy, a girl said, "He is the son of the daughter of the father of my uncle." How is the boy related to the girl ?

- (A) Uncle (B) Nephew  
(C) Brother (D) Son-in-law

36. If in a certain language CARROM is coded as BZQQNL, which word will be coded as HOUSE ?

- (A) INVRF (B) GNTRD  
(C) IPVTF (D) GPTID

37. In a certain code, GIGANTIC is written as GIGTANCI. How MIRACLES is written in the same code ?

- (A) MIRSELCA (B) MIRLACSE  
(C) MIRLACES (D) MIRCLESA

38. In a certain language, QUEUE is written as Q22 and CHURCH is written as IURI. How BANANA is written in the same language ?

- (A) B545S                    (B) B53535  
 (C) B5A5A                    (D) B55

**Directions—(Q. 39–40)** In the following questions, you are given addresses. Please choose the address options that does not match the given question.

39. E-mail: Jahagirpati\_modinagar@ mrinmayi.com.  
 Phone: 9199654867

- (A) E-mail: Jahagirpati\_modinagar@ mrinmayi.com.  
 Phone: 9199654867  
 (B) E-mail: Jahagirpati\_modinagar@ mrinmayi.com.  
 Phone: 9199654867  
 (C) E-mail: Jahagirpati\_modinagar@ mrinmayi.com  
 Phone: 9199654867  
 (D) E-mail: Jahagirpati\_modinagar@ mrinmayi.com  
 Phone: 9199654867

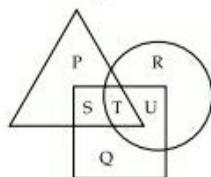
40. Sri Niwas Singh, 521/C, Rly Colony, Fazalganj, Kanpur-208012

- (A) Sri Niwas Singh, 521/C, Rly Colony, Fazalganj, Kanpur-20812  
 (B) Sri Niwas Singh, 521/C, Rly Colony, Fazalganj, Kanpur-208012  
 (C) Sri Niwas Singh, 521/C, Rly Colony, Fazalganj, Kanpur-208012  
 (D) Sri Niwas Singh, 521/C, Rly Colony, Fazalganj, Kanpur-208012

41. Bodinayakkanur, 2nd April, 1986

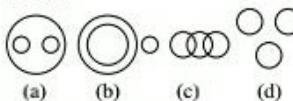
- (A) Bodinayakkanur, 2nd April, 1986  
 (B) Bodinayakkanur, 2nd April, 1986  
 (C) Bodinayakkanur, 2nd April, 1986  
 (D) Bodinayakkanur, 2nd April, 1986

42. In the figure given below, square represents doctors, triangle represents ladies and circle represents surgeon. By which letter the ladies who doctor and surgeon both are represented?



- (A) S                            (B) U  
 (C) T                            (D) S + T

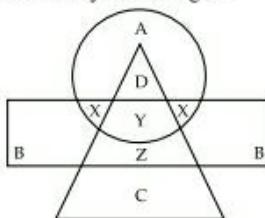
43. In the following question, choose the Venn diagram, which best illustrates the three given classes—



Truck, goods, ship—

- (A) c                            (B) b  
 (C) a                            (D) d

44. In the following diagram, the circle represents College Professors, the triangle stands for Surgical Specialists and Medical Specialist are represented by the rectangle—



Surgical specialists who are also Medical Specialists but not Professors are represented by—

- (A) X                            (B) Z  
 (C) B                            (D) Y

45. Which of the following is the best statement for achieving success in life?

- (A) The person should be sincere and hard-working  
 (B) The person should be rich and prosperous  
 (C) The person should be intelligent  
 (D) The person should be honest

46. Children like to read comics because—

- (A) It makes children laugh and smile  
 (B) It is the cheapest means of recreation  
 (C) It teaches moral  
 (D) It contains amusing pictures

47. Which one is always associated with the justice?

- (A) Legitimacy                    (B) Magnanimity  
 (C) Hypocrisy                    (D) Diminutiveness

48. If the day after tomorrow is Friday, what day was it day before yesterday?  
 (A) Sunday      (B) Tuesday  
 (C) Monday      (D) Wednesday
49. Ten friends shake hands with one another. Find the total number of hand shakes—  
 (A) 10      (B) 45  
 (C) 20      (D) 9
50. Most children living in slums have poor health. So Bindu and Chhoti who live in slums cannot be healthy. This conclusion is—  
 (A) Definitely true  
 (B) Definitely false  
 (C) May be true, may be false also  
 (D) None of the above is correct

### Answers with Explanations

1. (C) As,

$$\begin{array}{ccccccc} & A & C & E & G \\ +1 & \downarrow & \downarrow & \downarrow & \downarrow \\ B & D & F & H \end{array}$$

Same as,

$$\begin{array}{ccccccc} & J & L & N & P \\ +1 & \downarrow & \downarrow & \downarrow & \downarrow \\ K & M & O & Q \end{array}$$

2. (C) As,

$$\begin{array}{ccccccc} & A & B & J & K \\ +4 & \downarrow & \downarrow & \downarrow & \downarrow \\ E & F & N & O \end{array}$$

Same as,

$$\begin{array}{ccccccc} & C & D & L & M \\ +4 & \downarrow & \downarrow & \downarrow & \downarrow \\ G & H & P & Q \end{array}$$

3. (A) As, the residence of Indian President is in 'Rashtrapati Bhawan', residence of U.K. President is in 'Downing Street', residence of USA President is in 'White House', Same as the residence of Russian President is in 'Kremlin'.

4. (A) As,  $\sqrt{64} = 8$ and  $\sqrt{16} = 4$ Same as,  $\sqrt{4} = 2$  $\therefore ? = 4$ 5. (A)  $13 \times 7 = 91 \Rightarrow 13791$  $13 \times 6 = 78 \Rightarrow 13678$  $13 \times 5 = 65 \Rightarrow 13565$ 

But,

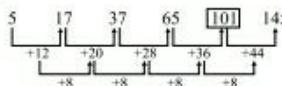
 $13 \times 4 = 52 \Rightarrow 13458$  (False)

6. (C) Sum of the rest digit or numbers is an odd number.

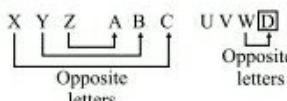
7. (A)

8. (C) Diagonal, Dialysis, Diamond, Diarchy.

9. (A)



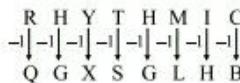
10. (A)



11. (C)



12. (B) As,



Same as,

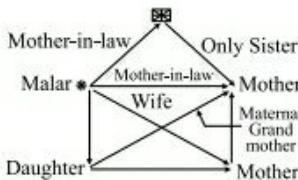


13. (B) 120% of 5100

$$= 5100 \times \frac{120}{100} = 6120$$

14. (A)

15. (B) From relation diagram—



16. (A) As,

$$52 \rightarrow 5 + 2 = 7$$

$$26 \rightarrow 2 + 6 = 8$$

$$(7 + 8) \times 2 = 30$$

$$\text{and } 80 \rightarrow 8 + 0 = 8$$

$$24 \rightarrow 2 + 4 = 6$$

$$(8 + 6) \times 2 = 28$$

Same as,

$$27 \rightarrow 2 + 7 = 9$$

$$54 \rightarrow 5 + 4 = 9$$

$$(9 + 9) \times 2 = 36$$

17. (D) 18. (A)

19. (C) In every next figure, a new small line appears on main design. The whole design is also moving  $90^\circ$ ,  $135^\circ$ ,  $90^\circ$ , ..... respectively.

20. (C) 21. (A) 22. (D) 23. (A)

24. (D)  $T \rightarrow 56, 67, 78, 85$ . $R \rightarrow 14, 22, 31, 43$ . $A \rightarrow 12, 24, 33, 41$ . $M \rightarrow 55, 66, 77, 88$ . $P \rightarrow 57, 68, 75, 86$ . $L \rightarrow 11, 23, 32, 44$ . $E \rightarrow 58, 65, 76, 87$ 

25. (C) 26. (C)

27. (D) Rest are prime numbers.

28. (A) Rest are related with Science subjects while Geography is related with Art subjects.

29. (B) From both the conditions, this sure that  $b > d$ .

30. (A) This part (—●—) is common in all three parts.

31. (A)  $20 \times 8 + 8 - 4 + 2$ 

$$\Rightarrow 20 + 8 - 8 + 4 \times 2$$

$$= 20 + 8 - 2 \times 2$$

$$= 28 - 4$$

$$= 24$$

32. (A)  $9 + 18 \times 15 + 3 - 6 \times 12$ 

$$\Rightarrow 9 - 18 + 15 + 3 \times 6 + 12$$

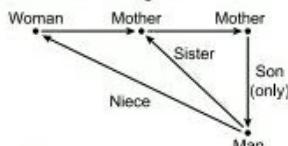
$$= 9 - 18 + 5 \times 6 + 12$$

$$= 9 - 18 + 30 + 12$$

$$= 51 - 18$$

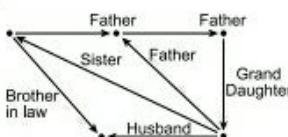
$$= 33$$

33. (A) From related diagram



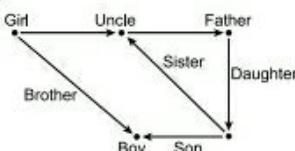
Hence, that woman is man's niece.

34. (A)



Hence, Y is X's brother-in-law.

35. (C)



Hence, boy is brother of that girl.

36. (B) As,

$$\begin{matrix} C & A & R & R & O & M \\ -1 & -1 & -1 & -1 & -1 & -1 \\ B & Z & Q & Q & N & L \end{matrix}$$

Same as,

$$\begin{matrix} H & O & U & S & E \\ -1 & -1 & -1 & -1 & -1 \\ G & N & T & R & D \end{matrix}$$

37. (B) As,

$$\begin{matrix} G & I & G & A & N & T & I & C \\ \downarrow & \downarrow & \downarrow & \diagdown & \diagup & \diagdown & \diagup \\ G & I & G & T & A & N & C & I \end{matrix}$$

Same as,

$$\begin{matrix} M & I & R & A & C & L & E & S \\ \downarrow & \downarrow & \downarrow & \diagdown & \diagup & \diagdown & \diagup \\ M & I & R & L & A & C & S & E \end{matrix}$$

38. (D) As,

QUEUE  $\rightarrow$  Q 22and CHURCH  $\rightarrow$  IURI

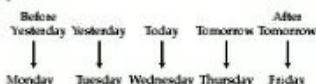
Same as,

BANANA  $\rightarrow$  B 55

39. (C) 40. (A) 41. (B) 42. (C) 43. (C)

44. (B) 45. (A) 46. (D) 47. (A)

48. (C)



49. (B) Required number of total hand shales

$$\begin{aligned}
 &= 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 \\
 &= 45
 \end{aligned}$$

50. (C)

## Part-II English Language

**Directions—(Q. 1–3)** Choose the correct Passive Voice of the sentence given in the question.

- Is the noise not disturbing the old man ?
  - Is the old man not being disturbed by the noise ?
  - Whether the old man is not being disturbed by the noise ?
  - Do the old man not being disturbed by the noise ?
  - Let the old man not be disturbed by the noise
- Could they not have helped the needy ?
  - Why can the needy be not helped by them ?
  - Could the needy not have been helped by them ?
  - Could the needy have not been helped by them ?
  - Why could the needy not be helped by them ?
- Ought we to make any false claims ?
  - Any false claims ought to be made by us
  - Ought any false claims to be made by us ?
  - Should any false claims to be made by us ?
  - Could any false claims to be made by us ?

**Directions—(Q. 4 and 5)** Change the following sentences into Reported Speech.

- I said, "will you stop that noise ?" "No said the boy".

(A) I asked the boy if he would stop that noise and he replied that he would not (stop that noise)

(B) I told the boy if he would stop that noise and he said no

(C) I said to the boy if he will stop that noise and he said that he would not

(D) I asked the boy whether he would stop this noise and he replied in negative

5. She said, "how clever I am !"—

- She told that she was very clever
- She exclaimed that she was very clever
- She applauded herself by saying that she was very clever
- She said that how clever was she ?

6. Complete the phrase : 'Burning the candle at both .....'

- |           |            |
|-----------|------------|
| (A) sides | (B) ends   |
| (C) tips  | (D) flames |

7. Choose the word pair that has the relationship that is most similar to that of the given pair— vexation : disappointment

- |                    |                     |
|--------------------|---------------------|
| (A) peace : calm   | (B) felicity : fear |
| (C) brave : coward | (D) kind : sympathy |

8. The phrase 'a close call' means—

- to be happily married
- to be hardhearted
- to live nearby
- to have a narrow escape

9. Choose the correct option for the sentence : 'Many conjuring tricks depend upon optical.....'

- |               |                |
|---------------|----------------|
| (A) delusions | (B) allusions  |
| (C) illusions | (D) resolution |

**Directions—(Q. 10 and 11)** In the following sentences one or two words are missing. Pick the choice which fits best with the sentence.

- Some people respond to a threat of rejection by becoming ..... while others ..... and become again like little dependent children.
  - Concise, objectify
  - Militant, regress
  - Impulsive, diminish
  - Amiable, procrastinate

11. While the ..... goal is to meet the specific learning needs of each child, the long range aim is to develop his ability to assume the ..... for his own learning.

- (A) Real, Initiative
- (B) Supposed, requirements
- (C) Immediate, responsibility
- (D) Apparent, desire

**Directions—(Q. 12 and 13)** In the following questions, four parts of a sentence are given a choices (A), (B), (C) and (D) and are in sequence. Select the part which is not acceptable in standard written English.

12. (A) In no circumstances

- (B) Will the principal
- (C) Permit students
- (D) To be absent

13. (A) The professor

- (B) Emphasised on
- (C) The point
- (D) Again and again

**Directions—(Q. 14 and 15)** Each of these questions consists of a word given in capital letters followed by four words marked (A), (B), (C) and (D). Choose the word that is most nearly similar in meaning to the word given in capital letters.

14. SOPORIFIC

- |                |               |
|----------------|---------------|
| (A) Impressive | (B) Soothing  |
| (C) Merry      | (D) Lethargic |

15. SLOTHFUL

- |              |              |
|--------------|--------------|
| (A) Fat      | (B) Lazy     |
| (C) Stubborn | (D) Ignorant |

**Directions—(Q. 16 and 17)** In each of these questions a word is given in capital letters followed by four words. Choose the word that is **most nearly opposite in meaning** to the word given in capital letters.

16. POLEMIC

- |                |                 |
|----------------|-----------------|
| (A) Friendship | (B) Agreement   |
| (C) Amity      | (D) Cooperation |

17. FECUND

- |           |                |
|-----------|----------------|
| (A) Hard  | (B) Unploughed |
| (C) Solid | (D) Barren     |

**Directions—(Q. 18 and 19)** Find the one word substitution in the following questions.

18. The act of violating the sanctity of the church is—

- |               |                 |
|---------------|-----------------|
| (A) Blasphemy | (B) Heresy      |
| (C) Sacrilege | (D) Desecration |

19. A school boy who cuts classes frequently is a—

- |               |               |
|---------------|---------------|
| (A) Defeatist | (B) Sycophant |
| (C) Truant    | (D) Martinet  |

**Directions—(Q. 20 and 21)** In each of the following questions an idiomatic expression and its four possible meanings are given. Find out the correct meaning and mark your answer.

20. To turn tail

- |                         |
|-------------------------|
| (A) Shifts one position |
| (B) Run away            |
| (C) In the presence of  |
| (D) Something concealed |

21. To fight tooth and nail

- |  |
|--|
| (A) To fight a losing battle             |
| (B) To fight purposefully                |
| (C) To fight cowardly                    |
| (D) To make every possible effort to win |

**Directions—(Q. 22 and 23)** Look at the underlined part of each sentence. Below each sentence are given three possible substitutions for the underlined part. If one of them (A), (B) or (C) is better than the underlined part, select that part as your response. If none of the substitutions improves the sentence, choose letter (D) as your response. Thus, letter a 'no improvement' response will be signified by the letter (D).

22. Make haste lest you should not be caught in the storm—

- |                            |
|----------------------------|
| (A) That you should not be |
| (B) You can be             |
| (C) You should be          |
| (D) No improvement         |

23. Just before the commencement of examination, the invigilator advised us from copying or indulging in any other malpractices—

- |             |                    |
|-------------|--------------------|
| (A) Against | (B) Upon           |
| (C) About   | (D) No improvement |

**Directions—(Q. 24-38)** Read the passages below and answer the questions by choosing the best option.

Golf Garden is an old locality, with rows of one-two or three storey houses, separated by moss covered boundary walls, along which creepers like ivy and bougainvillea had found refuge. The houses, far from holding any ...**(24)**... interest, ...**(25)**... conspicuous by their lack of anything not strictly utilitarian. They were simple brick structures, that often ...**(26)**... right on the edge of the road, the entrances of which were ...**(27)**... by wrought iron grills or collapsible gates that ...**(28)**... open anytime a visitor arrived.

There was always something inexplicably ...**(29)**... about neighbourhoods of this sort. You ...**(30)**... the same people everyday, in shops and in markets, at the bus stops or in the hair-cutting ...**(31)**.... In this ...**(32)**..., it was not much ...**(33)**... from any other city neighbourhoods, perhaps. But the coziness came from the ...**(34)**... that these people—the ones you saw everyday, were not going to leave. The neighbourhood ...**(35)**... remain the same, ...**(36)**... so, over the years. Such localities in the city were rare these days. Builders and promoters pounced at every opportunity to ...**(37)**... old houses and erect towering multi-storied buildings in ...**(38)**... places.

- |                      |                 |
|----------------------|-----------------|
| 24. (A) structurally | (B) design      |
| (C) architectural    | (D) building    |
| 25. (A) were         | (B) are         |
| (C) is               | (D) has         |
| 26. (A) arise        | (B) went        |
| (C) rose             | (D) climb       |
| 27. (A) held         | (B) cover       |
| (C) decorate         | (D) guarded     |
| 28. (A) clashed      | (B) trickled    |
| (C) clanged          | (D) ajar        |
| 29. (A) distracting  | (B) frightening |
| (C) absorbing        | (D) comforting  |
| 30. (A) meet         | (B) will meet   |
| (C) have met         | (D) met         |
| 31. (A) boutique     | (B) saloon      |
| (C) room             | (D) aperture    |
| 32. (A) senses       | (B) business    |
| (C) style            | (D) respect     |

- |                    |                 |
|--------------------|-----------------|
| 33. (A) diffident  | (B) different   |
| (C) diverse        | (D) changed     |
| 34. (A) assurance  | (B) insurance   |
| (C) reassurances   | (D) remembrance |
| 35. (A) must       | (B) should      |
| (C) can            | (D) would       |
| 36. (A) inevitably | (B) unvaryingly |
| (C) invariably     | (D) inaudibly   |
| 37. (A) create     | (B) end         |
| (C) demolish       | (D) extinguish  |
| 38. (A) there      | (B) this        |
| (C) it's           | (D) their       |

**Directions—(Q. 39-48)** The window of my room overlooks the road. The child had seated herself at my feet near my table and was playing softly, drumming on her knees. I was hard at work on my seventeenth chapter, where Protrap Singh, the hero, had just caught Kanchanlata, the heroine, in his arms, and was about to escape with her by the third story window of the castle, when all of a sudden Mini left her play, and ran to the window, crying, "A Cabuliwallah" a Cabuliwallah ! Sure enough in the street below was a Cabuliwallah, passing slowly along. He wore the loose soiled clothing of his people, with a tall turban; there was a bag on his back and he carried boxes of grapes in his hand.

I can't tell what were my daughter's feelings at the sight of this man, but she began to call him loudly. "Ah !" I thought, "he will come in, and my seventeenth chapter will never be finished !" At which exact moment the Cabuliwallah turned, and looked up at the child. When she saw this, over-come by terror, she fled to her mother's protection, and disappeared. She had a blind belief that inside the bag, which the big man carried, there were perhaps two or three other children like herself. The pedlar meanwhile entered my doorway, and greeted me with a smiling face.

So precarious was the position of my hero and my heroine, that my first impulse was to stop and buy something, since the man had been called. I made some small purchases, and a conversation began about Abdurrah-man, the Russians, the English, and the Frontier Policy.

As he was about to leave, he asked : "And where is the little girl, sir ?" And I, thinking that Mini must get rid of her false fear, had her brought out.

She stood by my chair, and looked at the Cabuliwallah and his bag. He offered her nuts and raisins, but she would not be tempted, and only clung the closer to me, with all her doubts increased.

This was their first meeting.

One morning, however, not many days later, as I was leaving the house, I was startled to find Mini, seated on a bench near the door, laughing and talking, with the great Cabuliwallah at her feet. In all her life it appeared; my small daughter had never found so patient a listener, save her father. And already the corner of her little sari was stuffed with almonds and raisins, the gift of her visitor. "Why did you give her those ?" I said, and taking out an eight-anna bit, I handed it to him. The man accepted the money without demur, and slipped it into his pocket.

Alas, on my return an hour later, I found the unfortunate coin had made twice its own worth of trouble ! For the Cabuliwallah had given it to Mini, and her mother catching sight of the bright round object, had pounced on the child with; "Where did you get that eight-anna bit" ?

"The Cabuliwallah gave it me," said Mini cheerfully.

39. The word 'soiled', in the passage, means—

- (A) Dirty
- (B) Lying on the floor
- (C) Brown colour
- (D) In the soil

40. Find out the word which means "a traveling trades who sells small goods" from the passage—

- (A) Raisins
- (B) Pedlar
- (C) Russians
- (D) Turban

41. The word 'precarious,' in the passage, means—

- (A) Very good
- (B) Romantic
- (C) Uncertain
- (D) Caring

42. Find out the phrase which means "without hesitating" from the passage—

- (A) Without demur

- (B) False fear
- (C) Rid of her false fear
- (D) Would not be tempted

43. Mini was afraid of Cabuliwallah because she thought there were ..... in his bag.

- (A) Guns
- (B) Children
- (C) Monkey
- (D) Snakes

44. The author was ..... to find Mini laughing and talking with the Cabuliwallah.

- (A) Surprised
- (B) Happy
- (C) Sad
- (D) Afraid

45. Why was Mini's mother angry ?

- (A) Because Mini was talking with Cabuliwallah
- (B) Because Mini had eight-anna bit
- (C) Because Mini ate raisins and almonds
- (D) Because Mini did not go to school

46. When did Mini's father come back home ?

- (A) After two days
- (B) After two hours
- (C) In the evening
- (D) After one hour

47. The author was writing the seventeenth chapter where the hero was—

- (A) Cabuliwallah
- (B) Protrap Singh
- (C) Abdurrahman
- (D) A Russian

48. How did the author feel when Mini said 'The Cabuliwallah gave it to me' ?

- (A) Relieved
- (B) Satisfied
- (C) Happy
- (D) Awed

**Directions—(Q. 49 and 50)** Give one word for the underlined phrase.

49. My bedroom is warm and comfortable—

- (A) Neat
- (B) Untidy
- (C) Cosy
- (D) Beautiful

50. Diana spoke in a quiet voice to her friend—

- (A) Yelled
- (B) Whispered
- (C) Jumped
- (D) Called

### Answers with Explanations

1. (A) 2. (C) 3. (B) 4. (A) 5. (C)
6. (B) 7. (A) 8. (D) 9. (C) 10. (B)
11. (D)
12. (D) Add from after absent.

13. (B) Delete 'on'. Emphasised is a transitive verb.
14. (D) Soporific and Lethargic mean making you feel ready to sleep.
15. (B) Slothful and Lazy mean not active.
16. (B) Polemic means strongly criticizes a particular idea or opinion and its opposite is Agreement.
17. (D) Fecund means fertile and its opposite is Barren.
18. (A) 19. (C) 20. (B) 21. (D) 22. (D)
23. (A) 24. (C) 25. (A) 26. (C) 27. (D)
28. (D) 29. (D) 30. (D) 31. (B) 32. (D)
33. (B) 34. (A) 35. (D) 36. (B) 37. (C)
38. (D) 39. (A) 40. (B) 41. (C) 42. (D)
43. (B) 44. (A) 45. (C) 46. (D) 47. (B)
48. (D) 49. (C) 50. (B)
5.  $0.8 \times 5.5 + 0.2 \times 15 = ? + 150$   
 (A) 160 (B) 180  
 (C) 150 (D) 120  
 (E) None of these
6.  $(45.8 \times 6 \times 5) \div 2 - 344 = (?)^3$   
 (A)  $(7)^3$  (B)  $\sqrt{7}$   
 (C) 49 (D) 7  
 (E) None of these
7. 86% of ? + 54.5 = 162  
 (A) 250 (B) 225  
 (C) 140 (D) 150  
 (E) None of these
8.  $3435 \div 3 + 51 = ? \times 13$   
 (A) 92 (B) 87  
 (C) 96 (D) 89  
 (E) None of these
9.  $2\frac{1}{3} \text{ of } 1\frac{1}{4} \text{ of } (?) = 280$   
 (A) 84 (B) 124  
 (C) 96 (D) 108  
 (E) None of these

### Part—III Quantitative Aptitude

**Directions—(Q. 1–20)** What will come in place of the question mark (?) in the following questions?

1.  $235.42 - 123.78 = ? + 12.86$   
 (A) 98.78 (B) 64.86  
 (C) 65.98 (D) 89.74  
 (E) None of these
2.  $\frac{8}{21} \text{ of } 189 = (?)^2 \div 2$   
 (A) 6 (B) 36  
 (C)  $\sqrt{6}$  (D) -36  
 (E) 12
3.  $441.74 - 252.68 - 105.19 = ?$   
 (A) 92.45 (B) 96.67  
 (C) 85.45 (D) 83.87  
 (E) None of these
4.  $\frac{11}{13} + \frac{6}{26} + \frac{3}{52} = ?$   
 (A) 3 (B) 1  
 (C)  $1\frac{5}{52}$  (D)  $3\frac{5}{28}$   
 (E) None of these
10.  $1\frac{1}{5} - 1\frac{1}{10} + 1\frac{1}{20} = ?$   
 (A)  $1\frac{1}{54}$  (B)  $1\frac{3}{20}$   
 (C)  $1\frac{1}{20}$  (D)  $1\frac{5}{54}$   
 (E) None of these
11.  $7655 - 8354 + 5434 = ? + (6)^2$   
 (A) 4529 (B) 4679  
 (C) 4699 (D) 4539  
 (E) None of these
12.  $84 \times 13 \div 2 - 17 = (?)^2$   
 (A)  $\sqrt{19}$  (B) 361  
 (B)  $\sqrt{23}$  (D)  $(23)^2$   
 (E) -23
13. 24% of 1250 – 32% of 950 = ?  
 (A) -8 (B) -4  
 (C) 8 (D) 16  
 (E) None of these

14.  $\% \text{ of } 800 + (12)^2 = 504$   
 (A) 45 (B) 40  
 (C) 60 (D) 55  
 (E) None of these
15.  $(2 \times 8 + 4)^2 + (4 \times 4) \div 5 = ?$   
 (A) 6·5 (B) 4·2  
 (C) 3·2 (D) 4·5  
 (E) None of these
16.  $\frac{7}{12} \text{ of } 48\% \text{ of } 750 = ?$   
 (A) 60 (B) 360  
 (C) 120 (D) 240  
 (E) None of these
17.  $(14 \times 6) - (13 \times 5) + 9 = ? \div 4$   
 (A) 28 (B) 7  
 (C)  $\sqrt{7}$  (D) 112  
 (E) None of these
18.  $\sqrt{432 + 24 + 123 - 20} = ?$   
 (A)  $\sqrt{11}$  (B)  $(121)^2$   
 (C) 11 (D)  $(11)^2$   
 (E) None of these
19.  $(546 - 434) \div 16 = ? \div (-5)$   
 (A) 55 (B) -28  
 (C) -35 (D) 45  
 (E) None of these
20.  $(19)^2 - (3)^3 - \sqrt{676} + 16 = (?)^2$   
 (A) 20 (B) 12  
 (C) 24 (D) 36  
 (E) 18
21. What value will be obtained if the cube of 6 is subtracted from the square of 29?  
 (A) 645 (B) 625  
 (C) 565 (D) 545  
 (E) None of these
22. Pradeep got 32 marks in Hindi, 58 marks in Science, 46 marks in Maths, 94 marks in Social Science and 74 marks in English. The maximum marks of each subject are 100. How much over-all percentage of marks did he get?  
 (A) 69·8 (B) 65·2  
 (C) 62·2 (D) 60·8  
 (E) None of these

**Directions—(Q. 23 to 25)** What will come in place of question mark (?) in the following number series?

23. 28, 37, 64, 109, 172, (?)  
 (A) 253 (B) 265  
 (C) 234 (D) 246  
 (E) None of these
24. 23, 439, 647, 751, 803, (?)  
 (A) 864 (B) 819  
 (C) 855 (D) 825  
 (E) None of these
25. 13, 52, 29, 68, 45, (?)  
 (A) 97 (B) 74  
 (C) 84 (D) 76  
 (E) None of these
26. The area of a square is 24 sq cm less than one-seventh the area of a rectangle. The length of the rectangle is 35 cm and its breadth is 14 cm less than its length. What is the perimeter of the square?  
 (A) 72 cm (B) 44 cm  
 (C) 36 cm (D) Cannot be determined  
 (E) None of these
27. The sum of five consecutive even numbers is equal to 260. What is the sum of the largest number amongst them and the half the square of the smallest number amongst them?  
 (A) 1644 (B) 1208  
 (C) 1346 (D) 1288  
 (E) None of these
28. What is sixty-five per cent of two-fifth of 1800?  
 (A) 454 (B) 424  
 (C) 456 (D) 468  
 (E) None of these
29. The simple interest accrued in 2 years on a principal of ₹ 24000 is one-eighth the principal. What is the rate of simple interest per cent per annum?  
 (A) 5 (B) 4·5  
 (C) 6·25 (D) 7·25  
 (E) None of these

30. The ratio between the present ages of Indu and Lakhvir is 5 : 7 respectively. After eight years Indu's age will be 28 years. What was Lakhvir's age 6 years ago ?  
 (A) 22 years      (B) 28 years  
 (C) 34 years      (D) 21 years  
 (E) None of these
31. Out of the fractions  $\frac{3}{11}$ ,  $\frac{2}{9}$ ,  $\frac{5}{13}$ ,  $\frac{7}{17}$  and  $\frac{8}{19}$  which is the second highest fraction ?  
 (A)  $\frac{3}{11}$       (B)  $\frac{2}{9}$   
 (C)  $\frac{5}{13}$       (D)  $\frac{7}{17}$   
 (E)  $\frac{8}{19}$
32. Rajeev consistently runs 325 metre every day except on Sundays when he runs 500 metre. How many kilometre will he run in two weeks (In this question week starts from Monday) ?  
 (A) 5.7 km      (B) 2.5 km  
 (C) 3.2 km      (D) 4.9 km  
 (E) None of these
33. The body weight of seven boys is recorded as 67 kg, 45 kg, 87 kg, 65 kg, 86 kg, 54 kg and 58 kg. What is the average body weight of all seven boys ?  
 (A) 68 kg      (B) 66 kg  
 (C) 64 kg      (D) 62 kg  
 (E) None of these
34. What will come in place of both the question marks (?) in the following question ?
- $$\frac{(?)^{45}}{48} = \frac{12}{(?)^{65}}$$
- (A) -48      (B) -12  
 (C) 48      (D) 12  
 (E) 24
35. Ranjeet purchased an item for ₹ 3,500 and sold it at the loss of 25%. From that amount he purchased another item and sold it at the gain of 20%. What is his overall gain/loss ?  
 (A) Loss of ₹ 240  
 (B) Gain of ₹ 120  
 (C) Loss of ₹ 350  
 (D) Neither gain nor loss  
 (E) None of these
36. How many bags are required for filling 2286 kg of wheat if each bag is filled with 127 kg of wheat ?  
 (A) 23      (B) 18  
 (C) 16      (D) 21  
 (E) None of these
37. Six men can complete a piece of work in 48 hours. In how many hours will 24 men complete the same piece of work ?  
 (A) 18      (B) 16  
 (C) 12      (D) 24  
 (E) None of these
38. The length of a rectangle is 15 cm which is 6 cm less than the diameter of a circle. What is the area of the circle ?  
 (A) 346.5 sq cm      (B) 173.25 sq cm  
 (C) 156 sq cm      (D) 132 sq cm  
 (E) None of these
39. Amit's monthly income is two-fifth Rahul's monthly income. Rahul's monthly income is ₹ 42,000. What is Amit's annual income ?  
 (A) ₹ 2,012 lakh      (B) ₹ 2,016 lakh  
 (C) ₹ 3,6016 lakh      (D) ₹ 3,8012 lakh  
 (E) None of these
40. The average speed of a train is  $4\frac{1}{3}$  times the average speed of a tractor. The tractor covers 270 km in 15 hours. How much distance will the train cover in 12 hours ?  
 (A) 654 km      (B) 896 km  
 (C) 564 km      (D) 936 km  
 (E) None of these
41. If the distance between the points  $(x, 0)$  and  $(-7, 0)$  be 10 units, then the possible values of  $x$  are —  
 (A) 3 and -17      (B) -3 and -17  
 (C) 3 and 17      (D) -3 and 17
42. If  $x + \frac{1}{x} = 6$ , then  $x^4 + \frac{1}{x^4}$  is —  
 (A) 1148      (B) 1150  
 (C) 1152      (D) 1154
43. If  $x + \frac{a}{x} = b$ , the value of  $\frac{x^2 + bx + a}{bx^2 - x^3}$  is —

- (A)  $\frac{b}{a}$  (B)  $ab$   
 (C)  $a+b$  (D)  $\frac{2b}{a}$
44. If  $x+y+z=13$ , then the maximum value of  $(x-2)(y+1)(z-3)$  is—  
 (A) 54 (B) 27  
 (C) 25 (D) 30
45. The medians of a triangle ABC meet at G. If the area of the triangle be 120 sq cm, then the area of the triangle GBC is—  
 (A) 30 sq cm (B) 50 sq cm  
 (C) 20 sq cm (D) 40 sq cm
46. The mid points of AB and AC of a triangle ABC are respectively X and Y. If  $BC+XY=12$  unit, then the value of  $BC-XY$  is—  
 (A) 4 (B) 12  
 (C) 6 (D) 8
47. Suppose AB is a diameter of a circle whose centre is at O and C be any point on the circle. If  $CD \perp AB$  and  $CD=12$  cm,  $AD=16$  cm, then  $\overline{BD}$  is—  
 (A) 8 cm (B) 9 cm  
 (C) 10 cm (D) 12 cm
48. In a  $\triangle ABC$ ,  $AB=AC$  and D is a point on AB, such that  $AD=DC=BC$ . Then the  $\angle BAC$  is—  
 (A)  $30^\circ$  (B)  $36^\circ$   
 (C)  $40^\circ$  (D)  $45^\circ$
49. A, B and C are three points on a circle. The tangent at C meets BA produced at T. Given  $\angle ATC = 36^\circ$  and  $\angle ACT = 48^\circ$ , the angle subtended by AB at the centre of the circle is—  
 (A)  $96^\circ$  (B)  $72^\circ$   
 (C)  $84^\circ$  (D)  $48^\circ$
50. If  $\alpha+\beta=90^\circ$  and  $\alpha:\beta=2:1$ , then the value of  $\sin\alpha:\sin\beta$  is—  
 (A) 1 : 1 (B)  $\sqrt{2} : 1$   
 (C)  $\sqrt{3} : 1$  (D) 2 : 1
2. (E)  $\therefore (?)^2 + 2 = \frac{8}{21}$  of 189  
 $\Rightarrow (?)^2 = 72 \times 2 = (12)^2$   
 $\therefore ? = 12$
3. (D)  $? = 441.74 - 252.68 - 105.19$   
 $= 83.87$
4. (C)  $? = \frac{11}{13} + \frac{5}{26} + \frac{3}{52}$   
 $= \frac{44+10+3}{52} = \frac{57}{52}$   
 $= 1\frac{5}{52}$
5. (B)  $\therefore ? + 150 = 0.8 \times 5.5 + 0.2 \times 15$   
 $= \frac{0.8 \times 5.5}{0.2} \times 15$   
 $= 330$   
 $\therefore ? = 330 - 150 = 180$
6. (D)  $(?)^3 = (45.8 \times 6 \times 5) + 2 - 344$   
 $= \frac{1374}{2} - 344 = 687 - 344$   
 $= 343 = (7)^3$   
 $\therefore ? = 7$
7. (E)  $\therefore \frac{86}{100}$  of  $? + 54.5 = 162$   
 $\Rightarrow 0.86 \times ? = 162 - 54.5$   
 $\therefore ? = \frac{107.5}{0.86}$   
 $= 125$
8. (A)  $\therefore ? \times 13 = 3435 + 3 + 51$   
 $\therefore ? = \frac{3435+51}{13} = \frac{1196}{13}$   
 $= 92$
9. (C)  $\frac{7}{3}$  of  $\frac{5}{4}$  of  $(?) = 280$   
 $? = \frac{280 \times 3 \times 4}{7 \times 5}$   
 $= 96$
10. (B)  $? = 1\frac{1}{5} - 1\frac{1}{10} + 1\frac{1}{20}$   
 $= 1 + \left(\frac{1}{5} - \frac{1}{10} + \frac{1}{20}\right)$   
 $= 1 + \left(\frac{4-2+1}{20}\right)$   
 $= 1\frac{3}{20}$

### Answers with Explanations

1. (A)  $? + 12.86 = 235.42 - 123.78$   
 $? = 111.64 - 12.86$   
 $= 98.78$

11. (C)  $\therefore ? + (6)^2 = 7655 - 8354 + 5434$

$$\therefore ? = 4699$$

12. (E)  $(?)^2 = 84 \times 13 \div 2 - 17$

$$= 546 - 17$$

$$= 529 = (\pm 23)^2$$

$$\therefore ? = -23$$

13. (B)  $? = \frac{24}{100} \text{ of } 1250 - \frac{32}{100} \text{ of } 950$

$$= 300 - 304$$

$$= -4$$

14. (A)  $\because \frac{?}{100} \text{ of } 800 + (12)^2 = 504$

$$\Rightarrow 8 \times ? = 504 - 144$$

$$\therefore ? = \frac{360}{8} = 45$$

15. (C)  $? = (2 \times 8 + 4)^4 \div (4 \times 4) \div 5$

$$= (4)^4 \div 16 \div 5$$

$$= \frac{256}{16 \times 5}$$

$$= 3.2$$

16. (E)  $? = \frac{7}{12} \text{ of } \frac{48}{100} \text{ of } 750$

$$= 7 \times 30$$

$$= 210$$

17. (D)  $\therefore ? \div 4 = (14 \times 6) - (13 \times 5) + 9$

$$= 84 - 65 + 9$$

$$\therefore ? = 28 \times 4$$

$$= 112$$

18. (C)  $? = \sqrt{432 + 24 + 123 - 20}$

$$= \sqrt{18 + 123 - 20}$$

$$= \sqrt{121}$$

$$= 11$$

19. (C)  $? \div (-5) = (456 - 434) \div 16$

$$= \frac{112}{16}$$

$$\therefore ? = 7 \times (-5) = -35$$

20. (E)  $(?)^2 = (19)^2 - (3)^2 - \sqrt{676} + 16$

$$= 361 - 27 - 26 + 16$$

$$= 324 = (18)^2$$

$$\therefore ? = 18$$

21. (B) Reqd. value  $= (29)^2 - (6)^3$

$$= 841 - 216$$

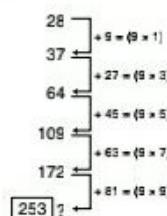
$$= 625$$

22. (D) Reqd. % marks

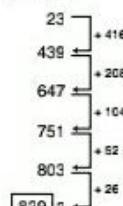
$$= \frac{32 + 58 + 46 + 94 + 74}{5} \%$$

$$= \frac{304}{5} \% = 60.8\%$$

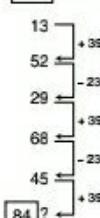
23. (A)



24. (E)



25. (C)



26. (C)  $\therefore$  Area of the rectangle

$$= 21 \times 35$$

$$= 735 \text{ cm}^2$$

$\therefore$  Area of the square

$$= 735 \times \frac{1}{7} - 24$$

$$= 81 \text{ cm}^2 = (9)^2$$

One side of the square

$$= 9 \text{ cm}$$

$\therefore$  Perimeter of the square

$$= 4 \times 9 = 36 \text{ cm}$$

27. (B)  $\therefore x + (x+2) + (x+4) + (x+6)$

$$+ (x+8) = 260$$

$$\Rightarrow 5x + 20 = 260$$

$$\therefore x = \frac{260 - 20}{5} \\ = 48 \\ \therefore \text{Reqd. sum} = 56 + \frac{1}{2}(48)^2 \\ = 56 + 1152 \\ = 1208$$

28. (D)  $\frac{65}{100}$  of  $\frac{2}{5}$  of 1800 = 468

29. (C) Let the rate of S.I. p.c.p.a. = R%  
 $\because \frac{1}{8}$  of 24000 =  $\frac{24000 \times 2 \times R}{100}$   
 $\therefore R = \frac{1}{8} \times \frac{100}{2} \%$   
= 6·25%

30. (A)  $\because$  The present age of Indu  
= 28 - 8 = 20 years

$$\therefore \text{The present age of Lakhvir} \\ = \frac{7 \times 20}{5} = 28 \text{ years} \\ \therefore \text{Lakhvir's age 6 years ago} \\ = 28 - 6 = 22 \text{ years}$$

31. (D)  $\frac{3}{11} = 0\cdot27$

$$\frac{2}{9} = 0\cdot22$$

$$\frac{5}{13} = 0\cdot38$$

$$\frac{7}{17} = [0\cdot41]$$

and  $\frac{8}{19} = 0\cdot42$

$\therefore$  The second largest fraction is  $\frac{7}{17}$ .

32. (D) Reqd. distance  
=  $(325 \times 6 + 500) \times 2 \text{ m}$   
=  $(1950 + 500) \times 2 \text{ m}$   
= 4·9 km

33. (B) Average weight  
=  $\frac{(67 + 45 + 87 + 65 + 86 + 54 + 58)}{7} \text{ kg}$   
=  $\frac{462}{7} \text{ kg}$   
= 66 kg

$$34. (E) \because \frac{(\square)^{45}}{48} = \frac{12}{(\square)^{65}} \\ \Rightarrow (\square)^{\frac{4}{5} + \frac{6}{5}} = 12 \times 48 \\ \Rightarrow (\square)^2 = 576 = (24)^2 \\ \therefore \square = 24$$

35. (C) Money received on selling first time  
=  $\frac{3500 \times 75}{100}$   
= ₹ 2625

Money received on selling second time  
=  $\frac{2625 \times 120}{100}$   
= ₹ 3150

$$\therefore \text{Reqd. total loss} \\ = 3500 - 3150 \\ = ₹ 350$$

36. (B) Reqd. no. of bags =  $\frac{2286}{127}$   
= 18

37. (C) Reqd. time =  $\frac{6 \times 48}{24}$   
= 12 hours

38. (A)  $\because$  Diameter of the circle  
= 15 + 6 = 21 cm

$\therefore$  Area of the circle  
=  $\frac{22}{7} \times \frac{21}{2} \times \frac{21}{2}$   
= 346·5 cm<sup>2</sup>

39. (B) Amit's annual income  
=  $42000 \times \frac{2}{5} \times 12$   
= ₹ 2016 lac

40. (D) Distance covered by train  
=  $\frac{270}{15} \times \frac{13}{3} \times 12$   
=  $6 \times 13 \times 12$   
= 936 km

41. (A)  $(x + 7)^2 = (10)^2$   
 $\Rightarrow x + 7 = \pm 10$   
 $x = -7 - 10 = -17, -7 + 10 = 3$

42. (D) Given that—  
 $x + \frac{1}{x} = 6$

$$\left(x + \frac{1}{x}\right)^2 = 36$$

$$\therefore x^2 + \frac{1}{x^2} = 34 \quad \dots(1)$$

$$\text{Again, } \left(x^2 + \frac{1}{x^2}\right)^2 = (34)^2$$

$$x^4 + \frac{1}{x^4} + 2 = 1156$$

$$\therefore x^4 + \frac{1}{x^4} = 1154$$

43. (D) Given that—

$$x + \frac{a}{x} = b$$

$$\Rightarrow x^2 + a = bx \quad \dots(1)$$

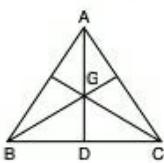
Then,

$$\begin{aligned} \frac{x^2 + bx + a}{bx^2 - x^3} &= \frac{x^2 + x^2 + a + a}{(x^2 + a)x - x^3} \\ &= \frac{2x^2 + 2a}{x^3 + ax - x^3} \\ &= \frac{2x\left(x + \frac{a}{x}\right)}{ax} \\ &= \frac{2b}{a} \end{aligned}$$

44. (B)

$$45. (D) \quad 120 = \frac{1}{2} \times \text{Base} \times \text{Height}$$

$$\Rightarrow \text{Height} = \frac{2 \times 120}{\text{Base}}$$

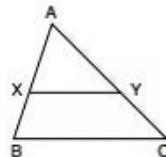
In  $\triangle BGC$ ,

$$GD = \frac{1}{3} \left( \frac{2 \times 120}{\text{Base}} \right)$$

 $\therefore$  Area of  $\triangle BGC$ 

$$\begin{aligned} &= \frac{1}{2} \times \text{Base} \times \frac{1}{3} \times \frac{120}{\text{Base}} \\ &= 40 \text{ cm}^2 \end{aligned}$$

46. (A) X and Y, are the midpoints of AB and AC.



$$XY = \frac{1}{2} BC$$

$$\therefore BC + XY = 12$$

$$BC + \frac{1}{2} BC = 12$$

$$3BC = 12 \times 2$$

$$\Rightarrow BC = 8 \text{ cm}$$

$$\text{and } XY = 4 \text{ cm}$$

$$\therefore BC - XY = 8 - 4 \\ = 4 \text{ cm}$$

47. (B) 48. (B) 49. (A)

$$50. (C) \quad \alpha + \beta = 90^\circ$$

$$\text{and } \alpha : \beta = 2 : 1$$

$$\therefore \alpha = 60^\circ$$

$$\text{and } \beta = 30^\circ$$

$$\therefore \sin 60^\circ : \sin 30^\circ = \frac{\sqrt{3}}{2} : \frac{1}{2} \\ = \sqrt{3} : 1$$

## Part – IV General Awareness

- Which of the following states has decided to launch Right to Play Act in the state to promote sportsmanship in its children and youth?  
 (A) Delhi                    (B) Uttar Pradesh  
 (C) Haryana                (D) Maharashtra  
 (E) Gujarat
- 'Dhamra' where an all weather port is developed, is in which of the following states?  
 (A) West Bengal            (B) Odisha  
 (C) Gujarat                  (D) Maharashtra  
 (E) Tamil Nadu

3. Miss Wenxia Yu who was crowned Miss World 2012 is from which of the following countries ?  
 (A) Wales                   (B) Australia  
 (C) Japan                   (D) China  
 (E) Indonesia
4. Who among the following has written the novel 'Mandra' which was awarded prestigious 'Saraswati Samman' in 2011 ?  
 (A) S. L. Bhyrappa  
 (B) Vishwanath Prasad Tiwari  
 (C) Nirmal Verma  
 (D) Shrilal Shukla  
 (E) Arun Sadhu
5. Which of the following countries is on its way to becoming a full-fledged member of the World Trade Organisation (WTO) ?  
 (A) Afghanistan           (B) Belarus  
 (C) Ethiopia               (D) Kazakhstan  
 (E) All of the above
6. Which of the following countries is the new member of European Union ?  
 (A) Malta                   (B) Croatia  
 (C) Hungary               (D) Kenya  
 (E) South Africa
7. Who among the following will be the new Governor of RBI—  
 (A) Usha Thorat  
 (B) K. C. Chakrabarty  
 (C) Raghuram Rajan  
 (D) Deepak Parakh  
 (E) None of the above
8. Indian coastguard conducted a joint exercise named 'Sahyog-Kaijin-XI' with which of the following countries ?  
 (A) Myanmar               (B) Russia  
 (C) China                   (D) Sri Lanka  
 (E) Japan
9. Mamnoon Hussain elected 12th President of Pakistan on July 30, 2013. He was born in—  
 (A) Agra (U.P.)           (B) Delhi (NCR)  
 (C) Lahore (Punjab)      (D) Lucknow (U.P.)  
 (E) None of these
10. India wants a 'CEPA' with Thailand—was the news in major newspapers. What is the full form of 'CEPA' as used here ?  
 (A) Complete Economic Preference Agreement  
 (B) Cultural and Economic Partnership Accord  
 (C) Comprehensive Economic Partnership Agreement  
 (D) Cooperation and Economic Partnership Accord  
 (E) Complete Economic Partnership and Assistance
11. European Union decided to enforce European Stability Mechanism (ESM) w.e.f. July 2012. ESM is a system to achieve/ safeguard—  
 (A) financial stability  
 (B) political stability  
 (C) free access to oil reserves in UAE and Kuwait  
 (D) free access to uranium reserves in Libya  
 (E) interests of all the members in case of attack by Iran or any other country
12. Kovvada Nuclear Power Plant which was recently in news is being set up in—  
 (A) Karnataka              (B) Andhra Pradesh  
 (C) Chhattisgarh           (D) Uttarakhand  
 (E) Odisha
13. Mullaperiyar Dam is built on which of the following rivers ?  
 (A) Tungabhadra           (B) Cauvery  
 (C) Krishna               (D) Periyar  
 (E) Mahanadi
14. Which of the following countries is not a member of the Organization of Petroleum Exporting Countries (OPEC) ?  
 (A) Nigeria               (B) Iran  
 (C) Iraq                   (D) Algeria  
 (E) Bangladesh
15. Which of the following books is written by Steve Waugh ?  
 (A) Out of My Comfort Zone : The Auto-biography

- (B) My Life  
(C) Wings of Fire  
(D) Long Walk to Freedom  
(E) Revolutionary Wealth
16. Which of the following organizations/agencies recently issued elaborate guidelines pertaining to the creation of new category of Non Banking Finance Companies (NBFC)—Micro Finance Industries ?  
(A) AMFI                  (B) SIDBI  
(C) SEBI                  (D) NABARD  
(E) RBI
17. Which of the following organizations / agencies coordinates the operations of rural credit institutions in India ?  
(A) Reserve Bank of India  
(B) Securities and Exchange Board of India  
(C) Indian Bank Association  
(D) National Bank for Agriculture and Rural Development  
(E) Small Industries Development Bank of India
18. Google is—  
(A) Virus programme (B) Search engine  
(C) Website              (D) Hardware  
(E) None of these
19. Which of the following is **not** a function of the Reserve Bank of India ?  
(A) Issuer of currency  
(B) Foreign Exchange Management  
(C) Bankers to Banks  
(D) Listing companies for trading in Stock Exchanges  
(E) Bankers and Debt Manager to Govt.
20. Which of the following organizations issued Initial Public Offer (IPO) Norms for Life Insurance Companies ?  
(A) CRISIL                (B) SEBI  
(C) RBI                  (D) AMFI  
(E) IRDA
21. Which of the following states is at the top in the Child Rights Index, compiled in India for the first time ?  
(A) Maharashtra           (B) Kerala  
(C) Gujarat               (D) Tamil Nadu  
(E) Rajasthan
22. Competition Commission of India fined certain companies for their involvement in cartelisation. These companies belong to—  
(A) Iron and Steel  
(B) Automobile  
(C) Petroleum Refinery  
(D) Fertilizer  
(E) Cement
23. Which of the following metals used in Nuclear Power Plants will be imported from Australia?  
(A) Plutonium            (B) Uranium  
(C) Thorium             (D) Curium  
(E) Zirconium
24. Standard and Poor, better known as S&P, is a/the—  
(A) Financial market intelligence agency  
(B) Central Bank of USA  
(C) Large multinational bank  
(D) Body set up by the United Nations Organisation  
(E) Intelligence wing of the World Bank
25. Thomas J. Sargent and Christopher A. Sims are the two recipients of Nobel prize 2011 in the field of—  
(A) Physics                (B) Economics  
(C) Chemistry            (D) Literature  
(E) Medicine
26. The home of who among the following is named as **Malgudi Home** ?  
(A) Satyajit Ray  
(B) Shivram Karanth  
(C) R. K. Narayan  
(D) M. G. Ramachandran  
(E) H. D. Deve Gowda
27. Shanti Swarup Bhatnagar Awards are given for exemplary work in the field of—  
(A) Sports  
(B) Journalism  
(C) Literature  
(D) Social Service  
(E) Science and Technology
28. Which of the following states has become first in India to have a 'Carbon Inventory' giving its total carbon emission from various sectors ?

- (A) Himachal Pradesh (B) Maharashtra  
 (C) Gujarat (D) Kerala  
 (E) Tamil Nadu
29. Who among the following is one of the Deputy Governors of the RBI ?  
 (A) Shri U. K. Sinha  
 (B) Urjit Patel  
 (C) Dr. M. S. Ahluwalia  
 (D) Shri Ranjan Mathai  
 (E) None of these
30. The Govt. of India recently signed a peace pact with United People's Democratic Solidarity (UPDS). The pact will bring peace in which of the following states ?  
 (A) Bihar (B) Madhya Pradesh  
 (C) Assam (D) Jharkhand  
 (E) Maharashtra
31. Which of the following terms is associated with the game of Lawn Tennis ?  
 (A) Heave (B) Volley  
 (C) Spikers (D) Hoops  
 (E) Pitch
32. As per newspaper reports what per cent of Govt. stake will be disinvested in Rashtriya Ispat Nigam Ltd. ?  
 (A) 5% (B) 7.5%  
 (C) 10% (D) 12%  
 (E) None of these
33. ASHA is a part of which of the following schemes launched by the Govt. of India ?  
 (A) Operation Black Board  
 (B) Mid Day Meal Scheme  
 (C) National Old Age Pension Scheme  
 (D) National Rural Health Mission  
 (E) Bharat Nirman
34. Dr. Manmohan Singh unveiled the foundation stone of National Institute of Technology in which of the following places in Manipur ?  
 (A) Bishnupur (B) Thoubal  
 (C) Imphal (D) Senapati  
 (E) Ukhrul
35. Mario Monti has taken over as the Prime Minister of—  
 (A) Greece (B) New Zealand  
 (C) Russia (D) Italy  
 (E) None of these
36. Arab countries recently decided to impose Sanctions against the following country as it has failed to check violence on its land ?  
 (A) Egypt (B) Kuwait  
 (C) Syria (D) Lebanon  
 (E) Iran
37. Durga Shakti Nagpal was in the news in July-August 2013. Why ?  
 (A) She topped Civil Services Examination 2012  
 (B) She wrote a controversial book  
 (C) She has been appointed a judge in USA  
 (D) She is an I.A.S. posted as SDM at Gautambudha Nagar and was suspended by UP Govt.  
 (E) None of the above
38. 'Calorimeter' is an instrument used to measure—  
 (A) Electric current  
 (B) Heat  
 (C) Velocity of sound  
 (D) Altitude  
 (E) Atmospheric pressure
39. Which of the following countries is **not** a member of newly formed Eurasian Union ?  
 (A) Croatia  
 (B) Belarus  
 (C) Kazakhstan  
 (D) Russia  
 (E) All are members of Eurasian Union
40. Govt. of India recently decided to allow more FDI in retail. This means which of the following companies will be benefitted by this decision ?  
 (A) Wal Mart (B) Hindalco  
 (C) Infosys (D) Air India  
 (E) Glaxo Smithkline Pharma

41. The first Sultan who requested and obtained letters of investiture from the Caliph (Khalifa) was—  
 (A) Alauddin Khilji (B) Iltutmish  
 (C) Balban (D) Firuz Tughluq
42. The Buddhist monk who spread Buddhism in Tibet was—  
 (A) Padmasambhava (B) Nagarjuna  
 (C) Ananda (D) Asanga
43. In 1937, an educational conference endorsing Gandhi's proposals for 'basic education' through the vernacular medium was held at—  
 (A) Wardha (B) Surat  
 (C) Bombay (D) Ahmedabad
44. "What is the Third Estate ?" pamphlet—associated with the French Revolution, was written by—  
 (A) Abbe Sieyes  
 (B) Marquis Lafayette  
 (C) Edmund Burke  
 (D) Joseph Foulon
45. Gandhi's Salt Satyagraha was a part of—  
 (A) Civil Disobedience Movement  
 (B) Champaran Satyagraha  
 (C) Quit India Movement  
 (D) Non-Cooperation Movement
46. Which of the following high dignitaries, who are not members of parliament, has the right to address it ?  
 (A) Chief Election Commissioner of India  
 (B) Chief Justice of India  
 (C) Attorney General of India  
 (D) Solicitor General of India
47. The Declaration of American Independence was based on the theory of—  
 (A) Natural Rights (B) Civil Rights  
 (C) Moral Rights (D) Legal Rights
48. The nuclear particle having no mass and no charge, but only spin is—  
 (A) electron (B) proton  
 (C) neutrino (D) meson
49. The technology that is used to establish wireless networking is—  
 (A) Bluetooth (B) TCP/IP  
 (C) J2ME (D) MATLAB
50. What is USB ?  
 (A) Urgent Sent Bit  
 (B) Ultimate Service Bit  
 (C) Universal Sent Bit  
 (D) Universal Serial Bus

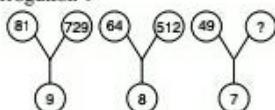
### Answers with Explanations

1. (C) 2. (B) 3. (D) 4. (A) 5. (D)  
 6. (B) 7. (C) 8. (E) 9. (A) 10. (C)  
 11. (A) 12. (B) 13. (D) 14. (E) 15. (A)  
 16. (E) 17. (D) 18. (B) 19. (D) 20. (E)  
 21. (B) 22. (E) 23. (B) 24. (A) 25. (B)  
 26. (C)
27. (E) Shanti Swarup Bhatnagar Awards are given in the field of Science and Technology i.e. Biology / Chemistry / Physics / Mathematics / Medical Science / Engineering / Earth Science / Environment / Sea Science each year to the eminent /Researchers / Scientists. During 2011, this Award was given to Dr. Sheeraj Minwala (Tata Institute of Fundamental Research, Mumbai) in Physics and (i) Dr. Amit Prakash Sharma (New Delhi) and (ii) Dr. Ranjan Shankar Narayanan (CSIR Centre Hyderabad) in Biology etc.
28. (A)
29. (B) Subir Gokaran was the Deputy Governor of RBI. He has been replaced by Urjit Patel as of January 2013.
30. (C) 31. (B) 32. (C) 33. (D) 34. (C)  
 35. (D) 36. (C) 37. (D) 38. (B) 39. (D)  
 40. (A) 41. (B) 42. (D) 43. (A) 44. (A)  
 45. (A) Under the leadership of Gandhiji, the civil Disobedience Movement was launched in 1930 AD. It began with the Dandi March (Salt Satyagraha)
46. (C) 47. (B) 48. (C) 49. (A) 50. (D)

# Practice Set-4

## Part—I General Intelligence

1. Which one number can be placed at the sign of interrogation ?



- (A) 343                    (B) 444  
(C) 515                    (D) 373

**Directions—(Q. 2–6)** Study the following information carefully and answer these questions.

P, Q, R, S, T, W and Z are seven students studying in three different institutes A, B and C. There are three girls among the seven students who study in each of the three institutes. Two of the seven students study BCA, two study Medicine and one each studies Aviation Technology, Journalism and MBA. R studies in the same college as P who studies MBA in college B. No girl studies Journalism or MBA. T studies BCA in college A and his brother W studies Aviation Technology in college C. S studies Journalism in the same college as Q. Neither R nor Z studies BCA. The girl who studies BCA does not study in college C.

2. Which of the following pairs of students study medicine ?  
(A) RZ                    (B) WZ  
(C) PZ                    (D) None of these
3. In which college does Q study ?  
(A) A  
(B) B  
(C) C  
(D) Data Inadequate
4. In which of the colleges do three of them study ?

- (A) A                    (B) B  
(C) C                    (D) A and B

5. What is the field of study of Z ?

- (A) BCA  
(B) Medicine  
(C) MBA  
(D) Aviation Technology

6. Which of the following three represents girls ?

- (A) SQR                    (B) SQZ  
(C) QRZ                    (D) None of these

**Directions—(Q. 7 and 8)** In each of the following number series, a wrong number is given, find out the number.

7. 2160, 360, 69, 18, 6, 3—

- (A) 69                    (B) 18  
(C) 360                    (D) 6

8. 7, 8, 18, 57, 228, 1165, 6996—

- (A) 57                    (B) 1165  
(C) 228                    (D) None of these

9. If ONE = 9, TWO = 25, THREE = 25, Then 'ELEVEN' = :  
(A) 36                    (B) 25  
(C) 16                    (D) 49

10. If A is the father of B and B is the mother of C and C is the daughter of D, then what is the relation between A and D—

- (A) Son-in-law            (B) Father-in-law  
(C) Sister-in-law            (D) Brother-in-law

**Directions—** Study the logic of the statement given and from the given choices, select the choice with closest logical similarity.

11. When water meets an obstacle, it flows around it and continues onward—

- (A) Knowledge must be sound

- (B) Flexibility is important for progress  
 (C) Cool minded people succeed most  
 (D) Obstacles must be overcome

**Directions—(Q. 12–15)** Fifty books be longing to different subjects viz. History (8), Geography (7), Literature (13), Psychology (8), Science (14) are placed on a shelf. They are arranged in an alphabetical order subject to condition that no two books of same subject are placed together so long as the books of other subjects are available, unless otherwise men-tioned all counting is done from left.

12. How many pairs (Science and Literature book respectively) are placed together on the shelf?  
 (A) 5                      (B) 4  
 (C) 6                      (D) None of these
13. How many pairs (science and Geography book respectively) are placed together on the shelf ?  
 (A) 5                      (B) 6  
 (C) 7                      (D) None of these
14. The last book of History is placed at what position from right ?  
 (A) 12th                  (B) 13th  
 (C) 15th                  (D) None of these
15. What is the position of History book which comes immediately after science book ?  
 (A) 32nd                  (B) 33rd  
 (C) 36th                  (D) None of these
16. If GANDHI is coded as 123456 and JAM is coded as 728. Then JAIHIND will be codified as—  
 (A) 7265634              (B) 7263456  
 (C) 7265728              (D) 6345672

**Directions—**This question is followed by two statements. Select a choice as follows—

- (a) If I alone is sufficient to answer the question.
- (b) If II alone is sufficient to answer the questions.
- (c) If I and II are both required to answer the question.
- (d) If both I and II are not sufficient to answer the question and more data is required.

17. 5,000 candidates appeared for the Central Services examination. What percentage of women candidates passed the examination ?

- I. 357 women candidates passed the examination  
 II. 4050 male candidates appeared for the exam  
 (A) (a)                      (B) (b)  
 (C) (c)                      (D) (d)

**Directions—(Q. 18 and 19)** If TEMPERATURE is coded as 45685714975 then answer the following questions using this code.

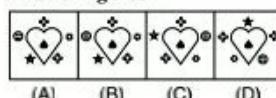
18. METER will be coded as—  
 (A) 5 4 6 5 7              (B) 6 5 4 8 7  
 (C) 6 5 4 5 7              (D) 6 5 4 5 1
19. The most likely code for ATTEMPT is—  
 (A) 1 4 5 5 6 8 4              (B) 1 5 5 8 4 6 3  
 (C) 1 4 4 5 6 8 4              (D) 1 3 5 8 6 4 5
20. In the following series, how many consonants come before 9 ?  
 9A9F4T7U9S9TT9JJ3459DX9XZ9T9H  
 (A) 7                      (B) 6  
 (C) 5                      (D) None of these
21. In the following series how many consonants come before 3 ?  
 3A3F4T7U3S3TT3JJ3453DX3XZ3T3H  
 (A) 7                      (B) 6  
 (C) 5                      (D) None of these

**Directions—(Q. 22–28)** Complete the Series in the following figures.

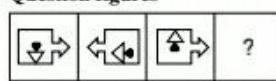
**22. Question figures**

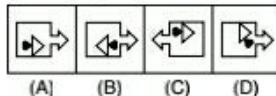
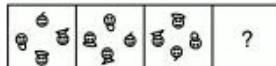
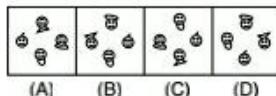
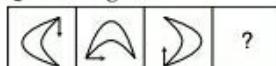
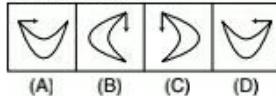
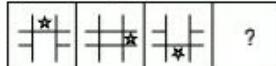
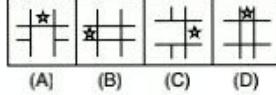
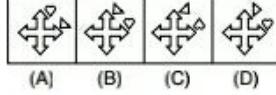
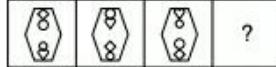
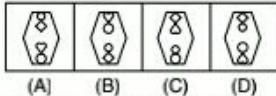


**Answer figures**

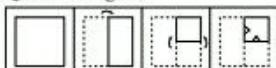
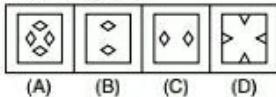
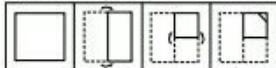
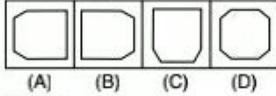
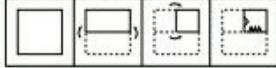


**23. Question figures**



**Answer figures****24. Question figures****Answer figures****25. Question figures****Answer figures****26. Question figures****Answer figures****27. Question figures****Answer figures****28. Question figures****Answer figures**

**Directions – (Q. 29–31)** In these questions, a piece of paper is folded and then cut as shown below. The dotted lines shown are the portion which have been folded. The curve arrow shows the directions of folding. And the number of scissors beneath the figure show the number of portions cut. From the given responses, indicate, how it will appear when opened ? The opening is in the same order as folding.

**29. Question figures****Answer figures****30. Question figures****Answer figures****31. Question figures****Answer figures**

**Directions – (Q. 32–35)** Anil is the son of Bina. Chitra, who is Bina's sister has a son Deepak and a daughter Ela. Fateh is the maternal uncle of Deepak.

**32. How is Anil related to Deepak ?**

- (A) Cousin                          (B) Brother  
 (C) Nephew                        (D) Uncle

33. How is Ela related to Fateh ?  
 (A) Sister                   (B) Wife  
 (C) Daughter               (D) Niece
34. How many nephews does Fateh have ?  
 (A) Nil                     (B) 3  
 (C) 1                       (D) 2
35. How is Fateh related to Bina's daughter ?  
 (A) Paternal Uncle       (B) Maternal Uncle  
 (C) Nephew               (D) Data Inadequate

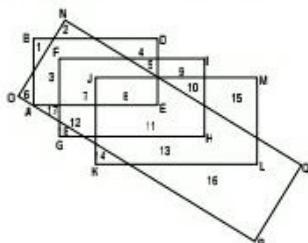
**Directions—(Q. 36–41)** For answering questions, study diagram which is represented as follows and select the appropriate choice.

ABDE represents Artists

FGHI represents Scientists

JKLM represents Administrators

OPQN represents healthy people



36. Artists who are scientists and administrator and who are healthy are represented by—  
 (A) 11                      (B) 5  
 (C) 7                       (D) 8
37. Scientists who are administrators but not healthy are represented by—  
 (A) 15                      (B) 12  
 (C) 14                      (D) 10
38. Scientists who are also artists but in not good state of health belong to the area—  
 (A) 4                       (B) 5  
 (C) 9                       (D) 10
39. Persons in area 7 are—  
 (A) Artists who are scientists and healthy  
 (B) Artists who are scientists but not healthy  
 (C) Scientists who are healthy  
 (D) Artists who are healthy
40. Select the choice which contains only non-healthy group areas—

- (A) 5, 10, 14              (B) 1, 3, 4  
 (C) 14, 18, 6             (D) 4, 15, 16

41. Select the true statement—  
 (A) A person who is administrator scientist and artist is definitely healthy  
 (B) All scientists are healthy  
 (C) All artists who are scientists are healthy  
 (D) All administrators who are scientists are healthy

**Directions—(Q. 42–45)** In the following questions the select the choice of letters which completes the first word and begins the second. The letters in the bracket end the first word and begin the second. Number of dots in bracket indicate number of letters required.

42. BO ( . ) CALL  
 (A) NE                      (B) SS  
 (C) RE                      (D) WL
43. STU ( . . . ) IST  
 (A) PIDT                   (B) DYST  
 (C) DENT                   (D) UCKT
44. CORN ( . . ) RATIC  
 (A) ES                      (B) ET  
 (C) ER                      (D) ST
45. CEN ( . . ) END  
 (A) TER                    (B) TRE  
 (C) AME                   (D) PRE

**Directions—(Q. 46 and 47)** Find the missing term in each of the following number series.

46. 4, 2, 6, 6, 3, 9, 8, 4, 12, 10, 5, ?  
 (A) 15                      (B) 20  
 (C) 10                      (D) 5
47. 3, 4, 12, 48, 4, 5, 20, 100, 5, 6, 30, 180, 6, 7,  
 42, ?  
 (A) 304                   (B) 298  
 (C) 294                   (D) None of these
48. If all the letters in the English alphabet are written in reverse order, which letter is exactly in the middle of 20th letter from right and 21st letter from left ?  
 (A) O                      (B) N  
 (C) M                      (D) None of these

49. There are some boys and cows at a place. If total number of heads is 15 and total number of legs is 46, then how many boys and how many cows are there?

(A) 8 boys and 7 cows  
 (B) 9 boys and 6 cows  
 (C) 7 boys and 8 cows  
 (D) 6 boys and 9 cows

50. Which one number can be placed at the sign of interrogation?



(A) 25                                  (B) 47  
 (C) 37                                    (D) None of these

### Answers with Explanations

1. (A) As,  $81 \times 9 = 729$

and  $64 \times 8 = 512$

same as,  $49 \times 7 = 343$

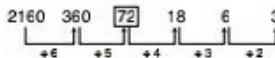
#### For Solution Q. 2 to 6

Institute      Student

A	T(BCA)
	S (Journalism)
	Q(BCA) (Girl)
B	P(MBA)
	R (Medicine (Girl))
C	W (Aviation
	Technology)
	Z (Medicine) (Girl)

2. (A)    3. (A)    4. (A)    5. (B)    6. (C)

7. (A)



8. (C)



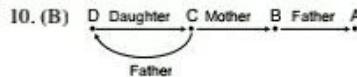
9. (A) As, ONE =  $(3)^2 = 9$

TWO =  $(3)^2 = 9$

and THREE =  $(5)^2 = 25$

Same as,

ELEVEN =  $(6)^2 = 36$



Hence, A is D's father-in-law.

11. (B)    12. (A)    13. (B)    14. (C)    15. (C)

16. (A) As, G A N D H I and J A M  
 ↓    ↓    ↓    ↓    ↓    ↓    ↓    ↓    ↓  
 1    2    3    4    5    6    7    2    8

Same as, J A I H I N D  
 ↓    ↓    ↓    ↓    ↓    ↓    ↓  
 7    2    6    5    6    3    4

17. (A) Required percentage of passed women candidates

$$= \frac{357}{5000} \times 100\% \\ = 7.14\%$$

18. (C) T E M P E R A T U R E  
 ↓    ↓    ↓    ↓    ↓    ↓    ↓    ↓  
 4    5    6    8    5    7    1    4    9    7    6

and M E T E R  
 ↓    ↓    ↓    ↓    ↓  
 6    5    4    5    7

19. (C) A T T E M P T  
 ↓    ↓    ↓    ↓    ↓    ↓  
 1    4    4    5    6    8    4

20. (C) S9, T9, X9, Z9, T9.

21. (B) S3, T3, J3, X3, Z3, T3.

22. (B) In every next figure the main design's '▽' outer elements are moving clockwise and the element '⊗' gets a water image in every next figure.

23. (C) In every next figure the main design appears in opposite direction and the inner elements of this design moves  $90^\circ$  clockwise every time.

24. (A) In every next figure all four elements move in clockwise direction and first two elements appear in opposite direction and after that all four elements appears in opposite direction.

25. (D) In every next figure the element '⊗' moves  $90^\circ$  clockwise and the another element '†' also moves  $90^\circ$  anticlockwise.

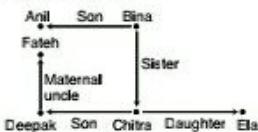
26. (B) The designs appear in opposite direction in figure 1 to 3 and 2 to 4.

27. (B) In every next figure the elements 'Δ' and '▽' move one step anticlockwise.

28. (A) 29. (A) 30. (D) 31. (A)

**For Solution Q. 32 to 35**

From relation diagram—



32. (A) 33. (D) 34. (D) 35. (D) 36. (D)  
 37. (D) 38. (B) 39. (A) 40. (A) 41. (A)  
 42. (C) 43. (C) 44. (C) 45. (B)  
 46. (A)  $4+2=6$ ,  $6+3=9$   
 $8+4=12$ ,  $10+5=15$

47. (C)  
 $3 \times 4 = 12$ ,  $4 \times 5 = 20$   
 $5 \times 6 = 30$ ,  $6 \times 7 = 42$   
 $4 \times 12 = 48$ ,  $5 \times 20 = 100$   
 $6 \times 30 = 180$ ,  $7 \times 42 = 294$

48. (C)

49. (C) Let the number of cows are A and the number of boys are B. Then—

$$4A + 2B = 46$$

$$\begin{aligned} \text{and } A + B &= 15 \\ \therefore A &= 15 - B \\ \therefore 4(15 - B) + 2B &= 46 \\ \Rightarrow 60 - 4B + 2B &= 46 \\ \Rightarrow 2B &= 14 \\ \therefore B &= 7 \\ \text{and } A &= 8 \end{aligned}$$

50. (C) As,

$$\begin{aligned} 5 \times 6 + 3 \times 3 &= 39 \\ \text{and } 5 \times 7 + 16 &= 51 \\ \text{Same as, } ? &= 25 + 12 = 37 \end{aligned}$$

## Part-II English Language

**Directions—(Q. 1–3)** Some part of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval (●) corresponding to the appropriate letter (A), (B), (C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

1. Could you please give me / a postal address /  
 (A) (B)  
 of the Indian Embassy in New York. No error  
 (C) (D)  
 2. Short stories and poems / of varying quality /  
 (A) (B)  
 appears in dailies and periodicals. No error  
 (C) (D)  
 3. One of the / most dangerous disease / is AIDS.  
 (A) (B) (C)  
 No error  
 (D)

**Directions—(Q. 4–7)** Sentences are given with blanks to be filled with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate oval (●) in the Answer Sheet.

4. Throughout his career, his performance has fairly been .....  
 (A) consistence (B) consistent  
 (C) consisting (D) constituted  
 5. I convey my thanks ..... the members of the club.  
 (A) for (B) of  
 (C) to (D) about  
 6. The government ..... on this issue.  
 (A) is divided (B) are divided  
 (C) is being divided (D) divided  
 7. The student is yet to ..... his home task.  
 (A) completion (B) compete  
 (C) complete (D) continue

**Directions—(Q. 8–10)** Out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

8. Hard  
 (A) difficult (B) simple  
 (C) common (D) easy  
 9. Humorous  
 (A) witty (B) innovative  
 (C) fashionable (D) timid

10. Gather  
 (A) scatter                   (B) disperse  
 (C) congregate              (D) separate

**Directions—(Q. 11–13)** Choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

11. Slave  
 (A) surf                   (B) landlord  
 (C) master               (D) tenant

12. Deep  
 (A) shallow               (B) hollow  
 (C) steep                  (D) low

13. Egoist  
 (A) spiritless             (B) selfless  
 (C) senseless             (D) soulless

**Directions—(Q. 14–16)** Four alternatives are given for the Idiom/ Phrase **bold** in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase and mark it in the Answer Sheet.

14. I have told you **time and again** not to make this mistake.  
 (A) always               (B) often  
 (C) sometimes           (D) rarely

15. He handled the situation with an **iron fist**.  
 (A) strictly              (B) leniently  
 (C) softly                (D) wayward

16. She is leaving the country **for good**.  
 (A) for the time being  
 (B) for good times  
 (C) temporarily  
 (D) permanently

**Directions—(Q. 17–19)** A sentence/part of the sentence is **bold**. Below are given alternatives to the **bold** sentence/part of the sentence at (A), (B) and (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed, your answer is (D).

17. It has been raining **since** morning.  
 (A) from                   (B) for  
 (C) during               (D) No improvement
18. I am neither a poet **nor** philosopher.  
 (A) not philosopher

- (B) nor the philosopher  
 (C) nor a philosopher  
 (D) No improvement

19. He was **hung** for murder.

- (A) hang                   (B) hanged  
 (C) hanging               (D) No improvement

**Directions—(Q. 20–22)** Out of the four alternatives, choose the one which can be substituted for the given words/sentences and indicate it by blackening the appropriate oval (●) in the Answer Sheet.

20. An act of violence to take control of a plane.  
 (A) Hold as hostage   (B) Abduct  
 (C) Hijack              (D) Kidnap

21. One who is all powerful.  
 (A) Omnipotent           (B) Omniscient  
 (C) Absolute             (D) Almighty

22. That which cannot be believed.  
 (A) Inaudible           (B) Incredible  
 (C) Absolute             (D) Invincible

**Directions—(Q. 23–25)** Four words are given in each question, out of which only one word is correctly spelt. Find the correctly spelt word and mark your answer in the Answer Sheet.

23. (A) Eleution           (B) Eolocation  
 (C) Elocution           (D) Elocutiun

24. (A) Juxtaposition   (B) Justaposition  
 (C) Jaxtaposition      (D) Jaustaposition

25. (A) Hazardous       (B) Hazardos  
 (C) Hazzardous          (D) Hazardus

**Directions—(Q. 26–30)** A part of the sentence is **bold**. Below are given alternatives to the **bold** part at (A), (B) and (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed, your answer is (D).

26. The train left before he **has reached** the station.  
 (A) reaches              (B) will reach  
 (C) reached              (D) No improvement
27. We must start now **unless** it will be too late.  
 (A) but                   (B) or  
 (C) until               (D) No improvement

28. Don't worry, there is **less** time for the train to arrive.  
 (A) many                   (B) enough  
 (C) more                   (D) No improvement
29. I was mad **on** him.  
 (A) at                      (B) towards  
 (C) for                     (D) No improvement
30. He decided to **reveal** the corruption in his department to the media.  
 (A) expose                 (B) show  
 (C) disclose               (D) No improvement

**Directions—(Q. 31–35)** Out of the four alternatives choose the one which can be substituted for the given words/sentence.

31. A large food basket with a cover  
 (A) hamper                (B) knapsack  
 (C) satchel               (D) container
32. Stealing goods while shopping  
 (A) shop-lifting           (B) burglary  
 (C) plagiarism           (D) window-shopping
33. Place for keeping birds  
 (A) aquarium              (B) gymnasium  
 (C) aviary                (D) aerodrome
34. That cannot be overcome  
 (A) insurmountable        (B) invincible  
 (C) inseparable           (D) insoluble
35. Number of things or portions close together without order or arrangement.  
 (A) huddle                (B) assembly  
 (C) mass                   (D) gathering

**Directions—(Q. 36–40)** There are four different words out of which one is correctly spelt. Find the correctly spelt word and indicate it by blackening the appropriate oval (●).

36. (A) Perseverence       (B) Perseverance  
 (C) Perseveranse          (D) Peseverance
37. (A) Recommandaton      (B) Recomendation  
 (C) Recommendation       (D) Recammendation
38. (A) Grievence           (B) Greivence  
 (C) Grievance             (D) Grrievance

39. (A) Dictionery          (B) Dicctionary  
 (C) Dictionary             (D) Dictionnery
40. (A) Appalled             (B) Apalled  
 (C) Appaled               (D) Apallad

**Directions—(Q. 41–50)** You have a passage with 10 questions following the passage. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Everyone keeps looking for signs of water. Then one day the men see patches of green grass. There are pools of water in the hollows. Men and animals begin to hurry, for they know that rain has fallen nearby. Farther on, they find enough grass for pasture and enough water in the hollows for their animals. Chief Omar gives the signal to make camp.

Again the camels kneel. And again the men unload them. Quickly they put up their tents, with the openings facing east. They spread rugs and blankets on the ground and place pillows on them.

A blanket divides the tent into two rooms. Then they unload the dishes and pots and bags of food and water. And once more the nomads are at home.

Meanwhile the thirsty animals take a long drink at the water holes. The goats drink first. Next come the sheep. Then come the camels. They are the thirstiest of all. They drink and drink. They have travelled for days without water. But at last they, too, turn away.

Rain has fallen here, and there will be pasture for many weeks. The animals will grow fat on the green grass. Then the men will choose the animals they want to sell. After they shear the sheep and fill the bags with wool, they will go to the big town on the oasis.

Again the nomads break camp and move on. They pitch their tents on the sand at the edge of the oasis. The first days in town are exciting days. There is the excitement of seeing shops and streets and crowds of people. The men must sell their animals and wool, and buy supplies. They bargain at the bazaars, and they drink coffee in the cool shade and listen to the sound of flowing water.

But soon the men become restless. They begin to miss the freedom and the quiet of the great open desert. Then one morning the black tents are gone. Far out from the oasis a caravan moves slowly out of sight.

41. What signs of water did the men see ?  
 (A) The hollows  
 (B) Grass and the hollows  
 (C) Pools of water  
 (D) Patches of green grass and pools of water in the hollows
42. "They drink and drink." Who does 'they' refer to ?  
 (A) The animals      (B) The camels  
 (C) The sheep      (D) The goats
43. Which of the following statements is not true ?  
 (A) The nomads put up tents when they make camp.  
 (B) They spread rugs and blankets on the ground.  
 (C) A blanket divides the tent into two rooms.  
 (D) The nomads collect the dishes and pots and bags of food and water.
44. Why do the nomads go to the big town ?  
 (A) To do shopping  
 (B) To sell their animals and wool, and buy supplies  
 (C) To drink coffee  
 (D) To listen to the sound of flowing water
45. The nomads..... the big town on the oasis.  
 (A) liked      (B) didn't like  
 (C) avoided      (D) remembered
46. Why did the nomads not stay in the big town ?  
 (A) Because they felt ill at ease with strangers in the big town.  
 (B) Because they were not able to drive a hard bargain with traders in the big town.  
 (C) Because they found the big town a little too crowded and noisy for comfort.  
 (D) Because they felt restless, and missed the freedom and the quiet of the great open desert.
47. Which is the order in which the thirsty animals take a long drink at the water holes ?  
 (A) Goats, Sheep, Camels  
 (B) Sheep, Goats, Camels  
 (C) Camels, Sheep, Goats  
 (D) Camels, Goats, Sheep
48. What does the word 'shear' mean in the passage ?  
 (A) Cut the sheep  
 (B) Cut off the sheep's wool  
 (C) Wash the sheep  
 (D) Tend the sheep
49. Which word in the passage means *a place for camels to feed* ?  
 (A) Pools      (B) Hollows  
 (C) Pasture      (D) Oasis
50. Which of the following statements best sums up the main idea of the passage ?  
 (A) Water is more precious than gold in the desert.  
 (B) The camel is the ship of the desert.  
 (C) Men and animals are always on the move in the desert.  
 (D) The big towns are concrete deserts.

### Answers with Explanations

1. (D)
2. (C) 'appear' in place of 'appears'.
3. (B) 'diseases' in place of 'disease'.
4. (B)      5. (C)      6. (B)      7. (C)      8. (A)
9. (A)      10. (C)      11. (C)      12. (A)      13. (B)
14. (B)      15. (A)      16. (D)      17. (D)      18. (C)
19. (B)      20. (C)      21. (A)      22. (B)      23. (C)
24. (A)      25. (A)      26. (C)      27. (C)      28. (B)
29. (C)      30. (C)      31. (A)      32. (A)      33. (C)
34. (B)      35. (A)      36. (B)      37. (C)      38. (C)
39. (C)      40. (A)      41. (D)      42. (B)      43. (D)
44. (B)      45. (B)      46. (D)      47. (A)      48. (B)
49. (C)      50. (D)

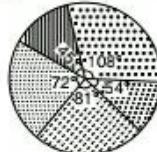
### Part—III Quantitative Aptitude

1. The simplified value of  $\sqrt{\frac{1.21 \times 0.9}{1.1 \times 0.11}}$  is—  
 (A) 2      (B) 3  
 (C) 9      (D) 11
2. By what least number  $25 \times 20 \times 9 \times 12 \times 30$  should be multiplied to make it a perfect square number ?

- |   |                |  |
|---|----------------|--|
| (A) 5<br>(C) 3  | (B) 4<br>(D) 2 | 10. A grocer mixed sugar at ₹ 12 per kg with sugar at ₹ 9 per kg in a certain ratio and sold the mixture at ₹ 11 per kg to have a gain of $\frac{1}{8}$ th of his total investment. The ratio of two types of sugar in the mixture is—<br>(A) 7 : 20                                  (B) 9 : 12<br>(C) 1 : 2                                    (D) 3 : 4 |
| 3. Three taps can fill a cistern in 18 minute, 15 minute and 10 minute respectively. The cistern being empty, all the three taps are kept open. After 3 minute, the first tap is closed. Counting time from that moment, the cistern will be full in—<br>(A) 5 minute                                (B) 1 minute<br>(C) 3 minute                                (D) 2 minute |                | 11. ₹ 53 is divided among A, B, C in such a way that A gets ₹ 7 more than what B gets and B gets ₹ 8 more than what C gets. Ratio of their shares is—<br>(A) 5 : 3 : 1                                (B) 25 : 18 : 10<br>(C) 9 : 7 : 3                                (D) 30 : 16 : 13  |
| 4. A can do a piece of work in 4 days, B in 12 days and C in 6 days. If A is assisted by both B and C on every third day, the total work can be done in—<br>(A) 6 days                                    (B) 3 days<br>(C) 5 days                                    (D) 4 days  |                | 12. The ratio of speeds of two trains, one travelling at 45 km/hour and the other at 10 m/sec is—<br>(A) 5 : 4                                      (B) 2 : 3<br>(C) 3 : 4                                     (D) 4 : 3   |
| 5. A piece of wire is in the shape of an equilateral triangle, each of whose sides is 4.4 cm. If it is re-bent to form a circular ring, the radius of the ring so formed is—<br>$\left( \text{taking } \pi = \frac{22}{7} \right)$<br>(A) 5.1                                        (B) 3.2<br>(C) 2.1                                        (D) 1.5                        |                | 13. In 6 days of a week, 250 boys attended for the first four days and 260 boys for the last three days. The average attendance in this week is 255. The number of students present on Thursday was—<br>(A) 260                                        (B) 250<br>(C) 240                                        (D) 280                                   |
| 6. If the ratio of the volumes of two right circular cones is 2 : 3 and the ratio of the radii of their bases is 1 : 2, then the ratio of their heights will be—<br>(A) 3 : 4                                        (B) 8 : 3<br>(C) 4 : 3                                        (D) 3 : 8  |                | 14. The average of all the prime numbers between 1 and 20 is—<br>(A) 9.625                                      (B) 9.75<br>(C) 8.66                                        (D) 10.625   |
| 7. A tradesman marks his goods 30% more than the cost price. If he allows a discount of 20%, on the marked price, then his gain per cent is—<br>(A) 15    (B) 10<br>(C) 6    (D) 4  |                | 15. A dealer sells a radio at a gain of 10%. If he had bought it at 10% less and sold it for ₹ 132 less, he would have still gained 10%. The cost price of the radio is—<br>(A) ₹ 1,100                                    (B) ₹ 1,200<br>(C) ₹ 1,300                                    (D) ₹ 1,320   |
| 8. The marked price of an article is ₹ 300. The shopkeeper gives a discount of 10% on the marked price and still gains 25%. Then the cost price of the article is—<br>(A) ₹ 216                                        (B) ₹ 203.50<br>(C) ₹ 237.50                                 (D) ₹ 215   |                | 16. If the cost price of 15 articles is equal to the selling price of 10 articles, then the gain percentage is—<br>(A) 45    (B) 50<br>(C) 55    (D) 60  |
| 9. A machine is marked at ₹ 7,500. The shopkeeper allows successive discounts of 8%, 5% and 2% on it. The net selling price is—<br>(A) ₹ 6,400.30                                (B) ₹ 6,423.90<br>(C) ₹ 6,427.50                                (D) ₹ 6,415.40   |                | 17. A man sold two articles for ₹ 1,200 each. In one, he gained 20% and on the other, he lost 20%. His total loss was—   |

- (A) ₹ 400                    (B) ₹ 300  
 (C) ₹ 200                    (D) ₹ 100
18. If 70% of the students in a school are boys and the number of girls be 504, the number of boys is—  
 (A) 1176                    (B) 1008  
 (C) 3024                    (D) 1208
19. A rebate of 7.5% is allowed if an electric bill is paid in due time. A man gets a rebate of ₹ 16.50. The amount of the bill is (in ₹)—  
 (A) 160                    (B) 215  
 (C) 240                    (D) 220
20. The number of seconds taken by a 500 m. long train with speed 63 km per hour to cross a man walking at 3 km per hour in the same direction is—  
 (A) 20                    (B) 25  
 (C) 30                    (D) 35
21. A train X leaves Howrah at 6 a.m. and reaches Asansol at 10 a.m. Another train Y leaves Asansol at 8 a.m. and reaches Howrah at 11.30 a.m. The two trains cross one another at—  
 (A) 8.44 a.m.            (B) 8.56 a.m.  
 (C) 9.27 a.m.            (D) 9.42 a.m.
22. In what time will ₹ 8,000, at 3% simple interest per annum produce the same income as ₹ 6,000 does in 5 years at 4% simple interest ?  
 (A) 3 years                    (B) 4 years  
 (C) 5 years                    (D) 6 years
23. A man borrows some money at 3% simple interest per annum and lends it to somebody at 5% interest to be compounded annually. By this he makes a profit of ₹ 541 at the end of 3 years. The money he borrowed was—  
 (A) ₹ 8,000                    (B) ₹ 6,762  
 (C) ₹ 6,000                    (D) ₹ 8,070

**Directions—(Q. 24 and 25)** The adjoining pie-chart represents the proposed outlay of the fifth five year plan (in crore rupees) of 40,000. Examine the chart and answer the question.



24. The amount (in crore Rupees) proposed on Education is greater than that on Roads and Communication by—  
 (A) 1000                    (B) 2000  
 (C) 3000                    (D) 1500
25. ₹ 12,000 (crores) is proposed on—  
 (A) Education  
 (B) Irrigation and Power  
 (C) Roads and Communication  
 (D) Agriculture
26. The marked price is 20% higher than cost price. A discount of 20% is given on the marked price. By this type of sale, there is—  
 (A) no loss no gain    (B) 4% gain  
 (C) 4% loss                    (D) 2% loss
27. A chair listed at ₹ 350 is available at successive discounts of 25% and 10%. The selling price of the chair is—  
 (A) ₹ 240.25                    (B) ₹ 242.25  
 (C) ₹ 236.25                    (D) ₹ 230.25
28. A tradesman marks his goods at such a price that after allowing a discount of 15%, he makes a profit of 20%. What is the marked price of an article whose cost price is ₹ 170 ?  
 (A) ₹ 220                    (B) ₹ 200  
 (C) ₹ 240                    (D) ₹ 260
29. In two types of stainless steel, the ratio of chromium and steel are 2 : 11 and 5 : 21 respectively. In what proportion should the two types be mixed so that the ratio of chromium to steel in the mixed type become 7 : 32 ?  
 (A) 1 : 2                    (B) 1 : 3  
 (C) 2 : 3                    (D) 3 : 4

30. A sum of ₹ 7,000 is divided among A, B, C in such a way that the shares of A and B are in the ratio 2 : 3 and those of B and C are in the ratio 4 : 5. The share of B is—  
 (A) ₹ 1,600      (B) ₹ 2,000  
 (C) ₹ 2,400      (D) ₹ 3,000
31. Tea worth ₹ 126 per kg and ₹ 135 per kg are mixed with a third variety in the ratio 1 : 1 : 2. If the mixture is worth ₹ 153 per kg, the price of the third variety per kg will be—  
 (A) ₹ 169.5      (B) ₹ 170.0  
 (C) ₹ 175.5      (D) ₹ 180.0
32. In the afternoon, a student read 100 pages at the rate of 60 pages per hour. In the evening, when she was tired, she read 100 more pages at the rate of 40 pages per hour. What was her average rate of reading, in pages per hour ?  
 (A) 48      (B) 50  
 (C) 60      (D) 70
33. The mean weight of 34 students of a school is 42 kg. If the weight of the teacher be included, the mean rises by 400 gram. Find the weight of the teacher (in kg)—  
 (A) 66      (B) 56  
 (C) 55      (D) 57
34. A cricketer has a mean score of 60 runs in 10 innings. Find out how many runs are to be scored in the eleventh innings to raise the mean score to 62 ?  
 (A) 80      (B) 81  
 (C) 83      (D) 82
35. A trader purchases a watch and a wall clock for ₹ 390. He sells them making a profit of 10% on the watch and 15% on the wall clock. He earns a profit of ₹ 51.50. The difference between the original prices of the wall clock and the watch is equal to—  
 (A) ₹ 110      (B) ₹ 100  
 (C) ₹ 80      (D) ₹ 120
36. A salesman expects a gain of 13% on his cost price. If in a month his sale was ₹ 7,91,000, what was his profit ?  
 (A) ₹ 91,000      (B) ₹ 97,786  
 (C) ₹ 85,659      (D) ₹ 88,300
37. A merchant fixed the selling price of his articles at ₹ 700 after adding 40% profit to the cost price. As the sale was very low at this price level, he decided to fix the selling price at 10% profit. Find the new selling price—  
 (A) ₹ 450      (B) ₹ 490  
 (C) ₹ 500      (D) ₹ 550
38. A saves 20% of his monthly salary. If his monthly expenditure is ₹ 6,000, then his monthly savings is—  
 (A) ₹ 1,200      (B) ₹ 4,800  
 (C) ₹ 1,500      (D) ₹ 1,800
39. From 2008 to 2009, the sales of a book decreased by 80%. If the sales in 2010 were the same as in 2008, by what percent did it increase from 2009 to 2010 ?  
 (A) 80%      (B) 100%  
 (C) 120%      (D) 400%
40. The speed of a bus is 72 km/hr. The distance covered by the bus in 5 seconds is—  
 (A) 50 m      (B) 74.5 m  
 (C) 100 m      (D) 60 m
41. Two men start together to walk a certain distance, one at 4 km/h and another at 3 km/h. The former arrives half an hour before the latter. Find the distance—  
 (A) 6 km      (B) 9 km  
 (C) 8 km      (D) 7 km
42. A person invests ₹ 12,000 as fixed deposit at a bank at the rate of 10% per annum simple interest. But due to some pressing needs he has to withdraw the entire money after 3 years, for which the bank allowed him a lower rate of interest. If he gets ₹ 3,320 less than what he would have got at the end of 5 years, the rate of interest allowed by the bank is—  
 (A)  $7\frac{8}{9}\%$       (B)  $8\frac{7}{9}\%$   
 (C)  $7\frac{5}{9}\%$       (D)  $7\frac{4}{9}\%$
43. The compound interest on ₹ 30,000 at 7% per annum for a certain time is ₹ 4,347. The time is—  
 (A) 2 years      (B) 2.5 years  
 (C) 3 years      (D) 4 years
44. A prism has as the base a right-angled triangle whose sides adjacent to the right angles are 10 cm and 12 cm long. The height of the prism is 20 cm. The density of the material of the

30. A sum of ₹ 7,000 is divided among A, B, C in such a way that the shares of A and B are in the ratio 2 : 3 and those of B and C are in the ratio 4 : 5. The share of B is—  
 (A) ₹ 1,600      (B) ₹ 2,000  
 (C) ₹ 2,400      (D) ₹ 3,000
31. Tea worth ₹ 126 per kg and ₹ 135 per kg are mixed with a third variety in the ratio 1 : 1 : 2. If the mixture is worth ₹ 153 per kg, the price of the third variety per kg will be—  
 (A) ₹ 169.5      (B) ₹ 170.0  
 (C) ₹ 175.5      (D) ₹ 180.0
32. In the afternoon, a student read 100 pages at the rate of 60 pages per hour. In the evening, when she was tired, she read 100 more pages at the rate of 40 pages per hour. What was her average rate of reading, in pages per hour ?  
 (A) 48      (B) 50  
 (C) 60      (D) 70
33. The mean weight of 34 students of a school is 42 kg. If the weight of the teacher be included, the mean rises by 400 gram. Find the weight of the teacher (in kg)—  
 (A) 66      (B) 56  
 (C) 55      (D) 57
34. A cricketer has a mean score of 60 runs in 10 innings. Find out how many runs are to be scored in the eleventh innings to raise the mean score to 62 ?  
 (A) 80      (B) 81  
 (C) 83      (D) 82
35. A trader purchases a watch and a wall clock for ₹ 390. He sells them making a profit of 10% on the watch and 15% on the wall clock. He earns a profit of ₹ 51.50. The difference between the original prices of the wall clock and the watch is equal to—  
 (A) ₹ 110      (B) ₹ 100  
 (C) ₹ 80      (D) ₹ 120
36. A salesman expects a gain of 13% on his cost price. If in a month his sale was ₹ 7,91,000, what was his profit ?  
 (A) ₹ 91,000      (B) ₹ 97,786  
 (C) ₹ 85,659      (D) ₹ 88,300
37. A merchant fixed the selling price of his articles at ₹ 700 after adding 40% profit to the cost price. As the sale was very low at this price level, he decided to fix the selling price at 10% profit. Find the new selling price—  
 (A) ₹ 450      (B) ₹ 490  
 (C) ₹ 500      (D) ₹ 550
38. A saves 20% of his monthly salary. If his monthly expenditure is ₹ 6,000, then his monthly savings is—  
 (A) ₹ 1,200      (B) ₹ 4,800  
 (C) ₹ 1,500      (D) ₹ 1,800
39. From 2008 to 2009, the sales of a book decreased by 80%. If the sales in 2010 were the same as in 2008, by what percent did it increase from 2009 to 2010 ?  
 (A) 80%      (B) 100%  
 (C) 120%      (D) 400%
40. The speed of a bus is 72 km/hr. The distance covered by the bus in 5 seconds is—  
 (A) 50 m      (B) 74.5 m  
 (C) 100 m      (D) 60 m
41. Two men start together to walk a certain distance, one at 4 km/h and another at 3 km/h. The former arrives half an hour before the latter. Find the distance—  
 (A) 6 km      (B) 9 km  
 (C) 8 km      (D) 7 km
42. A person invests ₹ 12,000 as fixed deposit at a bank at the rate of 10% per annum simple interest. But due to some pressing needs he has to withdraw the entire money after 3 years, for which the bank allowed him a lower rate of interest. If he gets ₹ 3,320 less than what he would have got at the end of 5 years, the rate of interest allowed by the bank is—  
 (A)  $7\frac{8}{9}\%$       (B)  $8\frac{7}{9}\%$   
 (C)  $7\frac{5}{9}\%$       (D)  $7\frac{4}{9}\%$
43. The compound interest on ₹ 30,000 at 7% per annum for a certain time is ₹ 4,347. The time is—  
 (A) 2 years      (B) 2.5 years  
 (C) 3 years      (D) 4 years
44. A prism has as the base a right-angled triangle whose sides adjacent to the right angles are 10 cm and 12 cm long. The height of the prism is 20 cm. The density of the material of the

prism is 6 gm/cubic cm. The weight of the prism is—

- (A) 3·4 kg                    (B) 4·8 kg  
 (C) 6·4 kg                    (D) 7·2 kg

45. Three circles of radii 4 cm, 6 cm and 8 cm touch each other pair-wise externally. The area of the triangle formed by the line-segments joining the centres of the three circles is—

- (A)  $6\sqrt{6}$  sq cm  
 (B)  $24\sqrt{6}$  sq cm  
 (C)  $144\sqrt{13}$  sq cm  
 (D)  $12\sqrt{105}$  sq cm

46. The radius of the base of a right circular cone is doubled. To keep the volume fixed, the height of the cone will be—

- (A) half of the previous height  
 (B) one-third of the previous height  
 (C) one-fourth of the previous height  
 (D)  $\frac{1}{\sqrt{2}}$  times of the previous height

47. The base of a cone and a cylinder have the same radius 6 cm; they have also the same height 8 cm. The ratio of the curved surfaces of the cylinder to that of the cone is—

- (A) 4 : 3                    (B) 5 : 3  
 (C) 8 : 5                    (D) 8 : 3

48. The ratio of length of each equal side and the third side of an isosceles triangle is 3 : 4. If the area of the triangle is  $18\sqrt{5}$  square unit, the third side is—

- (A)  $8\sqrt{2}$  unit            (B) 12 unit  
 (C) 16 unit                (D)  $5\sqrt{10}$  unit

49. In a circle of radius 21 cm, an arc subtends an angle of  $72^\circ$  at the centre. The length of the arc is—

- (A) 13·2 cm                (B) 19·8 cm  
 (C) 21·6 cm                (D) 26·4 cm

50. The  $x$ -intercept of the graph of  $7x - 3y = 2$  is—

- (A)  $\frac{2}{5}$                     (B)  $\frac{2}{7}$   
 (C)  $\frac{3}{4}$                     (D)  $\frac{3}{7}$

## Answers with Explanations

$$\begin{aligned} 1. \text{ (B)} \quad & \sqrt{\frac{121 \times 0.9}{1.1 \times 0.11}} = \sqrt{\frac{121 \times 9}{11 \times 11}} \\ & = \sqrt{\frac{121 \times 9}{121}} \\ & = \sqrt{9} \\ & = \sqrt{3 \times 3} \\ & \Rightarrow = 3 \end{aligned}$$

2. (D)  $25 \times 20 \times 9 \times 12 \times 30$  should be multiplied by 2 to make a perfect square i.e., square of 18.

3. (C)

$$\begin{aligned} 4. \text{ (B)} \quad & \text{A's 2 day's work} = \left(\frac{1}{4} \times 2\right) \\ & = \frac{1}{2} \end{aligned}$$

(A + B + C)'s 1 day's work

$$\begin{aligned} & = \frac{1}{4} + \frac{1}{12} + \frac{1}{6} \\ & = \frac{6}{12} = \frac{1}{2} \end{aligned}$$

Work done in three days

$$\begin{aligned} & = \left(\frac{1}{2} + \frac{1}{2}\right) \\ & = 1 \end{aligned}$$

Now, 1 work is done in 3 days.

∴ Whole work is done in  $3 \times 1 = 3$  days.

5. (C) Perimeter of equilateral triangle = Circumference of circular ring

$$3 \times \text{Side} = 2\pi r$$

$$3 \times 4.4 = 2 \times \frac{22}{7} \times r$$

$$r = \frac{3 \times 4.4 \times 7}{44}$$

$$r = 3 \times 0.1 \times 7$$

$$r = 2.1 \text{ cm}$$

6. (B) Since  $r_1 : r_2 = 1 : 2$

and  $V_1 : V_2 = 2 : 3$  (given)

$$\frac{V_1}{V_2} = \frac{2}{3}$$

$$\therefore \frac{\frac{1}{2}\pi r_1^2 h_1}{\frac{1}{2}\pi r_2^2 h_2} = \frac{2}{3}$$

$$\frac{r_1^2 h_1}{r_2^2 h_2} = \frac{2}{3}$$

$$\frac{(1)^2 h_1}{(2)^2 h_2} = \frac{2}{3}$$

$$\frac{h_1}{h_2} = \frac{2 \times 4}{3}$$

$$\frac{h_1}{h_2} = \frac{8}{3}$$

$$h_1 : h_2 = 8 : 3$$

7. (D) Let C. P. be ₹ 100. Then, Marked Price = ₹ 130

$$\text{S.P.} = (100 - 20)\% \text{ of } ₹ 130$$

$$= \frac{80}{100} \times 130 = ₹ 104$$

$$\therefore \text{Profit \%} = (104 - 100)\%$$

$$= 4\%$$

8. (A) Marked Price = ₹ 300  
Discount = 10%

10% of 300

$$\Rightarrow \frac{10}{100} \times 300 = ₹ 30$$

$$\begin{aligned} \text{S.P.} &= 300 - 30 \\ &= ₹ 270 \end{aligned}$$

$$\begin{aligned} \text{C.P.} &= \frac{100}{(100 + \text{Profit \%})} \times \text{S.P.} \\ &= \frac{100}{(100 + 25)} \times 270 \\ &= ₹ 216 \end{aligned}$$

9. (B) 98% of 95% of 92% of 7500

$$\begin{aligned} &\frac{98}{100} \times \frac{95}{100} \times \frac{92}{100} \times 7500 \\ &= ₹ 6423.90 \end{aligned}$$

10. (A)

11. (B) Suppose C gets ₹ x.

Then, B gets ₹ (x + 8) and A gets ₹ (x + 15).  
Then,

$$x + (x + 8) + (x + 15) = 53$$

$$\Rightarrow x = 10$$

$$\begin{aligned} \therefore A : B : C &= (10 + 15) : (10 + 8) : 10 \\ &= 25 : 18 : 10 \end{aligned}$$

$$\begin{aligned} 12. (A) \quad \frac{45 \times 5}{10} &= \frac{45 \times 5}{18 \times 10} \\ &= \frac{5}{4} \Rightarrow 5 : 4 \end{aligned}$$

13. (B)

14. (A) The average of prime numbers between 1 to 20 will be

$$\begin{aligned} &= \frac{2 + 3 + 5 + 7 + 11 + 13 + 17 + 19}{8} \\ &= \frac{77}{8} \\ &= 9.625 \end{aligned}$$

15. (D)

16. (B) Let the C. P. of 15 articles be ₹ 1

$$\therefore \text{Cost Price of 1 article} = ₹ \frac{1}{15}$$

Since the S. P. of 10 articles

$$\begin{aligned} &= \text{C. P. of 15 articles} \\ &= ₹ 1 \end{aligned}$$

$$\therefore \text{S.P. of 1 article} = ₹ \frac{1}{10}$$

$$\therefore \text{Gain} = \frac{1}{10} - \frac{1}{15}$$

$$= \frac{3-2}{30}$$

$$= ₹ \frac{1}{30}$$

$$\therefore \text{Per cent of gain} = \frac{\frac{1}{30} \times 100}{15}$$

$$= \frac{15 \times 100}{30}$$

$$= 50\%$$

17. (D) For one article,

$$\text{S.P.} = ₹ 1200$$

and Gain = 20%

$$\begin{aligned} \therefore \text{C.P.} &= \text{S.P.} \times \frac{100}{100 + \% \text{ of gain}} \\ &= \frac{1200 \times 100}{100 + 20} \\ &= \frac{1200 \times 100}{120} \\ &= ₹ 1000 \end{aligned}$$

For other article, S. P. 1200  
and loss 20%

$$\therefore \text{C. P.} = \frac{1200 \times 100}{100 - 20}$$

$$= \frac{1200 \times 100}{80}$$

$$= ₹ 1500$$

$$\therefore \text{Total C. P. for both articles}$$

$$= ₹(1000 + 1500)$$

$$= ₹ 2500$$

$$\text{and total S. P. for both articles}$$

$$= ₹(1200 + 1200)$$

$$= ₹ 2400$$

$\therefore$  C. P. is greater than S. P.

$$\therefore \text{There is a loss in it and actual loss}$$

$$= ₹(2500 - 2400)$$

$$= ₹ 100$$

18. (A) Let the total no. of students be  $x$ . % of boys = 70%

$$\therefore \text{Per cent of girls}$$

$$= (100 - 70)\%$$

$$= 30\%$$

No. of girls is 504

$$\therefore 30\% \text{ of } x = 504$$

$$\frac{30}{100} \times x = 504$$

$$x = \frac{504 \times 100}{30}$$

$$x = 1680$$

So, the total no. of students is 1680

$$\therefore \text{No. of boys}$$

$$= \text{Total students} - \text{No. of girls}$$

$$= 1680 - 504$$

$$= 1176$$

19. (D) Let the amount of the bill be ₹  $x$ .

$$\therefore 7.5\% \text{ of } x = ₹ 16.50$$

$$\frac{7.5}{100} \times x = 16.50$$

$$x = \frac{16.50 \times 100}{7.5}$$

$$x = 220$$

$\therefore$  The amount of the bill is ₹ 220.

20. (C)

21. (B) Let the distance between Howrah and Asansol be  $x$  km and let the trains meet  $y$  hours after 8 a.m.

Clearly, X covers  $x$  km in 4 hours and Y covers  $x$  km in  $\left(\frac{7}{2}\right)$  hours.

$$\therefore \text{Speed of X} = \frac{x}{4} \text{ km/h}$$

$$\text{and Speed of Y} = \frac{2x}{7} \text{ km/h}$$

Distance covered by X train in  $(y + 2)$  hours + distance covered by Y train in  $y$  hours =  $x$

$$\therefore \frac{x}{4}(y+2) + \frac{2x}{7} \times y = x$$

$$\Rightarrow \frac{y+2}{4} + \frac{2y}{7} = 1$$

$$\Rightarrow y = \frac{14}{15} \text{ hours}$$

$$= \left(\frac{14}{15} \times 60\right) \text{ min}$$

$$= 56 \text{ min}$$

Hence, the trains meet at 8.56 a.m.

22. (C) S. I. in second case

$$= \frac{P \times T \times R}{100}$$

$$= \frac{6000 \times 5 \times 4}{100}$$

$$= ₹ 1200$$

$$\therefore \text{Time in I case} = \frac{S.I. \times 100}{P \times R}$$

$$= \frac{1200 \times 100}{8000 \times 3}$$

$$= 5 \text{ years}$$

23. (A) Simple interest =  $\frac{PRT}{100}$

Let Principal be ₹  $x$ .

$$\therefore S.I. = \frac{x \times 3 \times 3}{100}$$

$$= \frac{9x}{100}$$

$$\text{and Amount} = x + \frac{9x}{100}$$

$$= \frac{109x}{100}$$

And, now C. I. for 3 years at 5% compounded annually

$$\begin{aligned} A &= P \left(1 + \frac{R}{100}\right)^n \\ &= x \left(1 + \frac{5}{100}\right)^3 \\ A &= x \left(\frac{105}{100}\right)^3 \\ &= x \left(\frac{21}{20}\right)^3 \\ A &= x \cdot \frac{9261}{8000} \end{aligned}$$

According to the questions,

$$\begin{aligned} \frac{9261x}{8000} - \frac{109x}{100} &= 541 \\ \frac{9261x - 8720x}{8000} &= 541 \\ \frac{541x}{8000} &= 541 \\ x &= \frac{541 \times 8000}{541} \\ x &= 8000 \end{aligned}$$

∴ Principal will be ₹ 8000.

24. (C) Amount on Education

$$\begin{aligned} &= \frac{81}{360} \times 40000 \\ &= ₹ 9000 \end{aligned}$$

Amount on Roads and Communication

$$\begin{aligned} &= \frac{54}{360} \times 40000 \\ &= ₹ 6000 \end{aligned}$$

∴ The amount proposed on Education is greater than on Roads and Communication by,

$$\begin{aligned} &= 9000 - 6000 \\ &= ₹ 3000 \text{ (in crore)} \end{aligned}$$

25. (D) Amount on Education

$$\begin{aligned} &= \frac{81}{360} \times 40000 \\ &= ₹ 9000 \end{aligned}$$

Amount on Irrigation and Power

$$\begin{aligned} &= \frac{45}{360} \times 40000 \\ &= ₹ 5000 \end{aligned}$$

Amount on Roads and Communication

$$\begin{aligned} &= \frac{54}{360} \times 40000 \\ &= ₹ 6000 \end{aligned}$$

Amount on Agriculture

$$\begin{aligned} &= \frac{108}{360} \times 40000 \\ &= ₹ 12000 \end{aligned}$$

26. (C) Let the C. P. be ₹  $x$

$$\begin{aligned} \text{Marked Price} &= \frac{x \times 120}{100} \\ &= ₹ \frac{6x}{5} \end{aligned}$$

$$\begin{aligned} \text{S. P.} &= \frac{6x}{5} \times \frac{80}{100} \\ &= ₹ \frac{24x}{25} \end{aligned}$$

$$\text{Loss} = x - \frac{24x}{25} = ₹ \frac{x}{25}$$

$$\therefore \text{Loss \%} = \frac{x}{25} \times \frac{100}{x} \% = 4\%$$

27. (C) Equivalent discount

$$\begin{aligned} &= \left( r_1 + r_2 - \frac{r_1 \times r_2}{100} \right)\% \\ &\quad [\text{Here } r_1 = 25 \text{ and } r_2 = 10] \end{aligned}$$

$$= \left[ 25 + 10 - \frac{25 \times 10}{100} \right]\%$$

$$= 32.5\%$$

∴ S. P. of the chair

$$\begin{aligned} &= ₹ \frac{350 \times 67.5}{100} \\ &= ₹ 236.25 \end{aligned}$$

28. (C) S. P. of the goods

$$\begin{aligned} &= ₹ 170 \times \frac{120}{100} \\ &= ₹ 204 \end{aligned}$$

If M. P. be ₹  $x$

$$\text{then } \frac{x \times 85}{100} = 204$$

$$\begin{aligned} \therefore x &= \frac{204 \times 100}{85} \\ &= ₹ 240 \end{aligned}$$

29. (A) Quantity of chromium in I

$$= \frac{2}{13} \text{ part}$$

Quantity of chromium in II

$$= \frac{5}{26} \text{ part}$$

Quantity of chromium in mixture of both parts

$$= \frac{7}{39}$$



Reqd. ratio

$$= \left( \frac{5}{26} - \frac{7}{39} \right) : \left( \frac{7}{39} - \frac{2}{13} \right)$$

$$= \frac{-14 + 15}{78} : \frac{7 - 6}{39}$$

$$= \frac{1}{78} : \frac{1}{39}$$

$$= 39 : 78$$

$$= 1 : 2$$

30. (C) ∵ A : B = 2 : 3 = 8 : 12

and B : C = 4 : 5 = 12 : 15

∴ A : B : C = 8 : 12 : 15

$$\therefore \text{Share of B} = \frac{12}{(8+12+15)} \times \text{₹ } 7000 \\ = 12 \times 20 \\ = \text{₹ } 2400$$

31. (C) Let the price of 3rd variety be ₹ x per kg

$$\therefore 126 + 135 + 2x = 4 \times 153$$

$$\Rightarrow 261 + 2x = 612$$

$$\Rightarrow 2x = 612 - 261$$

$$\Rightarrow 2x = 351$$

$$\therefore x = \text{₹ } 175.50$$

32. (A) Reqd. average rate of reading

$$= \frac{\text{Total pages}}{\text{Total time}}$$

$$= \frac{(100 + 100) \text{ pages}}{\left( \frac{100}{60} + \frac{100}{40} \right) \text{ hr}}$$

$$= \frac{2 \times 60 \times 40}{(40 + 60)} \\ = 48 \text{ page/hour.}$$

33. (B) ∵ Total wt. of 34 students

$$= 34 \times 42 \text{ kg}$$

Total wt. 34 students with teacher

$$= 35 \times 42.4$$

$$= 1484 \text{ kg}$$

∴ Weight of the teacher

$$= 1484 - 1428 \\ = 56 \text{ kg.}$$

34. (D) No. of runs of 11th innings

$$= 11 \times 62 - 10 \times 60$$

$$= 682 - 600$$

$$= 82$$

35. (A) Let the C. P. of watch be ₹ x

∴ C. P. of clock = ₹ (390 - x)

$$\therefore x \times \frac{10}{100} + (390 - x) \times \frac{15}{100}$$

$$= 51.50$$

$$\Rightarrow 10x + (390 - x) \times 15 = 5150$$

$$\Rightarrow 5x = 5850 - 5150$$

$$= 700$$

$$x = 140$$

∴ Reqd. difference = (390 - 140) - (140)

$$= \text{₹ } 390 - 280$$

$$= \text{₹ } 110$$

36. (A) ∵ C. P. =  $791000 \times \frac{100}{113}$ 

$$= \text{₹ } 700000$$

$$\therefore \text{Reqd. Profit} = 700000 \times \frac{13}{100} \\ = \text{₹ } 91000$$

37. (D) M. P. = ₹ 700

$$\text{and C. P.} = 700 \times \frac{100}{140} \\ = \text{₹ } 500$$

82P | SSC Higher Secondary Level (10 + 2)

$$\therefore \text{S.P. at } 10\% \text{ profit} = 500 \times \frac{110}{100}$$

$$= ₹ 550$$

38. (A)

Let his monthly salary be ₹ 100

His monthly saving = ₹ 20

$$\therefore \text{Reqd. monthly saving} = \frac{20}{100} \times 6000$$

$$= ₹ 1200$$

39. (D) Let the sale in 2008 be ₹  $x$

$$\therefore \text{The sale in 2009} = \frac{x \times 20}{100}$$

$$= ₹ \frac{x}{5}$$

and the sale in 2010 = ₹  $x$

$$\therefore \text{Reqd. \% increase} = \frac{\frac{x}{5} - \frac{x}{x}}{\frac{x}{5}} \times 100\%$$

$$= 4 \times 100\%$$

$$= 400\%$$

40. (C) Speed of the bus = 72 km/hr

$$= \frac{72 \times 5}{18}$$

$$= 20 \text{ m/sec}$$

$$\therefore \text{Reqd. distance} = 20 \times 5$$

$$= 100 \text{ m}$$

41. (A) Let the distance be  $x$  km

$$\therefore \frac{x}{3} - \frac{x}{4} = \frac{1}{2} \text{ hr}$$

$$\Rightarrow \frac{x}{12} = \frac{1}{2}$$

$$\therefore x = 6 \text{ km}$$

42. (D) The interest obtained at the end of 5 years

$$= ₹ \frac{12000 \times 10 \times 5}{100}$$

$$= ₹ 6000$$

The interest obtained at the end of 3 years

$$= 6000 - 3320$$

$$= ₹ 2680$$

$\therefore$  Req'd. Rate of interest at 5 years

$$= \frac{2680 \times 100}{12000 \times 3}\%$$

$$= \frac{67}{9}\% = 7\frac{4}{9}\%$$

43. (A) If the time is  $n$  years, then

$$4347 = 30000 \left[ \left( 1 + \frac{7}{100} \right)^n - 1 \right]$$

$$\Rightarrow \left( 1 + \frac{7}{100} \right)^n = \frac{4347}{30,000} + 1$$

$$= \frac{1449 + 10,000}{10,000}$$

$$\Rightarrow \left( \frac{107}{100} \right)^n = \frac{11,449}{10,000}$$

$$= \left( \frac{107}{100} \right)^2$$

$\therefore n = 2$  years

44. (D)  $\because$  Vol. of the prism

$$= \frac{1}{2} \times 10 \times 12 \times 20$$

$$= 1200 \text{ cm}^3$$

$\Rightarrow$  Density of the prism

$$= 6 \text{ gm/cm}^3$$

$\therefore$  Weight of the prism

$$= \frac{1200 \times 6}{1000} \text{ kg}$$

$$= 7.2 \text{ kg}$$

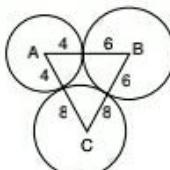
45. (B)  $\because AB = 10, BC = 14, CA = 12$

$$\therefore \text{Area of } \triangle ABC$$

$$= \sqrt{18(18-10)(18-14)(18-12)}$$

$$= \sqrt{18 \times 8 \times 4 \times 6}$$

$$= 24\sqrt{6} \text{ cm}^2$$



46. (C) Let the initial radius be  $r$

$$\text{then } V = \frac{1}{3} \pi r^2 h \quad [\text{when radius} = 2r]$$

$$\begin{aligned} \text{then } V &= \frac{1}{3} \pi (2r)^2 H \\ &= \frac{1}{3} \pi \times 4r^2 H \end{aligned}$$

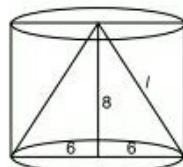
$$\therefore 4H = h$$

$$\therefore H = \frac{h}{4}$$

(One-fourth of the previous height)

47. (C) Curved surface of cone

$$\begin{aligned} &= \pi r l \\ &= \pi \times 6 \times \sqrt{64 + 36} \\ &= 60\pi \end{aligned}$$



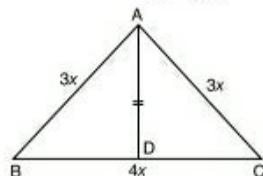
and curved surface of cylinder

$$\begin{aligned} &= 2\pi rh \\ &= 2\pi \times 6 \times 8 = 96\pi \end{aligned}$$

$$\therefore \text{Reqd. ratio} = 96\pi : 60\pi = 8 : 5$$

$$48. (\text{B}) \quad AD = \sqrt{9x^2 - 4x^2} = \sqrt{5}x$$

$$\therefore \text{Area of } \Delta = \frac{1}{2} 4x \times \sqrt{5}x = 18\sqrt{5}$$



$$\Rightarrow 2\sqrt{5}x^2 = 18\sqrt{5}$$

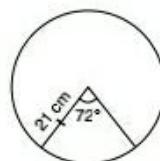
$$\Rightarrow x^2 = \frac{18\sqrt{5}}{2\sqrt{5}} = (3)^2$$

$$\therefore x = 3$$

$\therefore$  Third side =  $4x = 4 \times 3$   
= 12 units

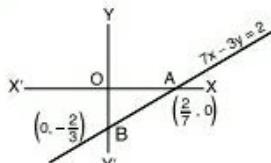
49. (D) The length of the arc

$$= 2\pi \times r \times \frac{72^\circ}{360^\circ}$$



$$\begin{aligned} &= 2 \times \frac{22}{7} \times 21 \times \frac{1}{5} \\ &= 26.5 \text{ cm} \end{aligned}$$

50. (B)



$$\therefore x\text{-intercept} = \frac{2}{7}$$

## Part – IV General Awareness

- The malaria parasite responsible for malignant malaria is—  
 (A) plasmodium malariae  
 (B) plasmodium falciparum  
 (C) plasmodium vivax  
 (D) plasmodium ovale
- The effects of the Kalinga war on Asoka are found in—  
 (A) Pillar edicts      (B) 13th rock edicts  
 (C) excavations      (D) None of these
- Urea is synthesized in the—  
 (A) Liver              (B) Lung  
 (C) Spleen              (D) Kidney

4. The ultimate source of energy in a hydroelectric power station is—  
(A) solar energy  
(B) the potential energy of water  
(C) the kinetic energy of water  
(D) the electro-chemical energy of water
5. In cricket, the two sets of wickets are—  
(A) 24 yards apart  
(B) 18 yards apart  
(C) 20 yards apart  
(D) 22 yards apart
6. Which of the following belongs to the branch of Geology ?  
(A) Meteorology  
(B) Cartography  
(C) Palaeontology  
(D) Cosmology
7. The Forward Bloc was founded by—  
(A) Subhash Chandra Bose  
(B) Jaiprakash Narayan  
(C) Acharya Narendra Dev  
(D) Ram Manohar Lohia
8. Which amongst the following does not contain nitrogen element ?  
(A) Superphosphate of lime  
(B) Urea  
(C) Indian saltpeter  
(D) Chilli saltpeter
9. The event of Boston Tea Party is related with—  
(A) Joining of USA in Second World War  
(B) French Revolution  
(C) American Civil War  
(D) American War of Independence
10. The country consisted of largest number of islands is—  
(A) Papua New Guinea  
(B) Phillipines  
(C) Japan  
(D) Indonesia
11. Related to computers, what is meant by 'software' ?  
(A) floppy discs  
(B) computer programs  
(C) computer circuitry  
(D) human brain
12. The Union Public Service Commission (UPSC).....the All India Service Personnel.  
(A) dismisses                   (B) elects  
(C) selects                   (D) appoints
13. The famous novel 'Pride and Prejudice' was written by—  
(A) Jane Austen               (B) George Eliot  
(C) Leo Tolstoy               (D) Charles Dickens
14. The names of six sporting coaches were recommended for the Dronacharya Awards for 2012. The awards were presented on 29th August 2012 at Rashtrapati Bhawan by—  
(A) Rahul Gandhi  
(B) P. Chidambaram  
(C) Pranab Mukherjee  
(D) Dr. Manmohan Singh
15. Who can remove a judge of High Court ?  
(A) President on the resolution of Parliament passed by special majority  
(B) President on his own  
(C) Governor on the advice of Chief Minister  
(D) President on the advice of Chief Justice of India
16. Who among the following is known as "the silver-tongued orator" ?  
(A) Gopal Krishna Gokhale  
(B) Surendranath Banerjee  
(C) Womesh Chandra Bonnerjee  
(D) Dada Bhai Naoroji
17. Deforestation accelerates soil erosion and also affects the sub-surface water flow. These two factors adversely affect the—  
(A) human resources   (B) ecosystem  
(C) climate               (D) local vegetation

18. World Environmental Day is celebrated on—  
 (A) August 5      (B) June 5  
 (C) July 5      (D) November 5
19. The largest tribe in India is—  
 (A) Garos      (B) Todas  
 (C) Gonds      (D) Chenchus
20. The largest country in Africa is—  
 (A) South Africa      (B) Sudan  
 (C) Algeria      (D) Egypt
21. Litmus is extracted from—  
 (A) Turmeric      (B) Bark of Cinchona  
 (C) Lichens      (D) Mushroom
22. Standing in front of a special mirror, a man finds his image small head and body but legs of actual size. The shapes of mirror parts are—  
 (A) concave and plane  
 (B) concave and convex  
 (C) convex and plane  
 (D) plane and convex
23. Hydroponics is—  
 (A) plant growth in liquid culture medium  
 (B) plant growth in mineral deficient soil  
 (C) soil conservation  
 (D) plant growth under laboratory conditions
24. The name of Miss Medha Patkar is associated with—  
 (A) Jnanpith Awards  
 (B) Nari Vimochan Andolan  
 (C) Narmada Bachao Andolan  
 (D) Lalit Kala Academy
25. Nuclides having the same atomic numbers are known as—  
 (A) Isotones      (B) Isotopes  
 (C) Isomers      (D) Isobars
26. When prices of goods increase, purchasing power of money—  
 (A) fluctuates      (B) decreases  
 (C) increases      (D) remains constant
27. In MS-DOS the command that is used to clear the screen is—  
 (A) Wipe      (B) Cls  
 (C) Clear      (D) Clear screen
28. Micro economics deals with—  
 (A) total units      (B) individual units  
 (C) partial unit      (D) marginal units
29. Glass is a—  
 (A) polymeric mixture  
 (B) gel  
 (C) super-cooled liquid  
 (D) micro-crystalline solid
30. Where Gandhiji learned the art of Satyagraha as a practice ?  
 (A) Ireland      (B) England  
 (C) Scotland      (D) South Africa
31. The famous ruler of the western Chalukyan dynasty was—  
 (A) Pulakesin II      (B) Pulakesin I  
 (C) Ravikirthi      (D) Mangalesha
32. The time taken for the sunlight to reach the earth is about—  
 (A) 10 minute 3.3 second  
 (B) 6 minute 5.5 second  
 (C) 8 minute 16.6 second  
 (D) 9 mintue 8.8 second
33. In which of the following places was the last Winter Olympics Games held ?  
 (A) Salt Lake City (USA)  
 (B) Albertville  
 (C) Lillehammer  
 (D) Calgary
34. Humidity can be measured by—  
 (A) Hydrometer      (B) Hygrometer  
 (C) Pyrometer      (D) Lactometer
35. The sour taste of vinegar is due to—  
 (A) Lactic acid      (B) Citric acid  
 (C) Acetic acid      (D) Tartaric acid

36. The burning of fossil fuel produces—  
 (A) Soil pollution      (B) Water pollution  
 (C) Air pollution      (D) All of the above
37. Which Chola ruler built a new capital, Gangaikonda Cholapuram ?  
 (A) Rajendra I      (B) Vijayalala  
 (C) Aditya      (D) Rajaraja I
38. Where is Head Office of State Bank of India ?  
 (A) Mumbai      (B) Delhi  
 (C) Kolkata      (D) Chennai
39. Paper was invented in—  
 (A) India      (B) Egypt  
 (C) Greece      (D) China
40. A uniform magnetic field is represented by—  
 (A) closed curves      (B) parallel lines  
 (C) convergent lines      (D) divergent lines
41. Which of the following was a protectorate State of India ?  
 (A) Arunachal Pradesh  
 (B) Nagaland  
 (C) Meghalaya  
 (D) Sikkim
42. Yuan is the currency of—  
 (A) Yugoslavia      (B) Japan  
 (C) China      (D) Italy
43. The nuclear plant disaster in Chernobyl took place in—  
 (A) 1996      (B) 1980  
 (C) 1989      (D) 1992
44. Pick the odd man out—  
 (A) ACCESS      (B) UNIX  
 (C) MS-DOS      (D) WINDOWS 98
45. Radioactivity is the disintegration of the—  
 (A) nucleus      (B) ion  
 (C) molecule      (D) atom
46. The oldest church (St. Thomas church) in India is located in the State of—  
 (A) Assam      (B) Goa  
 (C) Kerala      (D) West Bengal
47. Apple fruit is a—  
 (A) compound samara  
 (B) succulent pome  
 (C) succulent pepo  
 (D) succulent drupe
48. Perfectly inelastic demand of a commodity means—  
 (A) the cost of a commodity changes but the demand remains unchanged  
 (B) the price of the commodity does not change with the change in its demand  
 (C) the demand of a commodity does not change with the change in its price  
 (D) the demand of some other commodity changes with the change in the price of one commodity
49. The methods of protection of home-industries in International trade includes all the following except—  
 (A) Import-taxes      (B) Tariff  
 (C) Quota      (D) De-licensing
50. The National Integration Council (NIC) is chaired by—  
 (A) President of India  
 (B) Prime Minister  
 (C) Finance Minister  
 (D) Home Minister

Join YouTube Channel

### Answers with Explanations

1. (A) Plasmodium malariae is a parasite protozoa that causes malaria in humans.
2. (B) 3. (A)
4. (C) In a hydroelectric power station, kinetic energy of water is eventually converted into electrical energy.
5. (D) 6. (C) 7. (A)
8. (A) Superphosphate of lime is also called calcium super-phosphate. It is the mixture of calcium dihydrogen phosphate  $[Ca(H_2PO_4)_2]$  and Gypsum  $[2(CaSO_4 \cdot 2H_2O)]$ . Obviously, there is no nitrogen in it.

9. (D)
10. (B) Phillipines consists of 7109 Islands.
11. (B) Software is defined as the totality of programs usable on a computer, together with the documentation associated with a computer or program, such as manuals, diagrams and operating instructions.
12. (C) 13. (A)
14. (C) President Pranab Mukherji presented the country's highest sports awards like Rajiv Gandhi Khel Ratna Awards, Arjun Awards, Dhyanchand Awards and Dronacharya Awards to sports persons and the coaches at Ashoka Hall in Rashtrapati Bhavan on August 29, 2012.
15. (A)
16. (\*) Srinivasa Shastri was an Indian politician, and known as 'Silver tongued orator' because of his subtle oratory and excellent command on English and Sanskrit Language. Options are wrong.
17. (A) 18. (B) 19. (C)
20. (C) Africa is made up of over fifty sovereign nations. Algeria is largest country by Area (2381740 km<sup>2</sup>)
21. (C) 22. (C)
23. (B) Hydroponic is a method of cultivating plants by growing them in gravel, through which water containing dissolved inorganic nutrient salts is pumped.
24. (C) Medha Patkar is an Indian Social activist, she is known for role in Narmada Bachao Andolan.
25. (B) Isotope is a term used one or two or more atoms with the same atomic number that contain different numbers of Neutrons.
26. (B) 27. (B)
28. (B) Micro economics deals with smaller things like an individual peoples decisions and small communities. In common parlance it can be said that micro-economics deals with individual units.
29. (C) Glass is a super-cooled liquid in the form of non-crystalline solid. Hence, glass has neither some crystalline structure nor some definite boiling point. Glass has neither some definite chemical composition, nor some molecular formula, since it is a mixture and not a compound. Average composition of an ordinary glass is :
- $$\text{Na}_2\text{SiO}_3.\text{CaSiO}_3.4\text{SiO}_2$$
30. (D)
31. (\*) No king given in the options belongs to Western Chalukyas. Hence, no answer can be given.
32. (C)
33. (D) The last (2010) Winter Olympic Games were held in Vancouver, Calgary, Canada.
34. (B) 35. (C) 36. (C) 37. (A)
38. (A) Registered Head Office of State Bank of India is located at State Bank Bhawan, M.C. Road, Nariman Point, Mumbai 400 021.
39. (D) Papermaking processes is said to be developed in China during the early second century A.D. by Han Court eunuch Cai Lun.
40. (B) 41. (D) 42. (C) 43. (C)
44. (A)
45. (D) The spontaneous emission of a particle by an atomic nucleus. The emitted particle may be of alpha particle (a helium nucleus consisting of two protons and two neutrons.)
46. (C) St. Thomas Catholic Church is the oldest Church in India. It is located at Palayur, at a distance of 28 km from Thrissur in Kerala.
47. (B)
48. (C) Perfectly inelastic demand means quantity demanded is completely unaffected by a price change.
49. (D) 50. (D)

# Practice Set-5

## Part—I General Intelligence

**Directions**—In questions 1 to 3, select the related letters/word/number from given alternatives.

1. CAT : DDY :: BIG : ?  
(A) CLL                    (B) CLM  
(C) CML                    (D) CEP
2. AGMS : CIOU :: DJPV : ?  
(A) BHN Y                (B) STUV  
(C) FLRX                  (D) MNOP
3. 85 : 42 :: 139 : ?  
(A) 68                    (B) 69  
(C) 70                    (D) 67

**Directions**—In questions no. 4 and 5, find the odd number from the given alternatives.

4. (A) 111                    (B) 242  
(C) 551                    (D) 383
5. (A) 80 – 9                (B) 64 – 8  
(C) 36 – 6                (D) 7 – 49

**Directions**—In questions 6 to 8, a series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.

6. Y, S, N, J, G, ?  
(A) F                      (B) E  
(C) H                      (D) I
7. ASY, BRX, CQW, ?  
(A) DVP                    (B) DPV  
(C) PDV                    (D) PQD
8. 56, 42, 30, 20, ?, 6  
(A) 15                      (B) 12  
(C) 18                      (D) 14

Join YouTube Channel

9. Find out the **wrong** number from the given series—  
5, 27, 61, 122, 213, 340, 509  
(A) 27                      (B) 61  
(C) 122                    (D) 509
10. If  $2 \times 2 = 16$ ,  $2 \times 3 = 36$ ,  $2 \times 4 = 64$ , then  $2 \times 6 = ?$   
(A) 72                      (B) 80  
(C) 96                      (D) 144
11. In the following series, the equations are solved on the basis of a certain system. Find out the correct answer for the unsolved equation on that basis.  
 $9 \times 8 \times 6 = 896$ ;  $7 \times 6 \times 8 = 678$ ;  
 $8 \times 7 \times 5 = ?$   
(A) 875                    (B) 785  
(C) 578                    (D) 758
12. If ‘×’ means ‘–’, ‘–’ means ‘×’, ‘+’ means ‘÷’ and ‘÷’ means ‘+’, then  
 $(15 - 10) \div (130 + 10) \times 50 = ?$   
(A) 1800                    (B) 113  
(C) 2000                    (D) 123
13. Substitute the correct mathematical symbols in place of \* in the following equation :  
 $16 * 4 * 5 * 14 * 6$   
(A)  $\div - = \times$             (B)  $- \times + =$   
(C)  $\div \times = +$             (D)  $\div + = -$
14. Find out the missing number.  

8	9	9
6	7	8
9	11	?
39	52	59

  
(A) 10                      (B) 11  
(C) 12                      (D) 13

15. If 'EDITION' is written as 'IDETNOI' how is 'MEDICAL' written in that code ?  
 (A) DEMILAC      (B) LACIMED  
 (C) DIEMCAL      (D) CADILEM

16. If the letters in 'PRABA' are coded as 27595 and 'THILAK' are encoded 368451, how can 'BHARATHI' be coded ?  
 (A) 96575368      (B) 57686535  
 (C) 96855368      (D) 37536689

17. A father tells his son, "I was three times of your present age when you were born." If the father's present age is 48 years, how old was the boy 4 years ago ?  
 (A) 24 years      (B) 8 years  
 (C) 12 years      (D) 16 years

18. A and B are brother and sister respectively. C is A's father, D is C's sister and E is D's mother. How is B related to E ?  
 (A) Grand-daughter  
 (B) Great-grand-daughter  
 (C) Aunt  
 (D) Daughter

19. Four persons M, N, O and P are playing cards. M is on the right of N and P is on the left of O. Then which of the following are partners ?  
 (A) P and O      (B) M and P  
 (C) M and N      (D) N and P

20. Two statements are given followed by two conclusions I and II. You have to consider the two statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follow from the given statements.

**Statements :**

- All English movies are violent.
- Some people like watching English movies.

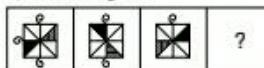
**Conclusions :**

- All people watching English movies like violence.
  - All people who like violence watch English movies.
- (A) Only I follows

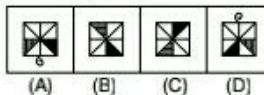
- (B) Only II follows  
 (C) Neither I nor II follows  
 (D) Both I and II follow

21. Select the missing figure from the given responses.

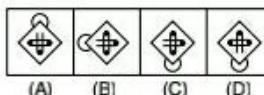
**Question figures**



**Answer figures**



22. Find the odd figure from the given alternatives.

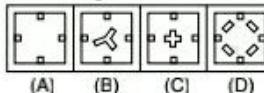


23. A paper is folded and cut as shown in the given question figures. When opened which of the four answer figures will it resemble ?

**Question figures**



**Answer figures**

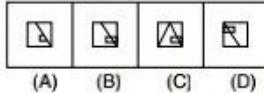


24. Which answer figure will complete the question figure ?

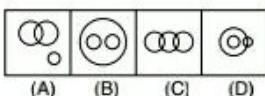
**Question figures**



**Answer figures**



25. Which of the following figures represents the relationship between Building material, Cement and Wood ?



- (A) (B) (C) (D)

**Directions—(Q. 26 to 30)** Study the following information carefully and answer the question given below—

P, Q, R, S, T, V, W and Z are travelling to three destinations Delhi, Chennai and Hyderabad in three different vehicles—Honda City, Swift D'Zire and Ford Ikon. There are three females among them one in each car. There are at least two persons in each car.

R is not travelling with Q and W. T, a male, is travelling with only Z and they are not travelling to Chennai. P is travelling to Honda City to Hyderabad. S is sister of P and travel by Ford Ikon. V and R travel together. W does not travel to Chennai.

26. Who is travelling with W ?

- (A) Only Q  
(B) Only P  
(C) Both P and Q  
(D) Cannot be determined

27. Members in which of the following combinations are travelling in Honda City ?

- (A) PRS                   (B) PQW  
(C) PWS                   (D) Data inadequate

28. In which car are four members travelling ?

- (A) None                   (B) Honda City  
(C) Swift D'zire           (D) Ford Ikon

29. Which of the following combinations represents the three female members ?

- (A) QSZ  
(B) WSZ  
(C) PSZ  
(D) Cannot be determined

30. Members in which car are travelling to Chennai ?

- (A) Honda City  
(B) Swift D'Zire  
(C) Ford Ikon  
(D) Either Swift D'Zire or Ford Ikon

31. If C = 3, CEP = 24, then what will be the value of HUX ?

- (A) 47                   (B) 49  
(C) 51                   (D) 53

32. How many triangles are there in the following figure ?



- (A) 8                   (B) 9  
(C) 12                   (D) 15

33. Complete the series—

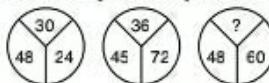
Sunday, Monday, Wednesday, Saturday, Wednesday, Monday, .....

- (A) Sunday, Sunday  
(B) Sunday, Monday  
(C) Sunday, Wednesday  
(D) Sunday, Saturday

34. Which one is the wrong term in the series ?

- 8, 13, 21, 32, 47, 63, 83 .....  
(A) 21                   (B) 13  
(C) 83                   (D) 47

35. Which one will replace the question mark ?



- (A) 40                   (B) 46  
(C) 96                   (D) 75

36. If '-' means addition, '+' means subtraction, 'x' means division and '÷' means multiplication, then—

$$7 - 10 \times 5 \div 6 + 4 = ?$$

- (A) 3                   (B) 12  
(C) 15                   (D) 9

37. 1. A3P means A is the mother of P.

2. A4P means A is the brother of P.

3. A9P means A is the husband of P.

4. A5P means A is the daughter of P.

Which of the following means that K is the mother-in-law of M ?

- (A) M9N3K4J           (B) M9N5K3J  
(C) K5J9M3N           (D) K3J9N4M

Join YouTube Channel

**Directions—(Q. 38–41)** Select the one which is different from other three responses.

- |                 |                 |
|-----------------|-----------------|
| 38. (A) 9       | (B) 18          |
| (C) 117         | (D) 134         |
| 39. (A) Bangle  | (B) Wrist watch |
| (C) Bracelet    | (D) Ring        |
| 40. (A) Spinach | (B) Potato      |
| (C) Carrot      | (D) Ginger      |
| 41. (A) Car     | (B) Scooter     |
| (C) Bus         | (D) Bicycle     |

**Directions—(Q. 42 and 43)** Three of the following four are alike in a certain way (based on the English alphabetical series) and hence form a group. Which is the one that does not belong to that group?

- |  |               |
|--|---------------|
| 42. (A) GKI  | (B) FJG       |
| (C) PIR  | (D) MQO       |
| 43. (A) CXBD   | (B) FUEG      |
| (C) DWCE   | (D) EVGH      |
| 44. A family has a man, his wife, their four sons and their wives. The family of every son also has 3 sons and 1 daughter. Find out the total no. of male members in the whole family—   |               |
| (A) 8  | (B) 12        |
| (C) 17   | (D) 23        |
| 45. In a row of boys, Deepak is 7th from left and Madhur is 12th from right. If they interchange their positions, Deepak becomes 22nd from the left. How many boys are there in the row? |               |
| (A) 19   | (B) 31        |
| (C) 33   | (D) 18        |
| 46. Rajan is the brother of Sachin and Manik is the father of Rajan. Jagat is the brother of Priya and Priya is the daughter of Sachin. Who is the uncle of Jagat?                       |               |
| (A) Rajan  | (B) Sachin    |
| (C) Manik  | (D) Can't Say |
| 47. If 'DISTANCE' is written as 'EKVXFTJM' then how should 'PRESENT' be written in the same code?  |               |
| (A) IDUJLАО  | (B) RCIBVZT   |
| (C) EKTRACQ  | (D) QTHWJTA   |

48. What number will occur in the blank space at the end of the following series?

- |                                    |        |
|------------------------------------|--------|
| 2-3, 4-6, 7-10, 11-15, 16-21, 22-? |        |
| (A) 25                             | (B) 27 |
| (C) 28                             | (D) 29 |

49. A man is performing yoga with his head down legs up his face is towards the EAST. In which direction will his left hand be?

- |           |           |
|-----------|-----------|
| (A) East  | (B) West  |
| (C) South | (D) North |

50. In the sequence AGLPS ..... the next letter is.

- |       |       |
|-------|-------|
| (A) B | (B) R |
| (C) T | (D) U |

## Answers with Explanations

1. (A) As,

C	A	T
+1 ↓	+3 ↓	+5 ↓
D	D	Y

Similarly,

B	I	G
+1 ↓	+3 ↓	+5 ↓
C	L	L

2. (C) As,

A	G	M	S
+2 ↓	+2 ↓	+2 ↓	+2 ↓
C	I	O	U

Similarly,

D	J	P	V
+2 ↓	+2 ↓	+2 ↓	+2 ↓
F	L	R	X

3. (B) As,

$$85 \Rightarrow 85 - 1 = 84 \Rightarrow 84 \div 2 = 42$$

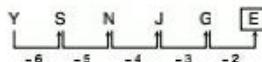
Similarly,

$$\begin{aligned} 139 &\Rightarrow 139 - 1 = 138 \\ &\Rightarrow 138 \div 2 = 69 \end{aligned}$$

4. (B) All the rest are odd numbers.

5. (A) All the rest have numbers and its square.

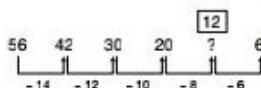
6. (B)



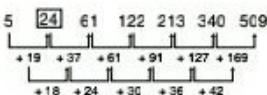
7. (B)

$$\begin{array}{c} A \xrightarrow{+1} B \xrightarrow{+1} C \xrightarrow{+1} D \\ S \xrightarrow{-1} R \xrightarrow{-1} Q \xrightarrow{-1} P \\ Y \xrightarrow{-1} X \xrightarrow{-1} W \xrightarrow{-1} V \end{array}$$

8. (B)



9. (A)



10. (D)  $2 \times 2 = 4 \Rightarrow (4)^2 = 16$

$2 \times 3 = 6 \Rightarrow (6)^2 = 36$

$2 \times 4 = 8 \Rightarrow (8)^2 = 64$

$2 \times 6 = 12$

$\therefore ? = (12)^2 = 144$

11. (B) As,  $9 \times 8 \times 6 \Rightarrow 896$

and  $7 \times 6 \times 8 \Rightarrow 678$

Similarly,  $8 \times 7 \times 5 \Rightarrow 785$

12. (B)  $(15 - 10) \div (130 + 10) \times 50$

$\Rightarrow (15 \times 10) + (130 \div 10) - 50$

$= 150 + 13 - 50$

$= 113$

13. (C)  $16 * 4 * 5 * 14 * 6$

$\Rightarrow 16 + 4 \times 5 = 14 + 6$

$\Rightarrow 4 \times 5 = 14 + 6$

$\Rightarrow 20 = 20$

14. (D) As,  $8 \times 6 - 9 = 39$

and  $9 \times 7 - 11 = 52$

Similarly,  $9 \times 8 - ? = 59$

$\therefore ? = 72 - 59 = 13$

15. (A) As,



Similarly,



16. (A) As,

P	R	A	B	A
↓	↓	↓	↓	↓
2	7	5	9	5
and	T	H	I	L
↓	↓	↓	↓	↓
3	6	8	4	5
				1

Similarly,

B	H	A	R	A	T	H	I
↓	↓	↓	↓	↓	↓	↓	↓
9	6	5	7	5	3	6	8

17. (B) Let the present age of son is  $x$  years, then the age of father at the time of birth will be  $3x$  years. Hence, as per question,

$$3x + x = 48$$

$$\Rightarrow 4x = 48$$

$$\therefore x = 12 \text{ years}$$

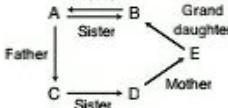
Hence, the age of son 4 years ago

$$= (12 - 4) \text{ years}$$

$$= 8 \text{ years}$$

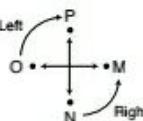
Join YouTube Channel

18. (A)



Therefore B is the Grand-daughter of E.

19. (D)



Therefore N and P are partners.

20. (D)

21. (B) In each subsequent figure the lined and the shaded parts inside of square shift two block clock-wise and the designs out side of the square disappear one by one.

22. (C) The circle is made on the square at the backside of the main design in the rest of others.

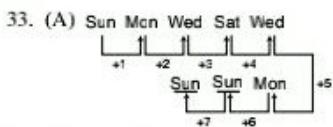
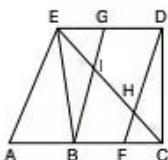
23. (D) 24. (B) 25. (B)

**For Solution Q. 26 to 30 :**

Destination	Vehicles	Person
Delhi	Swift D'zire	T, Z Male Female
Chennai	Ford Ikon	S (Female) R (Male)
Hyderabad	Honda City	V (Male) P, W, Q Male — —

26. (C) Both P & Q are travelling with W.  
 27. (B) PQW are travelling in Honda City.  
 28. (A) None of these car are four members travelling.  
 29. (D) Three Female members can-not be determined.  
 30. (C) Members S, R, V in Ford Ikon car are travelling to Chennai.  
 31. (D) If C = 3  
 $CEP = 3 + 5 + 16 = 24$   
 then, HUX =  $8 + 21 + 24 = 53$

32. (C) There are 12 triangles in the given figure.  
 Which are— [Join YouTube Channel](#)  
 $\Delta ABE, \Delta BIE, \Delta BGE, \Delta IGE, \Delta BEC, \Delta BIC,$   
 $\Delta FHC, \Delta FDC, \Delta CHD, \Delta CDE, \Delta HDE, \Delta AEC.$



34. (D)  $8 + 5 = 13$   
 $13 + 8 = 21$   
 $21 + 11 = 32$   
 $32 + 14 = 46$   
 $46 + 17 = 63$   
 $63 + 20 = 83$

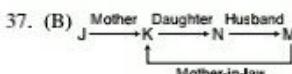
Now 47 is the wrong term in the given series.  
 46 comes instead of 47.

35. (C) It follows rule is—

$$\begin{aligned} 24 \times 2 &= 48 \\ \text{and } 36 \times 2 &= 72 \\ \frac{24}{4} + 24 &= 30 \\ \frac{36}{4} + 36 &= 9 + 36 \\ &= 45 \end{aligned}$$

$$\begin{aligned} \text{Then, } 48 \times 2 &= 96 \\ \frac{48}{4} + 48 &= 12 + 48 \\ &= 60 \end{aligned}$$

36. (C) According to question,  
 $7 - 10 \times 5 \div 6 + 4$   
 $= 7 + 10 \div 5 \times 6 - 4$   
 $= 7 + 2 \times 6 - 4$   
 $= 7 + 12 - 4$   
 $= 15$

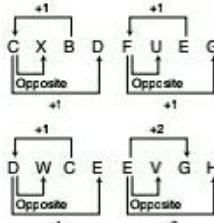


Hence, MNANSKJ mean that K is the mother-in-law of M.

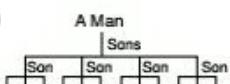
38. (D) Except 134, all numbers are divisible by 3.  
 39. (D) Except all, ring is wear in a finger.  
 40. (A) Except spinach, all are to grow under soil.  
 41. (D) Except Bicycle, all have four wheels.  
 42. (B) Except FJG, all follow the same rule i.e.,



43. (D) Except EVGH, all follow the same rule i.e.,



44. (C)

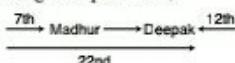


Now total number of male members in whole family

$$= 1 + 4 + 4 \times 3 \\ = 17$$

45. (C)  $\xrightarrow{7\text{th}} \text{Deepak} \longrightarrow \text{Madhur} \xleftarrow{12\text{th}}$ 

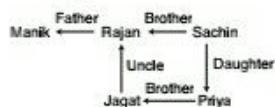
After change the positions,



Hence, number of boys in the row

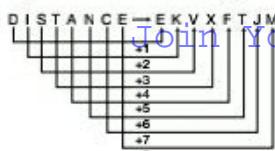
$$= 22 + 12 - 1 \\ = 33$$

46. (A)

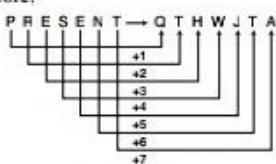


Hence, Rajan is the uncle of Jagat.

47. (D)



Therefore,



48. (C)

$$3 - 2 = 1$$

$$6 - 4 = 2$$

$$10 - 7 = 3$$

$$15 - 11 = 4$$

$$21 - 16 = 5$$

Now,  $22 + 6 = 28$

49. (C) A man is performing yoga with his head down legs up his face is towards the East.



Hence, his left hand will be in **South direction**.

50. (D) A  $\xrightarrow{+6}$  G  $\xrightarrow{+5}$  L  $\xrightarrow{+4}$  P  $\xrightarrow{+3}$  S  $\xrightarrow{+2}$  U

## Part-II English Language

**Directions—(Q. 1-10)** Some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval (●) corresponding to the appropriate letter (A), (B), (C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

1. Subha / is living / in Chennai since 1987.

(A) (B) (C)

No error  
(D)

2. He studied / so hardly / he was sure of

(A) (B) (C)

No error  
(D)

3. Every child in the class / are wearing / sandals

(A) (B) (C)

today.  
(D)

4. This errors / are made / by foreigners. No error.

(A) (B) (C) (D)

5. He is / fatter / than me. No error.

(A) (B) (C) (D)

6. Sundar/is getting married/with Sita. No error

(A) (B) (C) (D)

7. Though we both are of the same height / you

(A)  
are more heavier / than I. No error

(B) (C) (D)

8. On entering the crowding room / I could not

(A)

see one person / whom I knew. No error

(B) (C) (D)

9. After rising the flag to / inaugurate the sports

(A)

meet, the Chairman / gave a long speech.

(B) (C)

No error  
(D)

10. If your coming home tomorrow / let me know  
 (A) at what time / I can expect you. No error  
 (B) (C) (D)

**Directions—(Q. 11–20)** Sentences are given with blanks to be filled in with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blacking the appropriate oval (●) in the Answer Sheet.

11. Will all of you ..... up for prayer ?  
 (A) race (B) raise  
 (C) rise (D) raze
12. A technology-starved customer would only be..... to be presented with a new product.  
 (A) thrilled (B) thriving  
 (C) declarative (D) irritable
13. A number of refugees ..... been turned back at the border.  
 (A) have (B) are  
 (C) has (D) is
14. Neither Shyam ..... Rohit came to the school today.  
 (A) and (B) but  
 (C) or (D) nor
15. The art of cooking ..... in ancient India.  
 (A) was perfected (B) is perfected  
 (C) will perfect (D) perfected
16. Can you tell the difference ..... butter and Margarine.  
 (A) among (B) over  
 (C) with (D) between
17. I'm not very good ..... repair-ing things.  
 (A) about (B) at  
 (C) for (D) in
18. My father is very ..... to me, we play football every evening.  
 (A) friendship (B) friendly  
 (C) friends (D) friend-like
19. He is getting married ..... Maya.  
 (A) to (B) only  
 (C) by (D) with

20. Medical doctors should try to ..... as many patients as possible.  
 (A) hale (B) heel  
 (C) heal (D) kill

**Directions—(Q. 21–23)** Out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

21. CLANDESTINE  
 (A) Secret (B) Family  
 (C) Useful (D) Dangerous
22. ECSTASY  
 (A) Extremism (B) Economy  
 (C) Eclipse (D) joy
23. FETCH  
 (A) Take (B) Order  
 (C) Bring (D) Scoop

**Directions—(Q. 24–26)** Choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

24. Aggressive  
 (A) Inactive (B) Dull  
 (C) Peaceful (D) Doleful
25. Stationary  
 (A) Writing (B) Slowing  
 (C) Standing (D) Moving
26. Doleful  
 (A) Beautiful (B) Mournful  
 (C) Cheerful (D) Deceitful

**Directions—(Q. 27–29)** Four alternatives are given for the Idiom/ Phrase **bold** in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase and mark it in the Answer Sheet.

27. The music group **broke up** unceremoniously.  
 (A) Disbanded itself  
 (B) Went bankrupt  
 (C) Broke each other's instruments  
 (D) Disturbed the neighbourhood
28. She vaguely **takes after** her grandmother.  
 (A) Accepts (B) Constitutes  
 (C) Follows (D) Resembles

Join YouTube Channel

29. I expect my friends to **stand by** me.  
 (A) Release                   (B) Energise  
 (C) Support                  (D) Accompany

**Directions—(Q. 30–34)** A part of the sentence is **bold**. Below are given alternatives to the **bold** part at (A), (B) and (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed, your answer is (D).

30. Modern medicine **promotes** good health.  
 (A) Means                   (B) Preaches about  
 (C) Praises                 (D) No improvement
31. The editor gave me a **time-line** to finish the article.  
 (A) Guideline               (B) Deadline  
 (C) Decline                (D) No improvement
32. Despite having many other opportunities, he **went** for Police Service.  
 (A) Liked                   (B) Opted  
 (C) Selected               (D) No improvement
33. **Presently** she is busy composing the music for her next play. *Join YouTube Channel*  
 (A) At the present        (B) In the present  
 (C) At present             (D) No improvement
34. I love him because he is a good man **by heart**.  
 (A) At heart               (B) Of heart  
 (C) In heart               (D) No improvement

**Directions—(Q. 35–39)** Out of the four alternatives choose the one which can be substituted for the given words/sentence.

35. A large burial ground—  
 (A) Cemetery               (B) Mercenary  
 (C) Emissary               (D) Symmetry
36. A co-worker in an office or institution—  
 (A) Colleague               (B) Companion  
 (C) Ally                    (D) Accomplice
37. One whose motive is merely to get money—  
 (A) Fastidious              (B) Businesslike  
 (C) Mercenary              (D) Polyglot
38. A man who is quite like a woman—  
 (A) Womanly                (B) Feminine  
 (C) Feminist               (D) Effeminate

39. To supply land with water by artificial means—  
 (A) Postulate               (B) Irrigate  
 (C) Mitigate               (D) Watergate

**Directions—(Q. 40–45)** There are four different words out of which one is correctly spelt. Find the correctly spelt word and indicate it by blackening the appropriate oval (●) in the Answer Sheet.

40. (A) Admision            (B) Addimittion  
 (C) Admission             (D) Admition
41. (A) Certeficate        (B) Cirtificate  
 (C) Certificate           (D) Cartifikate
42. (A) Occassionaly       (B) Occassionally  
 (C) Ocassionaly           (D) Occasionaly
43. (A) Acknowlede        (B) Acknowlege  
 (C) Acknolodge           (D) Aknowledge
44. (A) Installasion       (B) Installation  
 (C) Instalation           (D) Insttalation
45. (A) Successfull        (B) Successful  
 (C) Sudcessful            (D) Sucsesful

**Directions—(Q. 46–50)** You have a passage with 5 questions. Read the passage carefully and choose the best answer to each question out of the four alternatives and mark it by blackening the appropriate oval (●) in the Answer Sheet.

## PASSAGE

Developed in New Zealand in the 1990s, originally as a means of crossing water, zorbing involves rolling downhill in a large, PVC ball, and an activity which requires no more skill than that of a hamster running inside its wheel. The three-metre zorb has two skins, with the area between them inflated to provide effective cushioning and so prevent zorbonauts from hurting themselves as they hurtle along at speeds of up to 50 kilometre per hour. Zorbers are also harnessed inside the ball to stop them moving around. In 'Hydrozorbing' however, you have to do away with the straps and slide around in a bucket or two of water. This version can be enjoyed alone, or you can share the experience with up to two other people inside the same zorb. But don't be surprised if you get the odd bump or bruise!

46. Hydrozorbing is—  
 (A) Zorbing with a two-member team  
 (B) A form of zorbing in air  
 (C) A very violent form of zorbing  
 (D) A form of zorbing in or with water
47. Zorbing is—  
 (A) An indoor game  
 (B) A form of transport  
 (C) A form of sport  
 (D) A stunt act in a circus
48. Zorbing is fairly safe because—  
 (A) It does not demand any speed  
 (B) There is adequate cushioning in the zorbs  
 (C) It does not require much skill  
 (D) The PVC balls are airtight
49. The author implies that zorbing—  
 (A) Builds up team spirit  
 (B) Involves a lot of skills and a fair amount of risks  
 (C) Requires a hamster to run inside the wheels  
 (D) Was not at first intended as a land based sport
50. The people who actively take up zorbing are called—  
 (A) Zorbers                                  (B) Zorboes  
 (C) Zorbs                                     (D) Zorbingers

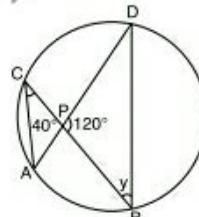
### Answers with Explanations

- (B) Change 'is living' to 'has been living'
- (B) Change 'hardly' to 'hard'
- (B) Change 'are' to 'is'
- (A) Change 'This' to 'These'
- (D)
- (C) Change 'with' to 'to'
- (B) Change 'more'. It is redundant
- (A) Change 'crowding' to 'crowded'
- (A) Change 'rising' to 'raising'
- (A) Change 'your coming' to 'you are coming'.
- (C) 12. (A) 13. (C) 14. (D) 15. (D)
- (D) 17. (B) 18. (B) 19. (A) 20. (C)
- (A) 22. (D) 23. (C) 24. (C) 25. (D)

26. (C) 27. (A) 28. (D) 29. (C) 30. (D)  
 31. (B) 32. (B) 33. (C) 34. (D) 35. (A)  
 36. (A) 37. (C) 38. (D) 39. (B) 40. (C)  
 41. (C) 42. (A) 43. (A) 44. (B) 45. (B)  
 46. (D) 47. (C) 48. (C) 49. (C) 50. (A)

## Part—III Quantitative Aptitude

- Two men P and Q start a journey from some place at a speed of  $a$  km/hr and  $3\frac{1}{2}$  km/hr respectively. If they move in same direction then what is the distance between them after 4 hours ?  
 (A) 3 km                                     (B)  $2\frac{1}{2}$  km  
 (C) 2 km                                     (D)  $3\frac{1}{2}$  km
- A 500 m long goods train crosses a platform in 36 seconds. If the length of the platform is 220 m, then what is the speed of the goods train in km/hr ?  
 (A) 60                                        (B) 72  
 (C) 80                                        (D) 85
- The sum due in 219 days hence whose present worth at  $5\frac{1}{2}\%$  of ₹ 400 is : ?  
 (A) ₹ 300                                    (B) ₹ 312  
 (C) ₹ 390                                    (D) ₹ 413.20
- Omdutt started a business with a capital of ₹ 8000. After six months, Sanjay joined him with investment of some capital. If at the end of the year each of them gets equal amount as profit, how much did Sanjay invest in the business ?  
 (A) ₹ 18000                                (B) ₹ 17500  
 (C) ₹ 16000                                (D) ₹ 16500
- The height of a cone is 7 cm and diameter of its base is 14 cm. What is the volume of the cone ?  
 (A)  $411.6 \text{ cm}^3$                             (B)  $359.3 \text{ cm}^3$   
 (C)  $442.6 \text{ cm}^3$                             (D)  $450.6 \text{ cm}^3$
- The inner diameter of a well is 8 m. If the well is 14 m deep, then what is the volume ?

- (A)  $459 \text{ m}^3$       (B)  $981 \text{ m}^3$   
 (C)  $778 \text{ m}^3$       (D)  $704 \text{ m}^3$
7. HCF of  $x^2 - y^2$  and  $x^3 - y^3$  is—  
 (A)  $x - y$   
 (B)  $x^3 - y^3$   
 (C)  $(x^2 - y^2)$   
 (D)  $(x + y), (x^2 + xy + y^2)$
8.  $(4x + 3y)^2 + (4x - 3y)^2$  is equal to—  
 (A)  $16x^2 - 9y^2$       (B)  $32x^2 + 18y^2$   
 (C)  $16x^2 + 9y^2$       (D)  $32x^2 + 9y^2$
9. If base diameter of a cylinder is increased by 50%, then by how much per cent its height must be decreased so as to keep its volume unaltered ?  
 (A) 45.56%      (B) 55.56%  
 (C) 50.16%      (D) 62.33%
10. The surface area of a cube is 600 sq m. Its diagonal is—  
 (A)  $10\sqrt{3} \text{ cm}$       (B)  $5\sqrt{3} \text{ cm}$   
 (C)  $4\sqrt{3} \text{ cm}$       (D)  $10\sqrt{2} \text{ cm}$
11. If  $\sin \theta = -\frac{3}{5}$ , and  $\theta$  lies in the third quadrant, then the value of  $\cos(\theta/2)$  is—  
 (A)  $\frac{1}{5}$       (B)  $\frac{-1}{\sqrt{10}}$   
 (C)  $\frac{-1}{5}$       (D)  $\frac{1}{\sqrt{10}}$
12. If  $(\sec \alpha + \tan \alpha)(\sec \beta + \tan \beta)(\sec \gamma + \tan \gamma) = \tan \alpha \tan \beta \tan \gamma$ , then  $(\sec \alpha - \tan \alpha)(\sec \beta - \tan \beta)(\sec \gamma - \tan \gamma) = ?$   
 (A)  $\cot \alpha \cot \beta \cot \gamma$   
 (B)  $\tan \alpha \tan \beta \tan \gamma$   
 (C)  $\cot \alpha + \cot \beta + \cot \gamma$   
 (D)  $\tan \alpha + \tan \beta + \tan \gamma$
13.  $(16)^{-3/4} + 2^{-3} + (8)^{-2/3}$  is equivalent to—  
 (A)  $\frac{1}{2}$       (B)  $\frac{3}{2}$   
 (C)  $\frac{9}{2}$       (D)  $\frac{5}{4}$
14. If two triangles are on the same base and between the parallel lines, then they will be—  
 (A) equilaterals      (B) right angled  
 (C) equal in area      (D) congruent
15. In the fig. if  $\angle ACB = 40^\circ$ ,  $\angle DPB = 120^\circ$ , then find  $y$ .
- 
- (A)  $10^\circ$       (B)  $20^\circ$   
 (C)  $15^\circ$       (D)  $25^\circ$
- Directions**—The bar graph as shown below gives information about the sale and profit details of a departmental store during the years from 2001-08. Study the graph carefully and answer the questions asked here under.
- | Year | Sale (in lakhs) | Profit (in ten thousand) |
|------|-----------------|--------------------------|
| 2001 | 3.5             | 6.5                      |
| 2002 | 4.5             | 11.5                     |
| 2003 | 7.5             | 4.5                      |
| 2004 | 7.5             | 4.5                      |
| 2005 | 9.5             | 16.5                     |
| 2006 | 8.5             | 11.5                     |
| 2007 | 8.5             | 10.0                     |
| 2008 | 10.5            | 8.5                      |
- Sale and Profit Details (2001-08)**  
 (Sale : ₹ in lakhs)      (Profit : ₹ in ten thousand)
16. Mean of annual increase in sale from 2003 to 2008 (rupees in lakhs) is—  
 (A) 0.1      (B) 0.2  
 (C) 0.3      (D) 0.4
17. Annual mean profit of the store (rupees in ten thousands) is approximately—  
 (A) 8.5      (B) 8.6  
 (C) 8.7      (D) 9.0
18. During which of the following years percentage of profit earned by the store on the total sale was at the highest level ?  
 (A) 2001      (B) 2002  
 (C) 2003      (D) 2005

19. Assuming the profit earned during the year 2001 as base (100), the profit made by the store during the year 2008 was—

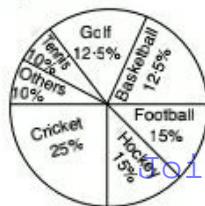
(A) 76                   (B) 105  
(C) 121                  (D) 131

20. During which year between 2001 to 2006 profit made by the store as compared to the previous year was more than 100% ?

(A) 2008               (B) 2007  
(C) 2005               (D) 2003

**Directions**—The pie chart, drawn, shows the spending of a country on various sports during a particular year. Study the graph carefully and answer the questions that follow.

21. Graph shows that the most popular game of the country is—



(A) Football           (B) Hockey  
(C) Cricket           (D) Tennis

22. Out of the following the country spent the same amount on—

(A) Hockey and Cricket  
(B) Hockey and Football  
(C) Hockey and Golf  
(D) Tennis and Golf

23. The ratio of the total amount spent on football to that spent on hockey is ?

(A) 2 : 1              (B) 1 : 1  
(C) 1 : 2              (D) 3 : 2

24. If the total amount spent on sports during the year was ₹ 12,00,000 how much was spent on basket-ball ?

(A) ₹ 16,00,000       (B) ₹ 18,00,000  
(C) ₹ 3,00,000       (D) ₹ 15,00,000

25. If the total amount spent on sports during the year was ₹ 30,00,000 the amount spent on Cricket and Hockey together was—

(A) ₹ 18,00,000       (B) ₹ 12,00,000  
(C) ₹ 15,00,000       (D) ₹ 20,00,000

26. If 3 men or 4 women can construct a wall in 43 days, then in how many days 7 men and 5 women will construct it ?

(A) 12 days           (B) 13 days  
(C) 16 days           (D) 15 days

27. A man purchases an item at 4/5th of its selling price and sold it at 12% more than its selling price. His gain will be—

(A) 40%               (B) 50%  
(C) 20%               (D) 30%

28. An insect flies from the corner A to corner B of a cubic room in 4 second where A and B are diagonally opposite corners. The side of the room is 4 m. The speed of the insect is—

(A)  $\sqrt{3}$  m/sec       (B)  $2\sqrt{3}$  m/sec  
(C)  $\sqrt{2}$  m/sec       (D)  $2\sqrt{2}$  m/sec

29. A horse and a dog were sold for ₹ 12,000 each. The horse was sold at a loss of 20% and the dog at a gain of 20%. The entire transaction resulted in—

(A) Loss of ₹ 1000   (B) Gain of ₹ 1000  
(C) Gain of ₹ 2000   (D) No loss or gain

30. A sum of money invested at compound interest amounts in 3 years to ₹ 800 and in 4 years to ₹ 840. What is the percentage rate of interest ?

(A) 3%               (B) 10%  
(C) 5%               (D) 4%

31. Find the area of a triangle whose base is 25 cm long and corresponding height is 10.8 cm—

(A) 135 cm<sup>2</sup>       (B) 531 cm<sup>2</sup>  
(C) 153 cm<sup>2</sup>       (D) None of these

32. The base of an isosceles triangle measures 24 cm and its area is 192 cm<sup>2</sup>. Find its perimeter—

(A) 20 cm           (B) 24 cm  
(C) 16 cm           (D) 64 cm

33. A watch was sold at a profit of 15%. If its cost had been 5% less and it had been sold for ₹ 21 less, then the profit would have been 10%. Find the cost price of the watch—

100P | SSC Higher Secondary Level (10 + 2)

- (A) ₹ 400      (B) ₹ 190      (C) ₹ 200      (D) None of these      (A) 6      (B) 8      (C) 4      (D) 5
34. Rajeev purchased 100 pieces of an article @ ₹ 480 per piece. He then listed the price so as to gain a profit of 25%. While selling the articles he offered a discount of 5%. What is the percentage of profit earned in the deal ?  
 (A) 18.75      (B) 19.50      (C) 15.00      (D) 20.00
35. Priya deposited two parts of a sum of ₹ 25,000 in different banks at the rates of 15% per annum and 18% per annum respectively. In one year she got ₹ 4,050 as the total interest. What was the amount deposited at the rate of 15% per annum ?  
 (A) 12,000      (B) 15,000      (C) 16,000      (D) 10,000
36. The average age of 33 boys and the class teacher in a class is 14 years. If the class teacher's age is 47 years. What would the average age of only the boys ?  
 (A) 12 years      (B) 14 years      (C) 15 years      (D) 3 years
37. The value of  

$$\left[ \frac{0.953 \times 0.953 - 0.953 \times 0.047}{0.953 \times 0.953 + 0.953 \times 0.047} + \frac{0.047 \times 0.047}{0.953 \times 0.953 + 0.953 \times 0.047} \right]$$
- is—  
 (A) 1.5      (B) 1.00      (C) 0.87      (D) None of these
38. The greatest number that will divide 187, 233 and 279 leaving the same remainder in each case is—  
 (A) 49      (B) 54      (C) 46      (D) 36
39. If the difference between simple and compound interest on some principal amount at 20% per annum for three years is ₹ 48, then the principal amount is—  
 (A) ₹ 475      (B) ₹ 375      (C) ₹ 550      (D) None of these
40. The speed of a car is 60 km/hr. The time taken to cover a distance of 300 km in hours is—  
 41. The distance between two cities A and B is 520 km. One car starts from city A towards city B with the speed of 60 km/hr. At the same time, another car starts from city B towards city A with a speed of 70 km/hr. After how many hours they will cross each other ?  
 (A) 5 hours      (B) 6 hours      (C) 3 hours      (D) 4 hours
42. If the selling price is doubled, the profit triples. Find the profit per cent—  
 (A) 50%      (B) 200%      (C) 300%      (D) None of these
43. The lengths of the sides of an isosceles triangle are in the ratio 3 : 3 : 5. The lengths of the equal sides of the triangle is 6.6 cm. What is the perimeter of the triangle ?  
 (A) 23.5 cm      (B) 24.0 cm      (C) 24.2 cm      (D) 25.0 cm
44. P sells a table to Q at a profit of 10% and Q sells it to R at a profit of 12%. If R pays ₹ 246.40 for it, then how much had P paid for it ?  
 (A) 300      (B) 248      (C) 346      (D) 200
45. If 0.06% of a number is 84, then 30% of that number is—  
 (A) 42,000      (B) 2,520      (C) 25.2      (D) 420
46. The volume of a cylindrical tank is 12320 litre and its radius and height are in the ratio of 7 : 10 respectively. What is the height of the tank ?  
 (A) 2.8 metre      (B) 2 metre      (C) 1.4 metre      (D) None of these
47. The value of  

$$1 + [1 + 1 + \{1 + 1 + (1 + 1 + 2)\}]$$
  
 is—  
 (A)  $\frac{5}{8}$       (B)  $\frac{8}{5}$       (C) 1      (D) None of these

48. In a cricket game Dhoni is out for 52 runs which raises his average from 36 to 37. How many runs would he have to score in that innings (in which he scored 52) to raise his average to 39 ?  
 (A) 72                    (B) 84  
 (C) 100                  (D) 82
49. How many kilogram of sugar costing ₹ 9 per kg must be mixed with 27 kg of sugar costing ₹ 7 per kg so that there may be a gain of 10% by selling the mixture at ₹ 9.24 per kg ?  
 (A) 55 kg                (B) 68 kg  
 (C) 63 kg                (D) None of these
50. Anil can do a work in 10 days and Babu in 8 days. Anil and Babu can do the work on alternate days. If Anil begins the work, then the work can be finished in how many days ?  
 (A) 9 days                (B) 12 days  
 (C) 7 days                (D) 8 days

### Answers with Explanations

[Join Youtube Channel](#)

1. (C) Distance after 1 hr

$$= \left( 3\frac{1}{2} - 3 \right)$$

$$= \frac{1}{2}$$

$$\text{After 4 hr} = 4 \times \frac{1}{2} = 2 \text{ km}$$

2. (B) Total distance covered = length of platform + length of train = 500 + 220 = 720 m

$$\begin{aligned}\text{Speed} &= \frac{\text{distance}}{\text{time}} = \frac{720}{36} \\ &= 20 \text{ m/s} \\ &= \frac{20 \times 18}{5} = 72 \text{ km/hr}\end{aligned}$$

3. (D)  $P = ₹ 400, R = 5\frac{1}{2} = \frac{11}{2}\%$

$$T = \frac{219}{365} \text{ yrs.}$$

$$\text{S.I.} = \frac{PRT}{100}$$

$$= \frac{400 \times 11}{100 \times 2} \times \frac{219}{365}$$

$$= \frac{66}{5} = 13.20$$

$$\text{Due amount} = 400 + 13.20 = 413.20$$

4. (C) Let Sanjay invested ₹  $x$ .

Note — For equal profit sharing

Amount  $\times$  time must be equal.

$$8000 \times 12 = x \times 6$$

$$\begin{aligned}x &= 8000 \times \frac{12}{6} \\ &= ₹ 16,000\end{aligned}$$

5. (B)  $h = 7 \text{ cm}, r = \frac{14}{2} = 7 \text{ cm}$

$$\begin{aligned}V &= \frac{1}{3} \pi r^2 \cdot h \\ &= \frac{1}{3} \times \frac{22}{7} \times 7^2 \times 7 \\ &= \frac{22 \times 49}{3} = \frac{1078}{3} \\ &= 359.3 \text{ cm}^3\end{aligned}$$

6. (D) Note : A well has cylindrical shape.

$$\begin{aligned}h &= 14 \text{ m} \\ \text{Volume} &= \pi r^2 \cdot h \\ &= \frac{22}{7} \times 4^2 \times 14 \\ &= 22 \times 32 \\ &= 704 \text{ m}^3\end{aligned}$$

7. (A)  $x^2 - y^2 = (x+y)(x-y)$   
 $x^3 - y^3 = (x-y)(x^2 + xy + y^2)$

$$\text{HCF} = (x-y)$$

8. (B)  $(a+b)^2 + (a-b)^2 = 2(a^2 + b^2)$   
 $(4x+3y)^2 + (4x-3y)^2$   
 $= 2\{(4x)^2 + (3y)^2\}$   
 $= 2\{16x^2 + 9y^2\}$   
 $= 32x^2 + 18y^2$

9. (B) When radius =  $r$ , height =  $h$ ,  $V = \pi r^2 \cdot h$   
 Diameter increased by 50%

$$\text{New radius} = \frac{150}{100} r = \frac{3}{2} r$$

$$\text{New height} = H (\text{let})$$

$$\text{New volume} = \text{Previous volume}$$

$$\pi \left(\frac{3}{2}r\right)^2 \cdot H = \pi r^2 \cdot h$$

$$\frac{9}{4}r^2 \cdot H = \pi r^2 \cdot h$$

$$H = \frac{4}{9}h$$

% decrease in height

$$= \frac{\left(h - \frac{4}{9}h\right)}{h} \times 100$$

$$= \frac{5h}{9h} \times 100$$

$$= 55.56\%$$

$$10. (A) S.A. = 600$$

$$\Rightarrow 6a^2 = 600$$

$$a = 10 \text{ cm}$$

Diagonal =  $a\sqrt{3} = \sqrt[10]{3} \text{ cm}$

$$11. (D) \sin \theta = -\frac{3}{5}$$

$$\sin^2 \theta + \cos^2 \theta = 1$$

$$\left(-\frac{3}{5}\right)^2 + \cos^2 \theta = 1$$

$$\cos^2 \theta = 1 - \frac{9}{25}$$

$$\cos \theta = \frac{4}{5}$$

$$\cos \theta = -\frac{4}{5}$$

$$\cos \frac{2\theta}{2} - 1 = -\frac{4}{5}$$

$$2 \cos^2 \frac{\theta}{2} = -\frac{4}{5}$$

$$(\because \cos 2\theta = 2 \cos^2 \theta - 1)$$

$$2 \cos^2 \frac{\theta}{2} = \frac{-4}{5} + 1 = \frac{1}{5}$$

$$\cos^2 \frac{\theta}{2} = \frac{1}{10}$$

$$\cos \theta = \frac{1}{\sqrt{10}}$$

$$12. (A) \text{From } \sec^2 \theta - \tan^2 \theta = 1$$

$$(\sec \theta + \tan \theta)(\sec \theta - \tan \theta) = 1$$

$$\Rightarrow (\sec \theta - \tan \theta) = \frac{1}{\sec \theta + \tan \theta}$$

$$(\sec \alpha - \tan \alpha)(\sec \beta - \tan \beta)(\sec \gamma - \tan \gamma)$$

$$\frac{1}{(\sec \alpha + \tan \alpha)} \cdot \frac{1}{(\sec \beta + \tan \beta)} \cdot \frac{1}{(\sec \gamma + \tan \gamma)}$$

$$= \frac{1}{\tan \alpha \cdot \tan \beta \cdot \tan \gamma}$$

$$= \cot \alpha \cdot \cot \beta \cdot \cot \gamma$$

$$13. (A) 16^{-\frac{3}{4}} + 2^{-3} + 8^{-\frac{2}{3}}$$

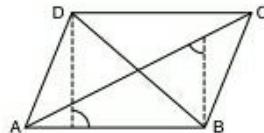
$$(2^4)^{-\frac{3}{4}} + 2^{-3} + (2^3)^{-\frac{2}{3}}$$

$$= 2^{-3} + 2^{-3} + 2^{-2}$$

$$= \frac{1}{2^3} + \frac{1}{2^3} + \frac{1}{2^2}$$

$$= \frac{1}{8} + \frac{1}{8} + \frac{1}{4} = \frac{4}{8} = \frac{1}{2}$$

$$14. (C)$$



Equal in area.

$$15. (B) \angle CAD = 180^\circ - (\angle ACB + \angle CPA) \\ = 180^\circ - 160^\circ = 20^\circ$$

$$Y = \angle CAD = 20^\circ.$$

$$16. (D) \text{Total increase in sale (2003-2008)}$$

$$= 10.5 - 8.5 = 2.0$$

$$\text{Mean} = \frac{2.0}{5} = 0.4$$

$$17. (C) \text{Annual Mean Profit}$$

$$= \frac{\text{Total Profit}}{\text{No. of years}}$$

$$= \frac{6.5 + 11.5 + 7.5 + 4.5 + 9.5}{8} \\ + 11.5 + 10.0 + 8.5$$

$$= \frac{69.5}{8} = 8.7$$

$$18. (B) 2001 :$$

$$\frac{6.5 \times 10,000}{3.5 \times 1,00,000} \times 100 = \frac{650}{35} \\ = 18.55\%$$

$$2002 :$$

$$\frac{11.5 \times 10,000}{4.5 \times 1,00,000} \times 100 = \frac{230}{9} \\ = 25.55\%$$

- 2003 :  $\frac{7.5 \times 10,000}{8.5 \times 1,00,000} \times 100 = \frac{150}{17} = 8.8\%$   $= \frac{28}{3}$  women  
7 men + 5 women  $= \frac{28}{3} + \frac{15}{3} = \frac{43}{3}$  women
- 2005 :  $\frac{9.5 \times 10,000}{5.5 \times 1,00,000} \times 100 = \frac{190}{11} = 17.2\%$  4 women construct the wall in 43 days  
1 woman constructs the wall in  $= 43 \times 4$  days
19. (D)  $\frac{100}{6.5} \times 8.5 = \frac{1700}{13} = 131$
20. (C) We can observe that—  
 2008 :  $\frac{8.5}{10.5} = \frac{17}{21}$   $\frac{43}{3}$  women construct the wall in  
 2007 :  $\frac{10.5}{8.5} = \frac{20}{17}$   $= 43 \times 4 \div \frac{43}{3}$   
 2006 :  $\frac{11.5}{8.5} = \frac{23}{17}$   $= 43 \times 4 \times \frac{3}{43}$   
 2005 :  $\frac{9.5}{5.5} = \frac{19}{11}$   $= 12$  days  
 2004 :  $\frac{4.5}{7.5} = \frac{9}{15} = \frac{3}{5}$   
 (2005) :  $\frac{19}{11} > \frac{3}{5}$  27. (A) Let S. P. be ₹ 100.  
According to question—  
C. P.  $= \frac{4}{5} \times 100 = ₹ 80$   
New S. P. = 112% of S. P.  
 $= 112 \times \frac{100}{100} = 112$   
Gain  $= 112 - 80 = 32$   
Gain %  $= \frac{32}{80} \times 100 = 40\%$
- Hence, we can say that profit made in 2005 is more than 100% as compared to 2004.
21. (C) Money spent on cricket  
 $= 25\%$  is most
22. (B) Hockey = Football = 15%
23. (B)  $\frac{15\%}{15\%} = 1 : 1$
24. (D)  $100\% = 1,20,00,000$   
 $12.5\% = \frac{1,20,00,000}{100} \times 12.5 = 15,00,000$
25. (B)  $100\% = 30,00,000$   
 $(20 + 15\%) = 40\%$   
 $40\% = \frac{30,00,000}{100} \times 40 = 12,00,000$
26. (A) 3 men = 4 women  
1 man  $= \frac{4}{3}$  women  
7 men  $= \frac{4}{3} \times 7$  women
- Join YouTube Channel
28. (A)  
Side of the cubical room = 4 m  
Diagonal = Distance covered by the insect  
 $= 4\sqrt{3}$  m  
Speed  $= \frac{\text{Distance covered}}{\text{Time taken}}$   
 $= \frac{4\sqrt{3}}{4} = \sqrt{3}$  m/s
29. (A)  
80% of horse's C. P. = 12000  
Horse's C. P.  $= \frac{12000}{80} \times 100 = ₹ 15000$

$$120\% \text{ of dog's C. P.} = ₹ 12000$$

$$\begin{aligned}\text{Dog's C. P.} &= \frac{12000}{120} \times 100 \\ &= ₹ 10000\end{aligned}$$

$$\begin{aligned}\text{Total C. P.} &= 15000 + 10000 \\ &= ₹ 25000\end{aligned}$$

$$\begin{aligned}\text{Total S. P.} &= 12000 + 12000 \\ &= ₹ 24000\end{aligned}$$

$$\therefore \text{S. P.} < \text{C. P.}$$

$$\therefore \text{Loss} = 25000 - 24000 \\ = ₹ 1000$$

$$\begin{aligned}30. \text{ (C) For 1 year } \text{S. I.} &= \text{C. I.} \\ &= 840 - 800 \\ &= ₹ 40 \\ \text{Rate \%} &= \frac{40}{800} \times 100 \\ &= 5\%\end{aligned}$$

$$\begin{aligned}31. \text{ (A) Area} &= \frac{1}{2} \text{base} \times \text{Height} \\ &= \frac{1}{2} \times 25 \times 10.8 \\ &= 135.0 \text{ cm}^2\end{aligned}$$

$$\begin{aligned}32. \text{ (D) Base} &= 24 \text{ cm} \\ \text{Height} &= \frac{\text{Area} \times 2}{\text{Base}} \\ &= \frac{112 \times 2}{24} \\ &= 16 \text{ cm} \\ a^2 &= 12^2 + 16^2 \\ &= 144 + 256 \\ &= 400 \\ a &= 20 \text{ cm}\end{aligned}$$

$$\begin{aligned}\text{Perimeter} &= 2 \times a + 24 \\ &= 40 + 24 \\ &= 64 \text{ cm}\end{aligned}$$

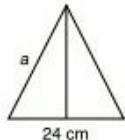
$$\begin{aligned}33. \text{ (C) Let C. P.} &= ₹ 100x \\ \text{Then S. P.} &= 115x \\ \text{When C. P.} &= (100 - 5)x \\ &= 95x\end{aligned}$$

$$\text{and S. P.} = 115x - 21$$

$$\text{Then Gain} = 10\% \text{ of } 95x$$

$$= 9.5x$$

$$9.5x = 115x - 21 - 95x$$



$$9.5x = 20x - 21$$

$$10.5x = 21$$

$$x = \frac{21}{10.5}$$

$$\begin{aligned}\text{C. P.} &= 100x \\ &= 100 \times 2 \\ &= ₹ 200\end{aligned}$$

$$34. \text{ (A) C. P. of 1 piece} = ₹ 480$$

$$\begin{aligned}\text{List price} &= 125\% \text{ of } 480 \\ &= \frac{125 \times 480}{100} \\ &= ₹ 600\end{aligned}$$

$$\begin{aligned}\text{S. P.} &= 95\% \text{ of } 600 \\ &= \frac{95}{100} \times 600\end{aligned}$$

$$= ₹ 570$$

$$\begin{aligned}\text{Profit \%} &= \frac{(570 - 480)}{480} \times 100 \\ &= \frac{90}{480} \times 100 = \frac{150}{8} \\ &= 18.75\%\end{aligned}$$

$$35. \text{ (B) Let the amount deposited @ 15\% is } x.$$

Join YouTube channel

$$\text{Total interest}$$

$$= \frac{x \times 15}{100} + \frac{(25000 - x) \times 18}{100}$$

$$4050 = \frac{1}{100}(25000 \times 18 - 18x + 15x)$$

$$405000 = 450000 - 3x$$

$$3x = 450000 - 405000$$

$$\begin{aligned}x &= \frac{45000}{3} \\ &= ₹ 15000\end{aligned}$$

$$36. \text{ (D) Average age of boys only}$$

$$= \frac{34 \times 14 - 47}{33}$$

$$= \frac{476 - 47}{33}$$

$$= \frac{429}{33}$$

$$= 13 \text{ years}$$

$$37. \text{ (B)}$$

$$\begin{aligned}0.953 \times 0.953 - 0.953 \times 0.047 \\ + 0.047 \times 0.047 \\ \hline 0.953 \times 0.953 \times 0.953 + 0.047 \\ \times 0.047 \times 0.047\end{aligned}$$

$$\left( \text{since } \frac{a^2 - ab + b^2}{a^3 + b^3} = \frac{1}{a+b} \right)$$

$$\therefore \frac{1}{0.953 + 0.047} = \frac{1}{1}$$

$$= 1.00$$

38. (C)  $233 - 187 = 46$

$279 - 233 = 46$

Required number = 46

39. (B)  $x = P \left( \frac{R}{100} \right)^2 \left( 3 + \frac{R}{100} \right)$

$$48 = P \left( \frac{20}{100} \right)^2 \left( 3 + \frac{20}{100} \right)$$

$$48 = \frac{P}{25} \times \frac{16}{5}$$

$$\therefore P = ₹ 375$$

40. (D) Time taken =  $\frac{300}{60} = 5$  hours

41. (D) Distance = 520 km

$$\begin{aligned} \text{Net speed} &= 60 + 70 \\ &= 130 \text{ km/hr} \end{aligned}$$

Time taken to cross each other

$= \frac{520}{130}$

$= 4 \text{ hours}$

42. (D) Let the, C.P. =  $x$

S.P. =  $y$

$\therefore \text{Profit} = \text{S.P.} - \text{C.P.}$

$= y - x$

If S.P. is doubled

$\therefore \text{S.P.} = 2y$

$\therefore \text{Now profit} = \text{S.P.} - \text{C.P.}$

$= 2y - x$

$\Rightarrow 2y - x = 3(y - x)$

$\Rightarrow 2y - x = 3y - 3x$

$\therefore y = 2x$

$$\begin{aligned} \therefore \text{Profit \%} &= \frac{(y-x)}{x} \times 100\% \\ &= \frac{(2x-x)}{x} \times 100\% \\ &= \frac{x}{x} \times 100\% \\ &= 100\% \end{aligned}$$

43. (C) Length of the longest side

$= \frac{6.6}{3} \times 5 = 11.0 \text{ cm}$

Perimeter =  $6.6 + 6.6 + 11$

$= 13.2 + 11$

$= 24.2 \text{ cm}$

44. (D) Let C.P. for P = 100%

then C.P. for Q = 110%

Now, C.P. for R =  $\frac{110 \times 112}{100}\%$

$1\% = \frac{246.40 \times 10}{112 \times 11} = 2$

Required money paid by

$P = 100\% = ₹ 200$

45. (A) 0.06% = 84

$$\begin{aligned} 30\% &= \frac{84}{0.06} \times 30 \\ &= 42000 \end{aligned}$$

46. (B)  $\pi r^2 \cdot h = \frac{12320}{1000}$  (1m<sup>3</sup> = 1000 litre)

$\frac{\frac{22}{7} \times 7 \times 7 \times 10}{7} = \frac{12320}{1000}$

$r^3 = \frac{12320}{22 \times 7 \times 10 \times 1000}$

$r^3 = \frac{8}{1000}$

$r = \frac{2}{10}$

$h = 10r$

$= \frac{2}{10} \times 10 = 2 \text{ m}$

47. (A)

$1 + [1 + 1 + \{1 + 1 + (1 + 1 + 2)\}]$

$= 1 + \left[ 1 + 1 + \left\{ 1 + 1 + \left( \frac{3}{2} \right) \right\} \right]$

$= 1 + \left[ 1 + 1 + \frac{5}{3} \right]$

$= 1 + \frac{8}{5} = \frac{5}{8}$

48. (B) As per question—

$36 = \frac{\Sigma X}{N}$

$\Rightarrow \Sigma X = 36N$

...(1)

$$\text{Again, } 37 = \frac{\Sigma X + 52}{N + 1}$$

$$\Rightarrow 37(N + 1) = 36N + 52$$

$$\Rightarrow 37N + 37 = 36N + 52$$

$$\Rightarrow N = 52 - 37$$

$$\therefore N = 15$$

Again as per question let the required number of runs is  $y$ . Then

$$39 = \frac{\Sigma X + y}{15 + 1}$$

$$39 \times 16 = 36 \times 15 + y$$

$$624 = 540 + y$$

$$\therefore y = 624 - 540$$

$$= 84$$

$$49. (C) 110\% = 9.24$$

$$100\% = \frac{9.24}{110} \times 100 \\ = ₹ 8.40$$

Let  $x$  kg sugar @ ₹ 9 kg mixed, then

$$\frac{9x + 7 \times 27}{27 + x} = 8.40$$

$$27 \times 8.40 + 8.4x = 9x + 7 \times 27$$

$$0.6x = 27 \times 8.4 - 27 \times 7$$

$$x = \frac{27(8.4 - 7)}{0.6} \\ = \frac{27 \times 1.4}{0.6} \\ = 63 \text{ kg}$$

$$50. (A) \text{ In } 1 \text{ day Anil does } = \frac{1}{10}$$

$$\text{and Babu does } = \frac{1}{8}$$

When starting with Anil they do in 2 days

$$= \frac{1}{10} + \frac{1}{8} = \frac{9}{40}$$

Work done by both in 8 days

$$= \frac{9}{40} \times 8 \\ = \frac{9}{5}$$

Remaining  $\frac{1}{10}$  is done by Anil on 9th day.

$$\text{Total number of days} = 8 + 1 \\ = 9 \text{ days}$$

## Part—IV General Awareness

- Firms under perfectly competitive markets generally are—  
(A) Price makers      (B) Price givers  
(C) Price takers      (D) Price fixers
- Select the odd one in the following—  
(A) Petroleum      (B) Coal  
(C) Fuel wood      (D) Electricity
- National Income is—  
(A) Net National Product – Indirect Taxes + Subsidies  
(B) Gross National Product – Direct Taxes  
(C) Gross Domestic Product – Imports  
(D) Net Domestic Product + Exports
- Which statement is true ?  
(A) Money is a good servant  
(B) Money is a good servant but a bad master  
(C) Money is a good master but a bad servant  
(D) Money is a good master and a good servant
- India has adopted ..... as its economic system to bring about a socialistic pattern of society.  
(A) Socialism  
(B) Mixed Economy  
(C) Capitalism  
(D) Political Economy
- Local governments are the basis of—  
(A) Aristocracy      (B) Secularism  
(C) Democracy      (D) Reservation
- The final interpreter of the Indian Constitution is—  
(A) Central Cabinet      (B) President  
(C) High Court      (D) Supreme Court
- One of the following laws favours women's interests—  
(A) Equal Remuneration Act  
(B) Protection of Civil Rights Act  
(C) Immoral Traffic (Prevention) Act  
(D) None of the above



26. The portion of a plant that is grafted on to the other plant is called—  
(A) Stock                   (B) Scion  
(C) Stalk                   (D) Sucker
27. White light is a mixture of how many colours ?  
(A) 4                       (B) 5  
(C) 6                       (D) 7
28. Surface tension arises due to—  
(A) adhesive force between molecules  
(B) cohesive force between molecules  
(C) gravitational force between molecules  
(D) electrical force between molecules
29. A particle covers equal distance around a circular path in equal interval of time. It has uniform—  
(A) Velocity               (B) Speed  
(C) Acceleration           (D) Momentum
30. Which of the following will always produce a diminished image of an object placed before it ?  
(A) Plane mirror           (B) Convex mirror  
(C) Convex lens           (D) Concave mirror
31. The term PC means—  
(A) Private Computer  
(B) Personal Calculator  
(C) Personal Computer  
(D) Professional Computer
32. A translator for the high-level language program into machine code is—  
(A) Assembler             (B) Compiler  
(C) Loader                  (D) Linker
33. Atomic nuclei are composed of—  
(A) Protons and electrons  
(B) Protons and isotrons  
(C) Electrons and neutrons  
(D) Protons and neutrons
34. Which allotrope of carbon is used both as a lubricant and as lead in pencils ?  
(A) Diamond               (B) Coal  
(C) Charcoal               (D) Graphite
35. Example of aerosol is—  
(A) Milk                   (B) River water  
(C) Smoke                  (D) Blood
36. A process that is almost the reverse of photosynthesis is the—  
(A) digestion of starch  
(B) melting of iron  
(C) ripening of fruit  
(D) burning of wood
37. Ozone hole was discovered over Antarctica in—  
(A) 1975                   (B) 1985  
(C) 1978                   (D) 1987
38. Yusho disease, discovered in Japan, is related with pollution due to—  
(A) PCB                   (B) Cadmium  
(C) Acid Rain              (D) PAN
39. The Pyramid of Biomass is inverted in which ecosystem ?  
(A) Pond                   (B) Forest  
(C) Grassland              (D) Mangrove
40. Central Pollution Control Board comes under the Ministry of—  
(A) Health and Family Welfare  
(B) Oil and Petroleum  
(C) Social Welfare  
(D) Environment and Forests
41. Hyderabad is famous for a museum. Name the museum—  
(A) Prince Wales Museum  
(B) Salarjung Museum  
(C) National Museum  
(D) Victoria Museum
42. Which city is known as Electronic City ?  
(A) Gurgaon  
(B) Bengaluru  
(C) Jaipur  
(D) Salem
43. First woman President of India is remained—  
(A) Mrs. Najma Heptulla  
(B) Mrs. Sheila Dikshit  
(C) Mrs. Vasundhara Raje Scindia  
(D) Mrs. Pratibha Patil

44. To which country does India export the maximum gems and ornaments in value terms ?  
 (A) U.S.A.                    (B) Britain  
 (C) Russia                    (D) Japan
- (B) Lord Jagan Nath  
 (C) Sri Chaitanya Prabhu  
 (D) Sri Satya Sai Baba
45. The famous Dilwara Temple are situated in—  
 (A) Rajasthan                (B) Uttar Pradesh  
 (C) Madhya Pradesh            (D) Maharashtra
46. The President of India has awarded Rajiv Gandhi Khel Ratna Award to—  
 (A) Vijay Kumar (Shooter)  
 (B) M.S. Dhoni (Cricketter)  
 (C) Both (A) and (B)  
 (D) None of the above
47. India has won the Under-19 Cricket World Cup, 2012 after defeating ..... in the final.  
 (A) Australia                (B) England  
 (C) South Africa              (D) Pakistan
48. Bharatpur Sanctuary (Kebala Dev Pachhi Vihar) is located in the State of—  
 (A) Odisha                    (B) Tamil Nadu  
 (C) Karnataka                (D) Rajasthan
49. The 2014 Shooting World Championship will be held in—  
 (A) Granada in Spain  
 (B) New Delhi in India  
 (C) Toronto in Canada  
 (D) Melbourne in Australia
50. Rathayatra at Puri is celebrated in honour of—  
 (A) Lord Rama
- Join youtube Channel
1. (C)    2. (D)    3. (A)    4. (B)    5. (B)  
 6. (C)    7. (D)    8. (C)  
 9. (C) In the year 1972 (20 February, 1972) Arunachal Pradesh was an associate state of the union of India and later on, it became as a separate state on 27 February, 1987.  
 10. (D)    11. (A)    12. (B)    13. (D)    14. (C)  
 15. (C)    16. (D)    17. (C)    18. (B)    19. (B)  
 20. (D)    21. (B)  
 22. (D) Universal Blood Donor group is O<sup>+</sup> group (40%), while 8% B<sup>+</sup>, 3% AB<sup>+</sup> and 34% A<sup>+</sup>— people have it.  
 23. (D)    24. (C)    25. (B)    26. (B)    27. (D)  
 28. (B)    29. (B)    30. (B)    31. (C)    32. (A)  
 33. (D)    34. (D)    35. (C)    36. (D)    37. (B)  
 38. (A)    39. (A)    40. (D)    41. (B)    42. (B)  
 43. (D) The first woman President of India was remained Smt. Pratibha Devi Singh Patil (born in 1934 and remained as President w.e.f. 25 July, 2007 to 25 July, 2012 i.e., for 5 years duration).  
 44. (A)  
 45. (A) The famous **Dilwara Temple** is situated/ located in Rajasthan on Mount Aboor hill—A Hindu Religious Temple.  
 46. (C)    47. (A)    48. (D)    49. (A)    50. (B)

# Practice Set-6

## Part—I General Intelligence

1. Arrange the following in a logical order.

1. Open Text book
  2. Attend Assembly
  3. Catch Bus
  4. Wear Uniform
  5. Get into classroom
- (A) 4, 2, 3, 5, 1      (B) 4, 3, 5, 1, 2  
(C) 4, 3, 2, 5, 1      (D) 4, 3, 1, 5, 2

2. Arrange the following according to dictionary order—

- |               |              |
|---------------|--------------|
| 1. Collect    | 2. Collinear |
| 3. Collection | 4. Column    |
| 5. Collapse   |              |
- (A) 5, 1, 3, 2, 4      (B) 5, 1, 2, 3, 4  
(C) 5, 1, 4, 3, 2      (D) 5, 1, 2, 4, 3

3. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?

- c \_ bba \_ cab \_ ac \_ ab \_ ac
- (A) babec      (B) bcaeb  
(C) acbeb      (D) abebc

**Directions—(Q. 4–9)** A series is given with one/two term missing. Choose the correct alternative from the given ones that will complete the series.

4. XUROLI ??

- (A) HG      (B) HE  
(C) FC      (D) GE

5. ABCDE, BDAEC, DEBCA, ?

- (A) EACDB      (B) ECADB  
(C) EDCAB      (D) ECDAB

6. 31, 37, 49, 67, ?

- (A) 87      (B) 91  
(C) 89      (D) 97

7. 365, 364, 355, 330, 281, ?

- (A) 280      (B) 200  
(C) 180      (D) 120

8. 4, 5, 6, 9, 8, 13, 10, ?

- (A) 14      (B) 15  
(C) 11      (D) 17

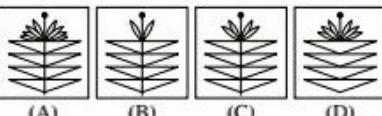
9. NLO : RPS :: VTW : ?

- (A) XYV  
(B) VTR  
(C) TRP  
(D) VUW

**Directions—(Q. 10–16)** A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series—

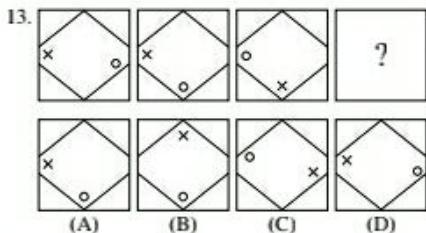
10. 436, 382, 337, 238, 2

- (A) 167      (B) 159  
(C) 138      (D) 148



12. 13, 40, 122, 369, ?

- (A) 1110      (B) 1111  
(C) 1112      (D) 1113



- (A) (B) (C) (D)

14. H J M Q ?

- (A) A (B) W  
(C) S (D) V

15. 6, 10, 18, 34, ?

- (A) 46 (B) 56  
(C) 66 (D) 76

16. N O A B O P B C P Q C D ? ? ? ?

- (A) Q R D E (B) R T E F  
(C) Q S D E (D) Q R G I

**Directions**—Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?

17. a \_ aa bb \_ ab \_ b \_

- (A) b a a a a (B) b a b a b  
(C) b a a b a (D) b b a a a

**Directions**—(Q. 18–19) Which one of the given responses would be a meaningful order of the following words ?

18. 1. Book 2. Words

3. Letters 4. Sentences  
5. Chapter 6. Pages

- (A) 3 2 6 5 4 1  
(B) 3 2 5 4 6 1  
(C) 3 2 4 5 6 1  
(D) 3 2 4 6 5 1

19. 1. Grand father

2. Great grand father

3. Grand son

4. Son

5. Father

- (A) 3 4 5 1 2  
(B) 4 1 3 5 2  
(C) 1 2 3 4 5  
(D) 2 3 1 5 4

20. Raju ranks 10<sup>th</sup> from the top and Ravi ranks 21<sup>st</sup> from the bottom. If there are 3 students between them, how many students are there in the class ?

- (A) 34 (B) 33  
(C) 31 (D) 32

21. P is the father of T. T is the daughter of M. M is the daughter of K. What is P to K ?

- (A) Father (B) Father-in-law  
(C) Brother (D) Son-in-law

22. If 'PENCIL' is coded as ? @, = ; 7 and 'PAPER' is coded as ? 9 ? @ 5, how will you code 'CLIP' ?

- (A) @ 7 ; ? (B) @ ? ; ?  
(C) = 7 ? ; (D) = 7 ; ?

23. If J = 10, JASMINE = 71, then ESTIMATE = ?

- (A) 71 (B) 82  
(C) 92 (D) 91

24. Seeta starts from a point, walks 2 km towards north, turns towards her right and walks 2 km, turns right again and walks. What is the direction she is facing now ?

- (A) East (B) West  
(C) South (D) North

25. A man walks 7 km towards north before taking left turn and walks further 5 km. Then he takes left turn and walks 15 km. Finally he takes left turn again and walks 5 km. How much distance is he away from the starting point ?

- (A) 8 km (B) 12 km  
(C) 15 km (D) 22 km

26. If '+' stands for division, '÷' stands for multiplication, × for addition; which one of the following equation is correct ?

- (A)  $10 \div 5 + 4 = 6$  (B)  $10 - 4 + 2 = 6$   
(C)  $10 + 2 - 5 = 6$  (D)  $10 + 2 \times 1 = 6$

27. Which word cannot be formed from the letters of the word 'CARDIOGRAM' ?

- (A) AEROGRAM (B) RADIO  
(C) DIAGRAM (D) CARGO

**Directions**—In question no. 28, from the given alternatives select the word which can be formed using the letters given in the word—

28. OPERATION

- (A) CAPTION
- (B) ROTATION
- (C) OPTION
- (D) NATION

29. Of the six members of a panel sitting in a row E is to the left of B, but on the right of A. F is on the right of B but is on the left of G who is to the left of C. Find the members sitting right in the middle.

- (A) A E
- (B) B F
- (C) G C
- (D) F G

**Directions**—(Q. 30–31) One/two statements are given followed by two conclusions and assumptions I and II. You have to consider the two statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions and assumptions, if any, follow from the given statements—

30. **Statement** : All hens are cocks. No cock is black.

- Conclusions** :
- I. All cocks are hens.
  - II. No hen is black.

- (A) Only conclusion I is valid
- (B) Only conclusion II is valid
- (C) Both the conclusions are valid
- (D) Both the conclusions are invalid

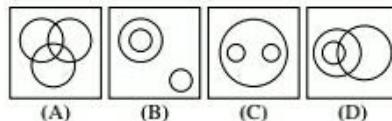
31. **Statement** : He is too industrious to be poor.

- Conclusions** :
- I. Very industrious people also can be poor.
  - II. Very lazy people can also be rich.

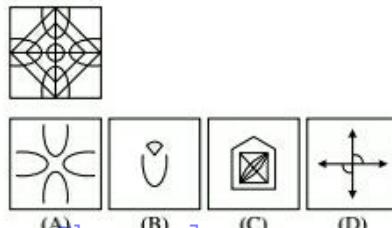
- (A) Only I is implicit
- (B) Only II is implicit
- (C) Both I and II are implicit
- (D) Neither I nor II is implicit

32. Out of four figures which figure will best represent the relationship amongst the classes ?

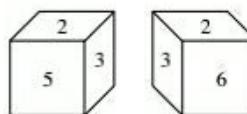
- 1. Sparrow
- 2. Birds
- 3. Mice



33. Which of the answer figure is not made up of only by the components of the key figure ?



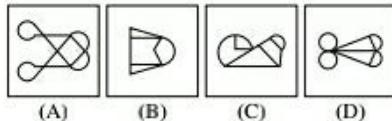
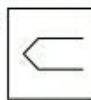
34. From the following two different appearances of a die find out the number which is opposite to '5'.



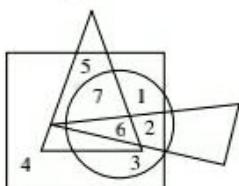
- (A) 2
- (B) 3
- (C) 4
- (D) 6

**Directions**—From the given answer figures, select the one in which the question figure is hidden/embedded—

35.

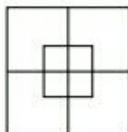


36. Which number is present only in one geometrical figure ?



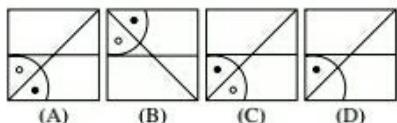
- (A) 3                                 (B) 2  
(C) 5                                     (D) 4

37. How many squares are there in the given figure ?



- (A) 7                                     (B) 12  
(C) 8                                     (D) 10

38. Directions—Which answer figure will complete the pattern in the question figure ?



**Directions—(Q. 39 and 40)** A series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

39. A, E, I, ?, Q

- (A) O                                     (B) M  
(C) U                                     (D) L

40. 510, 322, 404, ?

- (A) 422                                     (B) 371  
(C) 629                                     (D) 819

41. If 4 cats can kill 4 rats in 4 minutes, how many minutes will it take 8 cats to kill 8 rats ?

- (A) 8                                     (B) 4  
(C) 2                                     (D) 16

42. From the given alternative words, select the word which **cannot** be formed using the letters of the given word—

QUICKWITTED

- (A) QUID                                     (B) QUICK  
(C) QUIET                                     (D) QUILT

43. If MUSTARD is written as 132119201184, how is PROFUSE written in that code ?

- (A) 16815621195                             (B) 16181562195  
(C) 16181521195                             (D) 161815621195

44. If  $53 \div 31 = 2$ ,  $45 \div 27 = 1$ ,  $69 \div 32 = 3$ , then  $97 \div 26 = ?$

- (A) 1   (B) 2  
(C) 3   (D) 4

45. The 3 equations follow the same numerical operation. Find the missing number according to it—

$$178 = 817, 534 = 453, 294 = ?$$

- (A) 429                                     (B) 492  
(C) 924                                     (D) 942

46. An official meeting is attended by 130 department employees. Of them, 66 drink tea, 56 drink coffee and 63 drink juice, 27 can drink either tea or coffee, 25 can drink coffee or juice and 23 can drink juice and tea, 5 employees can drink any of the three. How many drink only tea ?

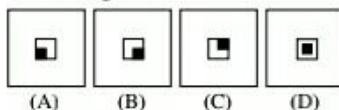
- (A) 21   (B) 22  
(C) 18   (D) 20

- Directions—(Q. 47 and 48)** Which answer figure will complete the pattern in the question figure ?

47. Question Figure



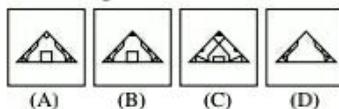
**Answer Figures**



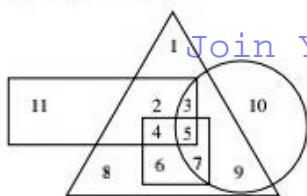
**48. Question Figure**



**Answer Figures**



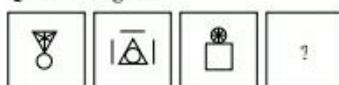
49. In the given diagram, Circle represents professional, Square represents dancers, Triangle represents musicians and Rectangle represents European. Different regions in the diagram are numbered I to 11.



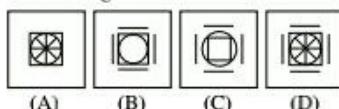
Who among the following is not a musician but an European ?

- (A) 10                    (B) 9  
 (C) 11                    (D) 8
50. Find the missing figure of the series from the given responses.

**Question Figures**



**Answer Figures**

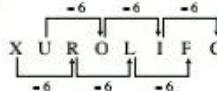


**Answers with Explanations**

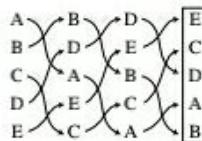
1. (C)    2. (A)

3. (C) cab|bac|cab|bac|cab|bac|

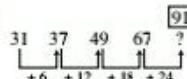
4. (C)



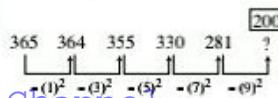
5. (D)



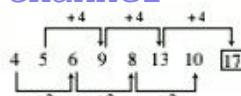
6. (B)



7. (B)



8. (D)



9. (A) As,

$$N \xrightarrow{+4} R$$

$$L \xrightarrow{+4} P$$

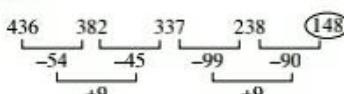
$$O \xrightarrow{+4} S$$

Similarly,  $V \xrightarrow{+2} X$

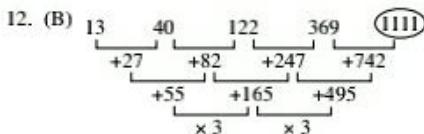
$$T \xrightarrow{+2} V$$

$$W \xrightarrow{+2} Y$$

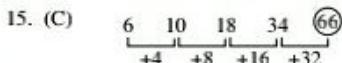
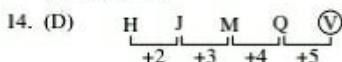
10. (D)



11. (A) In each subsequent figure one  $\nabla$  is increasing downward while in upper part one pair of  $\nabla$  is increasing.



13. (C) From P.F. (1) to (2) the design  $\times$  remains at its place while  $\circ$  is shifting one side clockwise. From P.F. (2) to (3)  $\times$  shifts one side anticlockwise and  $\circ$  is shifting one side clockwise. Hence, from P.F. (3) to (4)  $\circ$  will remain at its place while  $\times$  will shift one side anticlockwise.



16. (A) N O A B, O P B C, P Q C D, Q R D E

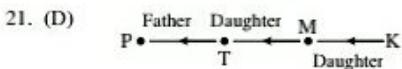
17. (C) a b l a a b b l a a a b b l a

18. (D) 19. (A)

20. (A) 9 + • • • • • + 20  
Raju Ravi

$\therefore$  No. of students in the class

$$\begin{aligned} &= 9 + 1 + 3 + 1 + 20 \\ &= 34 \end{aligned}$$



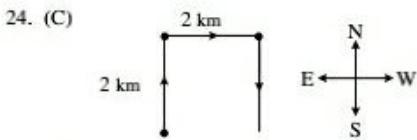
$\therefore$  P is the son-in-law of K.

22. (D) P E N C I L  $\rightarrow$  ? @, = ; 7 and P A P E R  $\rightarrow$  ? 9 ? @ 5

$\therefore$  C L I P  $\rightarrow$  = 7 ; ?

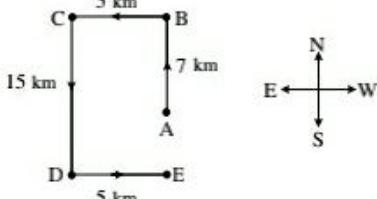
23. (C) J A S M I N E  $\rightarrow$  10 + 1 + 19 + 13 + 9 + 14 + 5 = 71

$\therefore$  E S T I M A T E  $\rightarrow$  5 + 19 + 20 + 9 + 13 + 1 + 20 + 5 = 92.



Now, she is facing towards South.

25. (A)



$$AE = 15 - 7 = 8 \text{ km}$$

$$26. (D) 10 + 2 \times 1 = 6$$

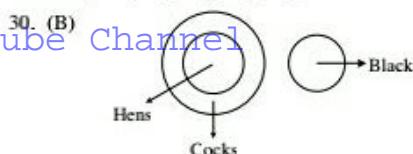
$$10 + 2 + 1 = 6$$

$$\frac{10}{2} + 1 = 6$$

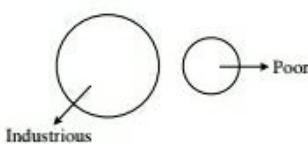
$$5 + 1 = 6$$

27. (A) In the given word 'C A R D I O G R A M' there is no 'E'.

28. (C)

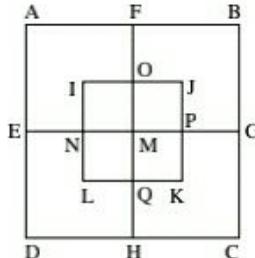


31. (D)



32. (B) 33. (C) 34. (D) 35. (A) 36. (D)

37. (D) The squares are :

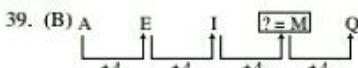


1. I O M N  
4. M Q L N  
7. F B G M  
10. A B C D

2. O J P M  
5. I J K L  
8. C H M G

3. P K Q M  
6. A F M E  
9. D E M H

38. (A)



40. (D)  $510 \Rightarrow 5 + 1 + 0 = 6,$   
 $322 \Rightarrow 3 + 2 + 2 = 7,$   
 $404 \Rightarrow 4 + 0 + 4 = 8,$   
 $819 \Rightarrow 8 + 1 + 9 = 18 \Rightarrow 1 + 8 = 9.$

41. (B) Time taken by the cats will be the same to kill rats.  
 42. (D) The word 'QUILT' has letter 'L' which is not in the given word.

43. (D) As, M U S T A R D

$\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$   
 13 21 19 20 1 18 4

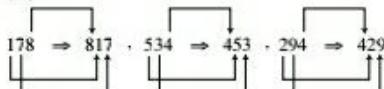
Same as, P R O F U S E

$\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$   
 16 18 15 @ 21 9 5

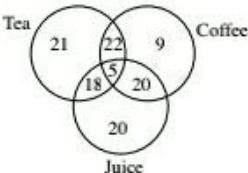
44. (B)  $53 + 31 \Rightarrow 8 + 4 = 2,$   
 $45 + 27 \Rightarrow 9 + 9 = 1,$   
 $69 + 32 \Rightarrow 15 + 5 = 3$

Similarly,  $97 + 26 \Rightarrow 16 + 8 = 2$

45. (A)



46. (A) From venn diagram,



47. (B) 48. (B) 49. (C)

50. (C) In first figure to second figure, the lower element appears in the middle of the upper element and the lines present in the upper design are appear outside the whole design.

Figure third and fourth follow the same process.

## Part-II English Language

**Directions—(Q. 1-12)** Read the following passage carefully and answer the questions given below it. Certain words are printed in **bold** to help you to locate them while answering some of the questions.

Once upon a time, there were three brothers. They were all very clever and one day decided to make a fortune by using their powers of reasoning and logic. As they walked to the nearest city to look for work, they saw some footprints on the mud road. As they stood looking at the marks, a merchant came rushing towards them. "Did you see anyone go by this road?" he asked in **panic**. The first brother looked **closely** at the prints and said, 'Yes, a large camel.' The second said, the camel could see with only one eye. The third, who had been looking further down the road, said, "the camel was carrying a woman and a child on its back."

Now the merchant was furious and shouted, "You have kidnapped my wife and child. Come with me to the king." The brothers could not get him to reason out and the four men ended up in the king's court. Hmm, the king said, after he had heard the entire story. "If you three claim to be so clever, let me set a task for you. I will place before you a wooden box which will be locked. You will have to tell me what it contains without looking inside."

The three brothers agreed, and soon the king's men placed before them a stout wooden box, **firmly** shut. The first brother said immediately, 'It has something round inside.' The second said, 'It is a pomegranate.' 'An unripe pomegranate,' added the third. The box was opened and indeed, inside there was an unripe pomegranate.

The king now asked them for an explanation. The first man said, "When your servant was bringing the box, I heard something rolling inside. That meant there was a round object in it." The second man said, "I saw your servant coming from the pomegranate orchard, so I knew he had placed a pomegranate in the box. And this is not the season for pomegranates, so it had to be an unripe one," commented the last brother."

The king had now witnessed the brother's powers of observation and was curious to know how they had discovered about the merchant's wife and child being on the camel's back. The footprints we saw were large ones, so I deduced it was a big camel that had passed that way,' said the first brother. The camel had grazed on only one side of the road,' said the second, 'so I knew it was one-eyed.'

"And I saw the footprints of a woman and a child where the camel had sat down to rest," said the third "which meant they were on the camel's back." The king, now convinced of their cleverness, appointed the three brothers as ministers in his court.

- How did the second brother arrive at the conclusion that the camel could see with only one-eye ?
  - He saw the camel pass by.
  - He took a guess.
  - The grass on only one side of the road was eaten.
  - Only (1)
  - Only (2)
  - Only (3)
  - Only (2) and (3)
  - Only (1) and (3)
- Why did the merchant take the three brothers to the king's court ?
  - They confessed to having kidnapped his wife and child
  - He found them acting very strange
  - He thought they were responsible for his missing wife and child
  - He found their observations hilarious and wanted them to narrate them to the king
  - The king had heard about the clever brothers and was on the lookout for them
- Why did the three brothers come to the city ?
  - They had an appointment with the king
  - They were in search of the merchant's wife and child
  - They wanted to earn a living in the king's court
  - They were in search of work wherein they could put their skills to use
  - They came in search of their lost camel
- Which of the following statements is **false** according to the passage ?
  - One of the brothers saw the king's servant come out from the pomegranate orchard
  - One of the brothers saw the camel carrying a lady along with a child on its back
  - The three brothers were appointed as ministers in the king's court
  - The king was convinced with the brothers' story after listening to their logic
  - The merchant doubted the brother and so took them to the king
- Why did the king challenge the three brothers with a task ?
  - He wanted to see if they would pass the test in order to be ministers in his court
  - He wanted to show them off to his ministers
  - He wanted to put their reasoning skills to the test
  - He wanted the merchant to witness their cleverness
  - None of these
- Which of the following word is most **opposite** to the word **panic** printed in **bold** in the above story ?
  - Calm
  - Fright
  - Hesitation
  - Anxious
  - Worried
- What task did the king give to the three brothers on their arrival to the court ?
  - He asked them to reveal the contents of a wooden box that he placed before them
  - The task of handling the day affairs of the state
  - He asked them to explain the secret of their reasoning abilities
  - Only (1)
  - Only (2)
  - Only (3)
  - Only (1) and (2)
  - None of these
- Which of the following sentence/s is true of the brothers ?
  - Join Youtube channel

- (1) They were fortune tellers  
 (2) They were responsible for kidnapping the merchant's wife and child  
 (3) They used logic in order to determine the contents of the wooden box  
 (A) Only (1)                  (B) Only (2) and (3)  
 (C) Only (2)                  (D) Only (3)  
 (E) All (1), (2) and (3)
9. The king appointed the three as ministers to his court because—  
 (A) The minister in his court were not as intelligent  
 (B) He was in awe of their upbringing  
 (C) They were in search of a job  
 (D) They were ill-treated by the merchant  
 (E) He was assured of their cleverness
- Directions—(Q. 10–12)** Choose the word which is most nearly the **SAME** in meaning as the word printed in **bold** as used in the passage.
10. **Firmly**  
 (A) Unevenly                  (B) Drastically  
 (C) Tightly                  (D) Steadily  
 (E) Gracefully
11. **Deduced**  
 (A) Predicted                  (B) Presented  
 (C) Inferred                  (D) Confirmed  
 (E) Targeted
12. **Closely**  
 (A) Openly                  (B) Watchfully  
 (C) Personally                  (D) Slyly  
 (E) Carefully
- Directions—(Q. 13–17)** Read each sentence to find out whether there is any grammatical error in it. The error, if any, will be in one part of the sentence. The letter of that part is the answer. If there is no error, the answer is (E) i.e., 'No Error'. (Ignore the errors of punctuation, if any)
13. My friend lives / at a beautiful house / not  
 (A)                              (B)  
 more than / five minutes from the beach.  
 (C)                              (D)  
 No Error                      (E)
14. If you breaks the law, / you must be prepared/  
 (A)                              (B)  
 to suffer / the consequences.                  No Error  
 (C)                              (D)                              (E)
15. I requested my friend/to come /and shopping /  
 (A)                              (B)                              (C)  
 with me.    No Error  
 (D)    (E)
16. The passage is / more difficult / that I am  
 (A)                              (B)                              (C)  
 unable / to comprehend it.                          No Error  
 (D)    (E)
17. Janet is determined / to be success / in  
 (A)                              (B)  
 whatever field / she chooses.                          No Error  
 (C)    (E)
- Directions—(Q. 18–22)** Which of the phrases (A), (B), (C) and (D) given below each sentence should replace the phrase printed in **bold** in the sentence to make it grammatically correct? If the sentence is correct as it is given and no correction is required, mark (E) as the answer.
18. Since the car **had broke down**, we had to take a bus.  
 (A) To break down  
 (B) Was broken down  
 (C) Broke down  
 (D) Break down  
 (E) No correction required
19. **There was too many** people trying to leave the city.  
 (A) There were too much  
 (B) It was too many  
 (C) There were too many  
 (D) There was more  
 (E) No correction required
20. **Their all** hard work had been of no use.  
 (A) All their                  (B) Of all their  
 (C) Their all of                  (D) Their much  
 (E) No correction required

Join YouTube Channel

21. My mother is one of the few people to whom I look up to.  
 (A) I look up to  
 (B) That I look up  
 (C) To who I look up  
 (D) To which I look up to  
 (E) No correction required
22. My friend felt good about win the prize.  
 (A) With winning (B) On being won  
 (C) At winning (D) About winning  
 (E) No correction required

**Directions—(Q. 23–27)** In each question below, four words printed in **bold** are given. These are lettered (A), (B), (C) and (D). One of these words printed in **bold** may either be **wrongly spelt** or **inappropriate** in the context of the sentence. Find out the word that is inappropriate or wrongly spelt, if any. The letter of that word is your answer. If all the words printed in **bold** are correctly spelt and appropriate in the context of the sentence then mark (E) i.e. 'All correct' as your answer.

23. Over the succeeding weaks things went  
 (A) (B) (C)  
 from bad to worse. All correct  
 (D) (E)
24. My friend deserved to succeed for he worked  
 (A) (B) (C) (D)  
 hard. All correct  
 (E)
25. Abdul, quiet pale with fright rushed into the  
 (A) (B) (C)  
 room. All correct  
 (D) (E)
26. The doctor advised me to switch over to a  
 (A) (B)  
 healthier diat. All correct  
 (C) (D) (E)
27. My parents were poor though they were of  
 (A) (B)  
 nobel birth. All correct  
 (C) (D) (E)

**Directions—(Q. 28–32)** Rearrange the following five sentences (1), (2), (3), (4) and (5) in the proper sequence to form a meaningful paragraph; then answer the questions given below them.

1. The victor flew up to the roof of the barn and began to crow, "I have won, I have won!"
  2. Finally one of them was beaten and he went and hid himself in the corner of the hen-house.
  3. The rooster that had been defeated suddenly found himself to be the unchallenged master of the farmyard.
  4. Two roosters were fighting for supremacy in the farmyard.
  5. Just then an eagle swooped down and carried him away.
28. Which of the following should be the **FOURTH** sentence after the rearrangement ?  
 (A) 1 (B) 2  
 (C) 3 (D) 4  
 (E) 5
29. Which of the following should be the **FIRST** sentence after the rearrangement ?  
 (A) 5 (B) 4  
 (C) 3 (D) 2  
 (E) 1
30. Which of the following should be the **SECOND** sentence after the rearrangement ?  
 (A) 1 (B) 2  
 (C) 3 (D) 4  
 (E) 5
31. Which of the following should be the **THIRD** sentence after the rearrangement ?  
 (A) 1 (B) 2  
 (C) 3 (D) 4  
 (E) 5
32. Which of the following should be the **FIFTH** sentence after the rearrangement ?  
 (A) 5 (B) 4  
 (C) 3 (D) 2  
 (E) 1

**Directions—(Q. 33–40)** In the following passage, there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.

Birbal was in Persia at the invitation of the king of that country. During his stay parties were given in his honour. On the eve of his ... (33) ... for home, a nobleman ... (34) ... him how he would compare the king of Persia to his own king. "Your king is a full moon," said Birbal. "Whereas mine could be ... (35) ... of as the quarter moon." The Persians were very happy. But when Birbal got home he found that Emperor Akbar was furious with t him. "How ... (36) ... you belittle your own king?" demanded Akbar. "You are a traitor!"

"No, Your Majesty," said Birbal. "I did not belittle you. The full moon ... (37) ... and disappears whereas the quarter moon grows with strength. What I, in fact, ... (38) ... to the world is that your power is ... (39) ... from day to day whereas that of the king of Persia is about to go into decline." Akbar smiled in satisfaction and welcomed Birbal back ... (40) ... a warm embrace.

- [Join Youtube Channel](#)
- |                   |                |
|-------------------|----------------|
| 33. (A) departure | (B) exit       |
| (C) arrival       | (D) depart     |
| (E) leave         |                |
| 34. (A) made      | (B) question   |
| (C) asked         | (D) commented  |
| (E) said          |                |
| 35. (A) wished    | (B) thought    |
| (C) pass          | (D) celebrated |
| (E) imagined      |                |
| 36. (A) will      | (B) willing    |
| (C) must          | (D) could      |
| (E) should        |                |
| 37. (A) reduce    | (B) vanish     |
| (C) appear        | (D) decrease   |
| (E) diminishes    |                |
| 38. (A) promised  | (B) announce   |
| (C) proclaimed    | (D) show       |
| (E) restored      |                |
| 39. (A) new       | (B) increase   |
| (C) sure          | (D) fixed      |
| (E) growing       |                |

- |                 |            |
|-----------------|------------|
| 40. (A) showing | (B) by     |
| (C) with        | (D) giving |
| (E) granting    |            |

**Directions—(Q. 41–45)** In the following questions, some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and indicate the correct alternative corresponding to the appropriate letter (A), (B), (C). If a sentence is free from error, corresponding to letter (D).

- |  |                 |          |
|--|-----------------|----------|
| 41. The new dish / that I ordered / is tasting good.                                   | (A) (B) (C)     | No error |
|  |                 | (D)      |
| 42. Increasing racism and hate crimes/ casted a shadow / over elections.               | (A) (B)         | No error |
|  | (C) (D)         |          |
| 43. I have got your letter yesterday / and felt happy to learn / of your recovery.     | (A) (B) (C) (D) | No error |
|  |                 |          |
| 44. Sam is working / in a bank in Chennai / for for the past five years                | (A) (B)         | No error |
|  | (C) (D)         |          |
| 45. People living in low-lying areas / find it difficult / to cope up with the floods. | (A) (B) (C) (D) | No error |
|  |                 |          |
- Directions—(Q. 46–50)** In the questions, sentences are given with blanks to be filled with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by choosing the appropriate alternatives.
- |   |                  |                   |
|---|------------------|-------------------|
| 46. His words were hardly ..... with that screaming and shouting in the market. | (A) legible      | (B) eligible      |
|   | (C) intelligible | (D) None of these |
| 47. He was ..... angry to speak to me.  | (A) so           | (B) too           |
|   | (C) that         | (D) such          |

48. I wish I ..... a pen.  
 (A) were (B) am  
 (C) was (D) be
49. Look after your health ..... you should repent later on.  
 (A) as (B) because  
 (C) till (D) lest
50. Every year million of tourists ..... the Anna Centenary Library in Chennai.  
 (A) visiting (B) visit  
 (C) are visiting (D) visited

### Answers with Explanations

1. (C) 2. (C) 3. (D) 4. (B) 5. (C)  
 6. (A) 7. (A) 8. (D) 9. (E) 10. (C)  
 11. (C) 12. (B) 13. (E)  
 14. (A) Change 'breaks' to 'break'.  
 15. (C) Change 'shopping' to 'shop'.  
 16. (B) Change 'more' to 'so'.  
 17. (B) Change 'success' to 'successful'.  
 18. (C) 19. (C) 20. (A) 21. (E) 22. (C)  
 23. (C) Correct spelling is 'weeks'.  
 24. (C)  
 25. (A) Correct spelling is 'quite'.  
 26. (D) Correct spelling is 'diet'.  
 27. (C) Correct spelling is 'noble'.  
 28. (E) 29. (B) 30. (B) 31. (A) 32. (C)  
 33. (A) 34. (C) 35. (B) 36. (D) 37. (E)  
 38. (C) 39. (E) 40. (C)  
 41. (C) Change 'is' to 'was'.  
 42. (D)  
 43. (A) Change 'have got' to 'got'.  
 44. (A) Change 'is' to 'has been'.  
 45. (C) Delete 'up'. It is redundant.  
 46. (D) 47. (B) 48. (A) 49. (D) 50. (B)

### Part—III

### Quantitative Aptitude

1. Two trains of equal length are running on parallel lines in the same direction at 46 km/hr and 36 km/hr. The faster train passes,

the slower train in 36 sec. The length of each train is—

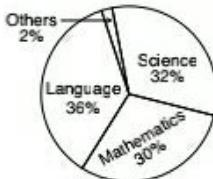
- (A) 50 m (B) 80 m  
 (C) 72 m (D) 82 m
2. A parallelepiped whose sides are in ratio 2 : 4 : 8 have the same as a cube. The ratio of their surface area is—

- (A) 4 : 3 (B) 8 : 5  
 (C) 7 : 6 (D) 7 : 5
3. The parallel sides of a trapezium are in a ratio 2 : 3 and their shortest distance is 12 cm. If the area of the trapezium is 480 sq. cm, the longer of the parallel sides is of length—

- (A) 36 cm (B) 42 cm  
 (C) 48 cm (D) 56 cm
4. If  $2x + y = 6$  and  $x = 2$  are two linear equations, then graph of two equations meet at a point—

- (A) (0, 2) (B) (2, 2)  
 (C) (1, 2) (D) (2, 0)

**Directions—(Q. 5 to 7)** The following pie chart shows the number of students who failed in different subjects in an examination. Examine the chart and answer the questions 5 to the total number of students who have failed is 500.



5. Total number of students who did not qualify in Mathematics or Language or Science, is—  
 (A) 490 (B) 480  
 (C) 470 (D) 460
6. The number of students failed in Science is less than the number of students failed in all other subjects by—  
 (A) 140 (B) 180  
 (C) 160 (D) 170





23. The value of  $\sin\left(67\frac{1}{2}^\circ\right)\sin\left(22\frac{1}{2}^\circ\right)$  is—  
 (A)  $-2\sqrt{2}$       (B)  $2\sqrt{2}$   
 (C)  $1/2\sqrt{2}$       (D)  $-1/2\sqrt{2}$
24.  $\sqrt[3]{x^6} + \sqrt[3]{x^{12}} \times x^{-3} \times \sqrt[3]{x^6}$  is equivalent to—  
 (A)  $2x$       (B)  $1$   
 (C)  $\frac{1}{3x^2}$       (D)  $\frac{1}{x}$
25. Which of the following is false for two congruent triangles ?  
 (A) Corresponding angles are equal  
 (B) Two sides and included angles are equal  
 (C) Corresponding sides are equal  
 (D) Two angles and one side are equal
- Directions—(Q. 26–45)** What will come in place of the question-mark (?) in the following questions ?
26.  $\sqrt{23409} = ?$   
 (A) 157      (B) 163  
 (C) 165      (D) 153  
 (E) None of these
27.  $\sqrt[3]{6859} = ? - 4$   
 (A) 26      (B) 25  
 (C) 23      (D) 22  
 (E) None of these
28.  $86 \times 5.6 \times 0.3 = ?$   
 (A) 144.48      (B) 149.34  
 (C) 145.26      (D) 146.76  
 (E) None of these
29.  $3.44 + 5.22 + 7.23 + 5.24 = ?$   
 (A) 23.34      (B) 21.13  
 (C) 25.57      (D) 20.05  
 (E) None of these
30.  $45698 - 23367 + 43237 = ?$   
 (A) 65568      (B) 65586  
 (C) 65569      (D) 65589  
 (E) None of these
31. 42% of ? + 18% of 400 = 219  
 (A) 370      (B) 360  
 (C) 350      (D) 340  
 (E) None of these
32.  $4096 \times (16)^3 \div 16 = (4)^3 \times 64$   
 (A) 8      (B) 6  
 (C) 7      (D) 10  
 (E) None of these
33.  $18 \times 15 \times ? = 6210$   
 (A) 21      (B) 23  
 (C) 27      (D) 25  
 (E) None of these
34.  $32.97 + 45.33 + 17.24 = ?$   
 (A) 95.54      (B) 98.33  
 (C) 91.62      (D) 93.84  
 (E) None of these
35.  $45 \times 253 - 782 = ?$   
 (A) 10602      (B) 10605  
 (C) 10607      (D) 10603  
 (E) None of these
36.  $\frac{12}{19} \times \frac{76}{81} \times \frac{3}{8} = ?$   
 (A)  $\frac{4}{9}$       (B)  $\frac{2}{7}$   
 (C)  $\frac{4}{7}$       (D)  $\frac{2}{9}$   
 (E) None of these
37.  $\sqrt{450 + 890 + 685} = ?$   
 (A) 43      (B) 45  
 (C) 55      (D) 53  
 (E) None of these
38.  $23578 + 33872 + 17193 - 52559 = ?$   
 (A) 22088      (B) 22086  
 (C) 22082      (D) 22084  
 (E) None of these
39.  $\sqrt{225} + \sqrt{2304} = ? - (12)^2$   
 (A) 205      (B) 207  
 (C) 206      (D) 208  
 (E) None of these

Join YouTube Channel

124P 1 SSC Higher Secondary Level (10 + 2)

40.  $892.33 + 212.87 + 456.99 = ?$

- (A) 1568.23      (B) 1566.99  
 (C) 1564.73      (D) 1561.19  
 (E) None of these

41.  $\frac{3}{8} + \frac{7}{8} - \frac{5}{12} = ?$

- (A)  $\frac{3}{5}$       (B)  $\frac{7}{6}$   
 (C)  $\frac{5}{6}$       (D)  $\frac{5}{7}$   
 (E) None of these

42.  $36 \times \frac{7}{12} = ?$

- (A) 23      (B) 25  
 (C) 21      (D) 27  
 (E) None of these

43.  $8888 \div 8 + 2332 \div 2 = ?$

- (A) 2727      (B) 2772  
 (C) 2777      (D) 2722  
 (E) None of these

44.  $(15)^2 + (12)^2 - (18)^2 = ?$  [Join Youtube Channel](#)

- (A) 42      (B) 43  
 (C) 48      (D) 49  
 (E) None of these

45.  $\frac{3}{4}$  th of 46% of 400 – 12 = ?

- (A) 126      (B) 128  
 (C) 124      (D) 122  
 (E) None of these

**Directions—(Q. 46–50)** What approximate value should come in place of the question-mark (?) in the following questions?

(Note : You are not expected to calculate the exact value)

46.  $0.501 \times 10.011 \times 52.83 = ?$

- (A) 205      (B) 225  
 (C) 245      (D) 285  
 (E) 265

47.  $2534 \div 23 = ?$

- (A) 10      (B) 210  
 (C) 150      (D) 60  
 (E) 110

48.  $\sqrt{4590} = ?$

- (A) 38      (B) 18  
 (C) 68      (D) 84  
 (E) 98

49.  $16.002 \times 14.897 \times 20.334 = ?$

- (A) 4100      (B) 4300  
 (C) 4500      (D) 4800  
 (E) 5100

50.  $4005.33 \div 19.89 \times 1.9 = ?$

- (A) 470      (B) 300  
 (C) 400      (D) 370  
 (E) 500

### Answers with Explanations

1. (A) Let length of each train =  $x$  m

Then, total length

$$= \text{Relative speed} \times \text{time}$$

$$x + x = (46 - 36) \times \frac{5}{18} \times 36$$

$$x = 50 \text{ m}$$

2. (C) Let the sides of parallelepiped are  $2x$ ,  $4x$  and  $8x$ . Then,

Volume of cube

$$= \text{volume of parallelepiped}$$

$$a^3 = 2x \times 4x \times 8x$$

$$a = 4x$$

Required ratio

$$= \frac{\text{Surface area of parallelepiped}}{\text{Surface area of cube}}$$

$$= \frac{2(2x \times 4x + 4x \times 8x + 8x \times 2x)}{6 \times (4x)^2}$$

$$= \frac{7}{6}$$

3. (C) Area of trapezium

$$= \frac{1}{2} \times (\text{sum of parallel side}) \times \text{distance}$$

$$480 = \frac{1}{2} \times (2x + 3x) \times 12$$

$$x = 16 \text{ cm}$$

$\therefore$  Longer of the parallel side

$$\begin{aligned} &= 3x \\ &= 3 \times 16 \\ &= 48 \text{ cm} \end{aligned}$$

4. (B) Put  $x = 2$ ,

In equation  $2x + y = 6$

Then,  $2 \times 2 + y = 6$

$$\Rightarrow y = 2$$

Hence, the graph of two equations meet at a point  $(2, 2)$ .

5. (A) Total number of students who did not qualify in Math or Language or Science

$$\begin{aligned} &= (30 + 36 + 32)\% \text{ of } 500 \\ &= \frac{98}{100} \times 500 \\ &= 490 \end{aligned}$$

6. (B) The number of students failed in Science

$$= \frac{32}{100} \times 500 = 160$$

and the number of students failed in all other subjects

$$= \frac{68}{100} \times 500 = 340$$

Hence, required number of students

$$\begin{aligned} &= 340 - 160 \\ &= 180 \end{aligned}$$

7. (B) Number of students who failed in Mathematics is less than the students who did not qualify in Language

$$\begin{aligned} &= \frac{36}{100} \times 500 - \frac{30}{100} \times 500 \\ &= 180 - 150 \\ &= 30 \end{aligned}$$

8. (B) Cost Price of Article  $= x$

Then,  $425 - x = x - 355$

$$2x = 780$$

$$\Rightarrow x = ₹ 390$$

9. (A) % increase in its surface area

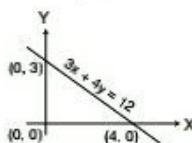
$$\begin{aligned} &= 2 \times 50 + \frac{50 \times 50}{100} \\ &= 125\% \end{aligned}$$

10. (D) On y-axis :

Put  $x = 0$  in given equation

$$3 \times 0 + 4y = 12$$

$$\Rightarrow y = 3$$



On x-axis : Put  $y = 0$ ,

$$3x + 4 \times 0 = 12$$

$$x = 4$$

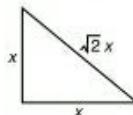
Hence, area of the triangle

$$\begin{aligned} &= \frac{1}{2} \times 4 \times 3 \\ &= 6 \text{ sq unit} \end{aligned}$$

11. (C)

Perimeter  $= 2p$

$$\begin{aligned} x + x + \sqrt{2}x &= 2p \\ x(2 + \sqrt{2}) &= 2p \end{aligned}$$



$$x = \frac{2p}{2 + \sqrt{2}} \times \frac{2 - \sqrt{2}}{2 - \sqrt{2}}$$

$$\begin{aligned} x &= \frac{2(2 - \sqrt{2})p}{2} \\ &= (2 - \sqrt{2})p \end{aligned}$$

Area of triangle  $= \frac{1}{2} \times x \times x$

$$= \frac{1}{2} \times x^2$$

$$= \frac{(2 - \sqrt{2})^2}{2} p^2$$

$$= \frac{(4 + 2 - 4\sqrt{2})}{2} p^2$$

$$= (3 - 2\sqrt{2}) p^2 \text{ sq cm}$$

12. (A) Let length of platform or train =  $x$  m

Total distance = Speed  $\times$  time

$$2x = 90 \times \frac{5}{18} \times 60$$

( $\because$  1 minute = 60 sec)

$$x = 750 \text{ m}$$

13. (B) Let distance =  $D$  km

Speed of cycle =  $x$  km/hr

and speed of scooter =  $y$  km/hr

According to question—

$$\frac{D}{x} + \frac{D}{y} = 2 + \frac{20}{60} = \frac{7}{3}$$

$$\frac{2D}{x} = 3 + \frac{30}{60} = \frac{7}{2}$$

Equation (1) is multiply by (2), so

$$\frac{2D}{x} + \frac{2D}{y} = \frac{14}{3}$$

$$\Rightarrow \frac{7}{2} + \frac{2D}{y} = \frac{14}{3}$$

$$\frac{2D}{y} = \frac{14}{3} - \frac{7}{2} = \frac{7}{6}$$

$$= 1 \text{ hr } 10 \text{ min.}$$

14. (★) True discount

$$= \frac{1270 \times 10 \times \frac{7}{12}}{100 + 10 \times \frac{7}{12}}$$

$$= \frac{7 \times 1270}{120 + \frac{7}{12}}$$

$$= \frac{1270 \times 7}{127}$$

$$= 10 \times 7 = ₹ 70$$

$\therefore$  Required amount after discount

$$= ₹(1270 - 70) = ₹ 1200$$

15. (B)  $A : B = 2100 : 3100$

$$= 21 : 31$$

A gets profit separately

$$= \frac{25}{100} \times 1040 = 260$$

Hence, Net profit =  $1040 - 260$

$$= 780$$

$$\text{Profit of A} = \frac{21}{52} \times 780$$

$$= 315$$

So, total profit of A =  $315 + 260$

$$= ₹ 575$$

$$\text{Profit of B} = \frac{31}{52} \times 780$$

$$= ₹ 465$$

16. (D) Let their radius are  $r_1$  and  $r_2$ .

$$2\pi r_1 - 2\pi r_2 = 176 - 132$$

$$2 \times \frac{22}{7} (r_1 - r_2) = 44$$

$$r_1 - r_2 = 7 \text{ m}$$

17. (D) Area of path

$$= 90 \times 50 - 80 \times 40$$

$$= 4500 - 3200$$

$$= 1300 \text{ m}^2$$

18. (B) If  $(x - 2)$  is a factor of  $(x^2 - kx + 2)$ . Then, its becomes zero.

So, put  $x = 2$ ,

$$4 - k \times 2 + 2 = 0$$

$$2k = 6$$

$$\Rightarrow k = 3$$

19. (\*)  $x - \frac{1}{x} = 3$  ... (1)

Taking square both sides,

$$x^2 + \frac{1}{x^2} - 2x \times \frac{1}{x} = 9$$

$$x^2 + \frac{1}{x^2} = 11$$

Adding 2 on both side—

$$x^2 + \frac{1}{x^2} + 2 = 11 + 2$$

$$\left(x + \frac{1}{x}\right)^2 = 13$$

$$x + \frac{1}{x} = \sqrt{13}$$

... (2)

$$\begin{aligned}x^2 - \frac{1}{x^2} &= \left(x - \frac{1}{x}\right)\left(x + \frac{1}{x}\right) \\&= 3 \times \sqrt{13} \\&\quad [\text{from eq. (1) and (2)}] \\&= 3\sqrt{13}\end{aligned}$$

20. (A) Area of field

$$\begin{aligned}&= 2\pi rh \times \text{No. of revolutions} \\&= 2 \times \frac{22}{7} \times \frac{2.4}{2} \times 1.68 \times 1000 \\&= 12672 \text{ m}^2\end{aligned}$$

21. (A) % increase in surface area

$$\begin{aligned}&= 10 + 10 + \frac{10 \times 10}{100} \\&= 21\%\end{aligned}$$

22. (C)  $\cos(105^\circ) + \sin 105^\circ$ 

$$\begin{aligned}&= \cos(60 + 45^\circ) + \sin(60 + 45^\circ) \\&= \frac{1}{2} \times \frac{1}{\sqrt{2}} - \frac{\sqrt{3}}{2} \times \frac{1}{\sqrt{2}} + \frac{\sqrt{3}}{2} \times \frac{1}{\sqrt{2}} \\&\quad + \frac{1}{2} \times \frac{1}{\sqrt{2}} = \frac{1}{\sqrt{2}}\end{aligned}$$

23. (D)  $\sin\left(67\frac{1}{2}^\circ\right), \sin\left(22\frac{1}{2}^\circ\right)$ 

$$\begin{aligned}&= \frac{1}{2} \sin\left(\frac{135^\circ}{2}\right) \sin\left(\frac{45^\circ}{2}\right) \\&= \frac{1}{2} \left[ 2 \sin\frac{135}{2} \sin\frac{45}{2} \right] \\&= \frac{1}{2} \left[ \cos\left(\frac{135}{2} + \frac{45}{2}\right) - \cos\left(\frac{135}{2} - \frac{45}{2}\right) \right] \\&= \frac{1}{2} \left[ \cos\frac{180}{2} - \cos\frac{90}{2} \right] \\&= \frac{1}{2} [\cos 90 - \cos 45^\circ] \\&= \frac{1}{2} \left[ 0 - \frac{1}{\sqrt{2}} \right] \\&= -\frac{1}{2\sqrt{2}}\end{aligned}$$

$$\begin{aligned}24. (*) \frac{\sqrt[3]{x^6}}{\sqrt[3]{x^{12}}} \times x^{-3} \times \sqrt[3]{x^9} \\&= \frac{x^2}{x^4} \times x^{-3} \times x^3 = \frac{1}{x^2}\end{aligned}$$

25. (D)

$$26. (\text{D}) ? = \sqrt{23409} = \sqrt{(153)^2} \\= 153$$

$$27. (\text{C}) \because ? - 4 = \sqrt[3]{6859} = \sqrt[3]{(19)^3} \\∴ ? = 19 + 4$$

$$= 23$$

$$28. (\text{A}) ? = 86 \times 5.6 \times 0.3 \\= 144.48$$

$$29. (\text{B}) ? = 3.44 + 5.22 + 7.23 + 5.24 \\= 21.13$$

$$30. (\text{A}) ? = 45698 - 23367 + 43237 \\= 65568$$

$$31. (\text{C}) \text{Youtube Channel} \\∴ \frac{42}{100} \text{ of } ? + \frac{18}{100} \text{ of } 400 = 219 \\∴ ? \times 0.42 + 72 = 219$$

$$∴ ? = \frac{219 - 72}{0.42} = \frac{147}{0.42} \\= 350$$

$$32. (\text{C}) ∵ (4)^1 \times 64 = 4096 \times (16)^3 + 16$$

$$∴ (4)^7 \times 4^3 = (4)^6 \times \frac{(4)^6}{4^2}$$

$$∴ (4)^{7+3} = 4^{6+6-2} \\∴ ? = 10 - 3 = 7$$

$$33. (\text{B}) ∵ 18 \times 15 \times ? = 6210$$

$$∴ ? = \frac{6210}{18 \times 15} \\= 23$$

$$34. (\text{A}) ? = 32.97 + 45.33 + 17.24 \\= 95.54$$

$$35. (\text{D}) ? = 45 \times 253 - 782 \\= 11385 - 782 = 10603$$

36. (D)  $? = \frac{12}{19} \times \frac{76}{81} \times \frac{3}{8}$   
 $= \frac{2}{9}$

37. (B)  $? = \sqrt{450 + 890 + 685}$   
 $= \sqrt{2025}$   
 $= 45$

38. (D)  $? = 23578 + 33872 + 17193 - 52559$   
 $= 22084$

39. (B)  $\therefore ? - (12)^2 = \sqrt{225} + \sqrt{2304}$   
 $\therefore ? = 15 + 48 + 144$   
 $= 207$

40. (E)  $? = 892.33 + 212.87 + 456.99$   
 $= 1562.19$

41. (C)  $? = \frac{3}{8} + \frac{7}{8} - \frac{5}{12}$   
 $= \frac{9 + 21 - 10}{24}$   
 $= \frac{5}{6}$

42. (C)  $? = 36 \times \frac{7}{12}$   
 $= 21$

43. (E)  $? = 8888 \div 8 + 2332 \div 2$   
 $= 1111 + 1166$   
 $= 2277$

44. (E)  $? = (15)^2 + (12)^2 - (18)^2$   
 $= 225 + 144 - 324$   
 $= 45$

45. (A)  $? = \frac{3}{4} \text{ of } \frac{46}{100} \text{ of } 400 - 12$   
 $= 138 - 12$   
 $= 126$

46. (E)  $? = 0.501 \times 10.011 \times 52.83$   
 $\approx 0.5 \times 10 \times 53$   
 $= 265 \text{ (Approx.)}$

47. (E)  $? = 2534 \div 23$   
 $= 110.17$   
 $\approx 110 \text{ (Approx.)}$

48. (C)  $? = \sqrt{4590} \approx 67.75$   
 $\approx 68 \text{ (Approx.)}$

49. (D)  $? = 16.002 \times 14.897 \times 20.334$   
 $\approx 16 \times 15 \times 20$   
 $\approx 4800 \text{ (Approx.)}$

50. (C)  $? = 4005.33 \div 19.89 \times 1.9$   
 $\approx \frac{4005}{20} \times 2$   
 $\approx 400 \text{ (Approx.)}$

## Part—IV General Awareness

- Present Chief Election Commissioner of India is—  
 (A) Navin Chawla    (B) S. Y. Quraishi  
 (C) V. S. Sampath    (D) None of these
- World's largest camel fair is organized in—  
 (A) Rajasthan, Jaipur  
 (B) Rajasthan, Bikaner  
 (C) Rajasthan, Pushkar  
 (D) Rajasthan, Udaipur
- Shigmo is one of the prominent festival of the—  
 (A) Tamil Community  
 (B) Santhali Community  
 (C) Konkani Hindu Community  
 (D) Muslim Community
- Department of 'AYUSH' comes under the ministry of—  
 (A) Ministry of Human Resources  
 (B) Ministry of Health and Family Welfare  
 (C) Ministry of Defence  
 (D) Ministry of Home Affairs
- How many teams participated in IPL-2013 ?  
 (A) 9                         (B) 8  
 (C) 7                         (D) 10
- Arrange the following devices in ascending order of the speed—

Join YouTube Channel

- (a) RAM                             (b) Hard disk  
 (c) Cache                             (d) Floppy  
 (A) dbac                             (B) bdac  
 (C) bade                             (D) abde
7. The outer part of a railway track near the bend or a curve is generally raised—  
 (A) To prevent the fast wear and tear of railway track  
 (B) To produce the necessary centripetal force  
 (C) To produce the necessary gravitational force  
 (D) To enhance the speed of the train
8. Which one of the following is not the unit of energy ?  
 (A) joule                             (B) newton-metre  
 (C) kilowatt                         (D) kilowatt-hour
9. As per the monetary policy of Reserve Bank of India, announced in 2011, The reverse Repo rate till RBI decides to delink it—  
 (A) Will be announced separately and will be linked to repo rate  
 (B) Will not be announced separately and will be linked to repo rate  
 (C) Will not be announced separately and will be linked to repo rate and will always be 100 bps below the repo rate  
 (D) Will not be announced separately and will be linked to repo rate and will always be 100 bps above the repo rate
10. During summer days, water kept in an Earthen pot (Pitcher) becomes cool because of phenomenon of—  
 (A) Diffusion                         (B) Transpiration  
 (C) Osmosis                         (D) Evaporation
11. There is a temperature at which degree Fahrenheit and degree centigrade have the same numerical value. This numerical value is—  
 (A)  $-32^{\circ}$                              (B)  $-40^{\circ}$   
 (C)  $0^{\circ}$                                      (D)  $32^{\circ}$
12. The smallest functional unit of kidney is—  
 (A) Neuron                             (B) Nephron  
 (C) Air Sac                             (D) Ovaries
13. What is the salary of ex-officio chairman of Rajya Sabha ?  
 (A) ₹ 1,25,000                         (B) ₹ 1,50,000  
 (C) ₹ 1,00,000                         (D) None of these
14. Smallest and Largest planet of solar system is respectively—  
 (A) Mercury and Uranus  
 (B) Neptune and Jupiter  
 (C) Mars and Saturn  
 (D) Mercury and Jupiter
15. The First session of Indian National Congress was held in—  
 (A) Bombay                             (B) Delhi  
 (C) Calcutta                             (D) Bangalore
16. How many members are nominated by President to represent the Anglo Indian community ?  
 (A) 2                                     (B) 5  
 (C) 12                                     (D) 3
17. Which incident led Gandhiji to call off non-cooperation movement ?  
 (A) Kakori incident  
 (B) Chouri Choura incident  
 (C) Jallianwala Bagh Massacre  
 (D) None of these
18. Who among the following was the first woman ruler of India—  
 (A) Razia Sultan                         (B) Chand Bibi  
 (C) Nurjahan                             (D) Mumtaj Mahal
19. Which Mughal emperor imposed Jaziya on Hindus and encouraged the Hindus to convert to Islam—  
 (A) Shahjahan                             (B) Jehangir  
 (C) Aurangzeb                             (D) Akbar
20. The Earth comes nearest to the Sun in—  
 (A) July                                     (B) September  
 (C) December                             (D) February
21. 2015, ICC Cricket World Cup will be hosted by—  
 (A) Australia                             (B) New Zealand  
 (C) West Indies                             (D) Both (A) and (B)

22. Barack H. Obama has been recently re-elected as President of USA, defeating republican challenger—  
(A) Joe Biden  
(B) Mitt Romney  
(C) Jesse Kelly  
(D) Kelving Mc Carthy
23. Russia is expected to supply Admiral Gorshkov by 2013 end. What is 'Admiral Gorshkov' ?  
(A) Rifles                   (B) Aircraft Carrier  
(C) Tank                   (D) Space craft
24. Bhopal Gas tragedy is associated with leakage of—  
(A) Sulphur dioxide  
(B) Carbon dioxide  
(C) Methyl ISO cyanate  
(D) Nitrogen dioxide
25. Headquarters of UNO are situated at—  
(A) New York, USA  
(B) Hague (Netherlands)  
(C) Geneva  
(D) Paris
26. Kathak, Nauntanki and Kajri are art form of—  
(A) Uttaranchal           (B) Uttar Pradesh  
(C) Jharkhand           (D) Chhattisgarh
27. Leonardo da Vinci—  
(A) was a great Italian painter, sculptor and architect  
(B) Got universal fame from his masterpiece 'Monalisa'  
(C) Drew models of organs such as the heart, lungs and womb  
(D) All of these
28. National Anthem was first sung on—  
(A) December 27, 1911 during the Indian National Congress Session at Calcutta  
(B) January 24, 1950 by the Constituent Assembly of India  
(C) January 26, 1959 by the Government of India  
(D) None of these
29. ISRO recently cleared a frequency band from satellite to be used for internet on trains—  
(A) KU Band               (B) S Band  
(C) C Band               (D) None of these
30. The National Development Council has approved recently the 12th Five Year Plan and set an annual average growth target of—  
(A) 8.2%                   (B) 9%  
(C) 10%                   (D) 11%
31. India on Oct. 4, 2012 successfully test fired nuclear capable Prithvi-II ballistic missile from a test range at Balasore. This was a—  
(A) Surface to Surface Missile  
(B) Air to Surface Missile  
(C) Air to Air Missile  
(D) Surface to Air Missile
32. Rath Yatra—This famous festival is held in—  
(A) Tamil Nadu           (B) Karnataka  
(C) Odisha               (D) West Bengal
33. The world cheapest computer 'Aakash', which has the potential to revolutionize educational access in developing world, is manufactured by—  
(A) IBM                   (B) HCL  
(C) Data Wind           (D) Intel
34. With the 92nd Constitutional amendment, how many new languages were added to the 8th schedule of the Constitution—  
(A) 2                      (B) 5  
(C) 4                      (D) 3
35. The lowest layer of atmosphere, extending upto 10 miles in the tropics, is called the—  
(A) Stratosphere           (B) Tropopause  
(C) Troposphere          (D) Mesosphere
36. The Chipko Andolan is associated with—  
(A) Tigers  
(B) Trees  
(C) Fevicol  
(D) Cleaning of Ganga
37. The river water is polluted with acidic wastes if pH of water is—  
(A) Below 7               (B) Above 7  
(C) Equal to 7           (D) Any one of these

38. India is progressing in technological development and planning Mangalyaan mission in 2013. If India's mission goes successful, it would become the ..... doing so.  
 (A) Fourth Nation    (B) Third Nation  
 (C) Second Nation    (D) Sixth Nation
39. Who was named AIFF (All India Football Federation) player of the year 2012 ?  
 (A) Subrata Paul  
 (B) Gouramangi Singh  
 (C) Sunil Chhetri  
 (D) Syed Rahim Nabi
40. How many gold medals were won by India at Copa Brasil-2012 Tournament for wrestling ?  
 (A) Six    (B) Eight  
 (C) Nine    (D) Seven
41. Dr. Montek Singh Ahluwalia said that the term 'Bimaru' States should be done away with. Which States was/were termed as Bimaru states ?  
 (A) Bihar, Uttar Pradesh  
 (B) Bihar, Jharkhand, Uttar Pradesh, Madhya Pradesh  
 (C) Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh  
 (D) Bihar
42. When Rongali bihu is celebrated—  
 (A) In the month of April  
 (B) In the Month of October  
 (C) In the Month of January  
 (D) In the Month of December
43. The International Kite Festival is one of the most colorful events of which state of India ?  
 (A) Bihar    (B) Uttar Pradesh  
 (C) Gujarat    (D) Rajasthan
44. Consider the London Olympics held recently. Identify the wrong match—  
 (A) Yogeshwar Dutt—Silver in Wrestling  
 (B) Vijay Kumar—Silver in Shooting  
 (C) Saina Nehwal—Bronze in Badminton  
 (D) Gagan Narang—Bronze in Shooting
45. Which country recently elected its first woman President in December 2012 ?  
 (A) North Korea    (B) South Korea  
 (C) Japan    (D) China
46. What is Basel III norms ?  
 (A) The Global Capital norms for Banks  
 (B) The Global Pollution Norms for Auto Manufacturer  
 (C) The Global Norms for Cyber World  
 (D) The Global Pollution Norms for Heavy Industries
47. Udayan intensive Five Year Programme is launched by public health foundation of India. This is initially focussed for improving outcome for people with—  
 (A) Cancer  
 (B) TB  
 (C) Diabetes and high blood pressure  
 (D) Neurological diseases
48. Santhali language is chiefly spoken by more than six million people in India. Apart from the States of Bihar and Jharkhand, it is also spoken in the State of—  
 (A) Assam Orissa, West Bengal and Tripura  
 (B) Uttar Pradesh and Rajasthan  
 (C) Haryana, Jammu and Kashmir  
 (D) Himachal and Jammu and Kashmir
49. Ebb and flow is—  
 (A) A Missile recently launched from Odisha  
 (B) A gravity mapping satellites of NASA  
 (C) A discovery of new star  
 (D) A system of Measurement of liquid
50. Which of the following countries has become first to pass Climate Act ?  
 (A) Australia    (B) Germany  
 (C) Canada    (D) USA

### Answers with Explanations

1. (C)
2. (C) In Rajasthan, largest camel/ cattle fair is organized each year on large scale at Pushkar-Ajmer. 15 km away nearby Brahma Temple as well as on small scale at Bikaner (Raj.)
3. (C)    4. (B)    5. (A)    6. (A)    7. (B)

8. (C) kilowatt is unit of power.  
 9. (C) 10. (D)  
 11. (B) For conversion of temperature ( $^{\circ}\text{C}$  to  $^{\circ}\text{F}$  or v/s), the formula is used as;
- $$\frac{C}{5} = \frac{F - 32}{9},$$
- hence,  $9C = 5F - 160$ ,
- $$\frac{-40}{5} = \frac{-40 - 32}{9},$$
- $$-360 = -200 - 160; -360 = -360.$$
- Thus,  $-40^{\circ}$  value is equal or having same numerical value.
12. (B)  
 13. (A) Chairman of Rajya Sabha is Vice-President, its salary is 1,25,000.  
 14. (D) Smallest planet of solar system is Mercury (4,878 km diameter) and largest planet is Jupiter (having diameter of 138,081 km), respectively.  
 15. (A) 16. (A) 17. (B) 18. (A) 19. (C)  
 20. (C) 21. (D) 22. (B) 23. (B) 24. (C)  
 25. (A) The Headquarters (Hq.) of United Nations Organization (UNO) is located at New York (USA) established in 1945 with Chief Administrative / Chief Secretary Ban Ki-Moon of South Korea.  
 26. (B) Kathak, Nautanki and Kajri, as well as Rasleela, Jhoola, Diwali, Karan, Sheela etc., are the art form of U.P.  
 27. (D)  
 28. (A) National Anthem—'song Janganamana', composed originally in Bengali by Rabindranath Tagore, was first sung on 27 December, 1911 at the Kolkata Session of the Indian National Congress, which consists of five stanzas.  
 29. (A) 30. (A) 31. (A) 32. (C) 33. (C) 34. (C)  
 35. (C) There are 4 layers in atmosphere i.e., (i) **Troposphere** lowest layer spread upto 12 km height from ground level; (ii) **Stratosphere** 13–32 km height (iii) **Ozonosphere** 32–80 km height and **Ionosphere** 80–640 km height spread.  
 36. (B) 'Chipko Andolan' is associated with trees plantation. Say, Afforestation, so there is a need to save environment pollution and be control on Deforestation. Since, FOREST gives us 6things i.e., F-Food, O-O<sub>2</sub> (oxygen), R-Rains, E-Environmental protection, S-Soil conservation and T-Timber, and finally Fund.  
 37. (A) Infact, river water is polluted with acidic wastes and hence the pH of water is going down from pH level 7 to 3 depending up the acidity of water/acidic wastes.  

This pH scale can be expressed as; pH 3 to below 7 (Acidic) → 7-0 pH (Neutral) → above 7 to 8.5 (normally) pH (Alkaline/Saline). Slightly acidic water 6.5-7 pH would be useful to crops.

 38. (D) If India's Mars mission in 2013 succeeds it will be the 6th nation in the world to do so after U.S.A., Russia, Europe(European Space Agency), Japan and China.  
 39. (D)  
 40. (C) India won 9 gold medals and 4 bronze medals at Copa, Brasil-2012 Tournament for Wrestling held during November 29, 2012 and December 2, 2012.  
 41. (C) 42. (A) 43. (C)  
 44. (A) Yogeshwar Dutt won a bronze medal India won 6 medals in London Olympic.  
 45. (B) 46. (A) 47. (C) 48. (A) 49. (B)  
 50. (C)

# Practice Set-7

## Part—I General Intelligence

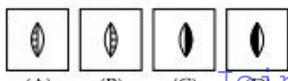
Directions—(Q. 1–9) Select the related word/letters/number/figure from the given alternatives.

### 1. Question figures



?

### Answer figures



(A)

(B)

(C)

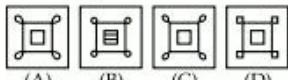
(D)

### 2. Question figures



?

### Answer figures



(A)

(B)

(C)

(D)

### 3. Question figures



?

### Answer figures



(A)

(B)

(C)

(D)

### 4. ? : JHKI :: TRUS : OMPN

- (A) LOMP      (B) QMPN  
(C) GEHF      (D) GEFH

5. AEJO : ZVQL :: DINS : ?  
(A) WRNJ      (B) WSNI  
(C) WRMH      (D) WSOJ

6. IRTH : HQSG :: ? : RQPO  
(A) OPQR      (B) SRQP  
(C) QPON      (D) PQRO

7. 16 : 64 :: 25 : ?  
(A) 55      (B) 110  
(C) 83      (D) 125

8. 5 : 15 :: 40 : ?  
(A) 120      (B) 55  
(C) 60      (D) 45

9. : ?
- (A) 169      (B) 324  
(C) 81      (D) 196

Directions—(Q. 10–18) Select the one which is different from the other three response.

10. (A) Copper      (B) Diamond  
(C) Aluminium      (D) Tungsten

11. (A) Broker      (B) Salesman  
(C) Customer      (D) Hawker

12. (A) Engineer      (B) Potter  
(C) Weaver      (D) Spinner

13. (A) Rose      (B) Jasmine  
(C) Champaka      (D) Hibiscus

14. (A) AIDS      (B) Typhoid  
(C) Cholera      (D) Jaundice

15. (A) SRBH      (B) RHSN  
(C) RQFJ      (D) ODHR

16. (A) 144 72 36      (B) 124 62 31  
(C) 114 57 28      (D) 120 60 30

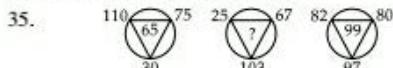
134P 1 SSC Higher Secondary Level (10 + 2)

17. (A) 7832                    (B) 2398  
                                  (C) 8987                    (D) 6354                    (A) 7                            (B) 15  
                                  (C) 65                            (D) 138
18. (A) 64 – 8                (B) 80 – 9  
                                  (C) 49 – 7                (D) 36 – 6
19. Arrange the given words in the order in which they occur in the dictionary and find the last but one word—  
(A) Fauxbourdon            (B) Favonian  
(C) Faubourg                (D) Fatsinent
20. Arrange the following words in the order in which they occur in the dictionary. Which will appear fourth in the dictionary ?  
(A) Nucleonic                (B) Nuclearize  
(C) Nucleosynthesis        (D) Nucleoprotein
21. Arrange the following words in the order in which they occur in the Dictionary :  
(1) Interview                (2) Inventory  
(3) Invention                (4) Interval  
(5) Investment  
(A) 2, 5, 3, 1, 4            (B) 4, 1, 3, 2, 5  
(C) 3, 5, 4, 1, 2            (D) 3, 5, 4, 1, 2
- Directions—(Q. 22–26)** Choose the correct alternative from the given responses that will complete the series :
22. xy, wv, xy, ut, xy, ?  
(A) yx                        (B) sr  
(C) xy                        (D) rs
23. PQR, HIJ, DEF, ?  
(A) DEF                      (B) CDE  
(C) ABC                      (D) BCD
24. NDB, LED, JGG, ?  
(A) HJK                      (B) HJI  
(C) LNP                      (D) HED
25. 18, 54, 162, 486, 1458, ?  
(A) 2187                     (B) 13122  
(C) 39366                    (D) 4374
26. 20, 30, 42, 56, 72, ?  
(A) 85                        (B) 90  
(C) 87                        (D) 95
27. Find the wrong number in the given series :  
7, 15, 32, 65, 138
28. A party consisted of a man, his wife, his three sons and their wives and three children in each son's family. How many were there in the party ?  
(A) 22                        (B) 13  
(C) 17                        (D) 24
29. ₹ 6,500 were divided equally among a certain number of persons. Had there been 15 more persons, each would have got ₹ 30 less. Find the original number of persons—  
(A) 40                        (B) 45  
(C) 50                        (D) 55
30. From the following alternatives, select the word which cannot be formed using the letters of the given word :  
**UNIVERSITY**  
(A) INVERT                    (B) UNITE  
(C) NEVER                    (D) REST
31. In a certain code MEN is written as MIN and WOMEN is written as WUMIN, then how will CHILD be written in the same code ?  
(A) CHELD                    (B) CHALD  
(C) CHOLD                    (D) CHULD
32. If Y = 2, PEN = 11-22-13, then 10-6-18-24-16 = ?  
(A) JFRXP                    (B) QUACK  
(C) QUICK                    (D) QUITE
33. Find out the number which belongs to the given group of numbers from the four alternatives.  
5, 25, 90, 35, 60  
(A) 15                        (B) 24  
(C) 21                        (D) 83
34. If + stand for division  
– stands for equal to  
× stands for addition  
÷ stand for greater than  
= stands for less than  
> stands for multiplication  
< stands for subtraction

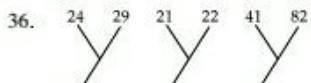
then of the given alternative which one is correct ?

- (A)  $5 > 3 \times 7 = 8 > 4 + 2$
- (B)  $5 < 3 > 7 - 8 > 4 + 2$
- (C)  $5 \times 3 < 7 \div 8 + 4 < 2$
- (D)  $5 + 3 > 7 - 8 \times 4 + 2$

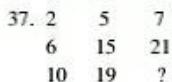
**Directions—(Q. 35–37)** Select the missing number from the given responses.



- (A) 61
- (B) 89
- (C) 120
- (D) 195



- (A) 121
- (B) 63
- (C) 33
- (D) 123



- (A) 29
- (B) 25
- (C) 28
- (D) 52

38. Going 60 metre to the South of his house, Kiran turn left and goes another 20 metres, then turning to the North, he goes 40 metre and then starts walking to his house. In which direction is his house from there ?

- (A) North
- (B) South-East
- (C) East
- (D) North-West

39. Ram started walking towards East. After 1 km, he turned South and walked 5 km. Again he turned East and walked 2 km. Finally, he turns to the North and walked 9 km. How far is he from the starting point ?

- (A) 3 km
- (B) 4 km
- (C) 5 km
- (D) 7 km

40. Four positions of a cube are shown below. If symbol Sun is at the top, what symbol will be at the bottom ?

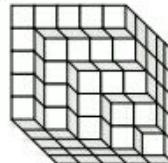
### Question Figures



### Answer Figures



41. How many white cubes are there in the given structure ?



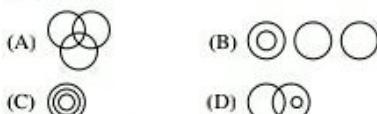
- (A) 16
- (B) 24
- (C) 40
- (D) 65

42. In the following Venn diagram, identify the number which denotes Doctors who know both Swimming and Dancing.



- (A) 3
- (B) 4
- (C) 6
- (D) 5

43. Which one of the following diagrams best depicts the relationship among College Graduates, Professional Athletes and Great Scientists ?



**Directions—(Q. 44–45)** Two statements are given followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You are to decide which of the given conclusions, if any, follow from the given statements.

44. **Statements :** Mind is a stream of thoughts.  
Mind is working all the time.

**Conclusions :**

- I. If there is no thought, there is no mind.  
II. Thoughtless people will not succeed.

- (A) Only conclusion I follows  
(B) Only conclusion II follows  
(C) Neither conclusion I nor II follows  
(D) Both conclusion I and II follow

45. **Statements :** Teachers should have empathy. Student need empathetic approach from their teachers.

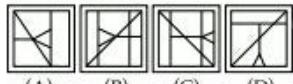
**Conclusions :**

- I. Persons without empathy cannot become good teachers.  
II. Good teachers understand the problems of their students.  
(A) Only conclusion I follows  
(B) Only conclusion II follows  
(C) Neither conclusion I nor II follows  
(D) Both conclusion I and II follows

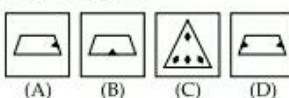
46. Which answer figure will complete the pattern in the question figure?

**Question Figure****Answer Figures**

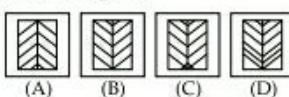
47. Select the answer figure in which the question figure is hidden/embedded.

**Question Figure****Answer Figures**

48. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?

**Question Figure****Answer Figures**

49. Which of the answer figure is exactly the mirror image of the given figure, when the mirror is held on the line A B?

**Question Figure****Answer Figures**

50. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of matrix I and II are numbered from 0 to 4. A letter from these matrices can be represented first by its row and next by its column, e.g., 'A' can be represented by 24, 31 etc., and 'P' can be represented by 11, 32 etc. Identify the set for the letters AELO.

**Matrix-I**

	0	1	2	3	4
0	A	E	C	B	D
1	C	D	A	E	B
2	B	E	D	C	A
3	D	A	C	B	E
4	B	E	D	A	C

**Matrix-II**

	0	1	2	3	4
0	L	M	O	N	P
1	N	P	L	M	O
2	P	M	O	L	N
3	L	N	P	M	O
4	O	N	L	P	M

- (A) 12, 34, 30, 02  
 (B) 12, 30, 42, 14  
 (C) 31, 00, 23, 22  
 (D) 43, 01, 12, 42

**Answers with Explanations**

1. (D) One part of P.F. (1) is blackened to the other side in P.F. (2). Similarly one part of P.F. (3) will be blackened to the other side in P.F. (4).
2. (A) The upper designs of P.F. (1) are reversed in P.F. (2). So in the case in Answer figure (A) and P.F. (3).

3. (A)

4. (C) As,



Similarly,



5. (C) As, A Z → I + 26 = 27

E V → 5 + 22 = 27

A R → 10 + 17 = 27

E L → 13 + 14 = 27

Similarly,

D	W	→ 4 + 23 = 27
I	R	→ 9 + 18 = 27
N	M	→ 14 + 13 = 27
S	H	→ 19 + 8 = 27

6. (B) As,  $I \xrightarrow{-1} H$   
 $R \xrightarrow{-1} Q$   
 $T \xrightarrow{-1} S$   
 $H \xrightarrow{-1} G$

Similarly,

S	→ -1	R
R	→ -1	Q
Q	→ -1	P
P	→ -1	O

7. (D) As,  $\frac{16 \rightarrow 64}{(\sqrt{16})^3}$

Similarly  $\frac{25 \rightarrow 125}{(\sqrt{25})^3}$ 

8. (A) As,  $\frac{5 \rightarrow 15}{\times 3}$

Similarly  $\frac{40 \rightarrow 120}{\times 3}$ 

9. (D) As,  $(2 + 1 + 5)^2 = 64$   
 Similarly,  $(4 + 3 + 7)^2 = 196$

10. (B) All the rest are metals.

11. (C) All the rest are sales agencies while customer is a purchaser.

12. (A) All the rest are artisans while engineer is an educated and professional.

13. (D) All the rest are flowers while Hibiscus is a bush.

14. (A) AIDS takes long time for infection while the rests take short time for infection.

15. (D) Only in ODHR, there is a vowel.

16. (C)
- $\frac{144}{\times \frac{1}{2}} \frac{72}{\times \frac{1}{2}} \frac{36}{\times \frac{1}{2}} \frac{124}{\times \frac{1}{2}} \frac{62}{\times \frac{1}{2}} \frac{31}{\times \frac{1}{2}} \frac{120}{\times \frac{1}{2}} \frac{60}{\times \frac{1}{2}} \frac{30}{\times \frac{1}{2}}$

but

$$\frac{144}{\times \frac{1}{2}} \frac{57}{\times \frac{1}{2}} \frac{28}{\times \frac{1}{2}}$$

17. (C) Only in 8987 one digit is repeated.

18. (B)
- $\frac{64 \rightarrow 8}{\sqrt{64}}$
- $\frac{49 \rightarrow 7}{\sqrt{49}}$
- $\frac{36 \rightarrow 6}{\sqrt{36}}$

But 80 is not the square of 9.

19. (A) Fatiscent, Faubourg,

Fauxbourdon

Favonian

20. (D)

Nuclearize, Nucleonic

Nucleoprotein Nucleosynthesis

21. (B) Interval, Interview, Invention, Inventory, Investment.

22. (B)
- $\text{xy}, \text{wv}, \text{xy}, \text{ul}, \text{xy}, \text{sr}$
- $$\begin{array}{c} +1 \\ \text{xy, wv, xy, ul, xy, sr} \\ +1 \end{array}$$

23. (D)

$$\begin{array}{ccccc} P & \xrightarrow{-8} & H & \xrightarrow{-4} & D \\ Q & \xrightarrow{-8} & I & \xrightarrow{-4} & E \\ R & \xrightarrow{-8} & J & \xrightarrow{-4} & F \end{array} \xrightarrow{-2} \boxed{\begin{array}{c} B \\ C \\ D \end{array}}$$

24. (A)

$$\begin{array}{ccccc} N & \xrightarrow{-2} & L & \xrightarrow{+2} & J \\ D & \xrightarrow{+1} & E & \xrightarrow{+2} & G \\ B & \xrightarrow{-2} & D & \xrightarrow{+3} & G \end{array} \xrightarrow{+4} \boxed{\begin{array}{c} H \\ J \\ K \end{array}}$$

25. (D)

$$\begin{array}{ccccccc} 18 & 54 & 16 & 2 & 48 & 6 & 145 & 6 \\ \times 3 & \times 3 \end{array} \rightarrow 574$$

26. (B)

$$\begin{array}{ccccccc} 20 & 30 & 42 & 56 & 72 & 90 \\ +10 & +12 & +14 & +16 & +18 & \end{array}$$

27. (D)

$$\begin{array}{ccccccc} 7 & 15 & 32 & 65 & 132 \\ \times 2+1 & \times 2+2 & \times 2+1 & \times 2+2 & \end{array}$$

28. (C) Total number

$$\begin{aligned} &= 1 + 1 + 3 + 3 + 9 \\ &= 17 \end{aligned}$$

29. (C) Let the original number of persons be
- $x$

$$\frac{6500}{x} - \frac{6500}{x+15} = 30$$

$$\therefore \frac{6500(x+15-x)}{x(x+15)} = 30$$

$$\therefore 6500 \times 15 = 30(x^2 + 15x)$$

$$30x^2 + 450x = 97500$$

$$3x^2 + 45x = 9750$$

$$3x^2 - 150x + 195x - 9750 = 0$$

$$3x(x-50) + 195(x-50) = 0$$

$$\therefore x = 50$$

30. (C) There is only one R in the given word.

31. (C) As, M → M, W → W

E → I O → U

N → N M → M

E → I

N → N

Hence, C → C  
 H → H  
 I → O  
 L → L  
 D → D

Next vowel for E is I and for I is O.

32. (C) 10 → Q, 6 → U, 18 → I,

$$24 \rightarrow C, \rightarrow 16 \rightarrow K$$

$$\therefore 10 - 6 - 18 - 24 - 16 = \text{QUICK}$$

The numbers are in reverse order of alphabets.

 For example  $z = 1, y = 2, x = 3$  and so on.

33. (A) All the numbers in the given series are divisible by 3 and so is 15.

34. (C)
- $5 \times 3 < 7 + 8 + 4 < 2$

$$\Rightarrow 5 + 3 - 7 > 8 + 4 - 2$$

$$\Rightarrow 1 > 2 - 2$$

$$\Rightarrow 1 > 0$$

35. (A) As,
- $110 + 30 - 75 = 65$

$$\text{and } 82 + 97 - 80 = 99$$

$$\text{Similarly, } 25 + 103 - 67 = 61$$

36. (D) As,
- $24 + 29 = 53$

$$\text{and } 21 + 22 = 43$$

$$\text{Similarly, } ? = 41 + 82$$

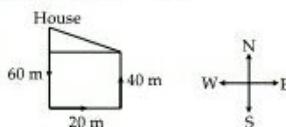
$$= 123$$

37. (A) As,
- $2 + 5 = 7$

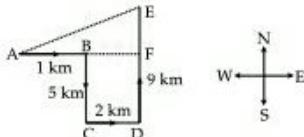
$$\text{and } 6 + 15 = 21$$

$$\text{Similarly, } 10 + 19 = 29$$

38. (D) House



39. (C)



$$AF = 1 + 2 = 3 \text{ km}, EF = 9 - 5 = 4 \text{ km}$$

$$AE = \sqrt{3^2 + 4^2} = 5 \text{ km}$$

40. (A) As symbol  $\star$  is not adjacent to the sum in all the four figures, so  $\star$  will be at the bottom.
41. (C) 42. (B)
43. (A) Some College Graduates may be some professional Athletes and some Great Scientists, similarly professional athletes may be some Great Scientists and some College Graduates and so for Great Scientists.
44. (A) Only I conclusion follows the statement because working all the time will not succeed the people.
45. (B) 46. (A) 47. (A) 48. (D) 49. (B)
50. (A)

## Part—II Join YouTube Channel English Language

**Directions—(Q. 1–15)** Read the following passage carefully and answer the questions given below it. Certain words/phrases are given in **bold** in the passage to help you locate them while answering some of the questions.

There once lived a shrewd shopkeeper named Makarand. He had a friend, Mihir, who had saved a lot of money. Now, Mihir was keen to go on a pilgrimage, but did not know whom to trust with his precious savings. So he came to Makarand's shop and said, "Friend, please look after my life's savings till I return." Makarand pretended to think seriously and said, "No money **spoils** relationships. What if something happens to it when you are not here? You will no longer be my friend."

As Mihir stood there thinking about this, an old woman entered the shop and bought some things. One of the shopboys gave her less change than he should have. Makarand saw this and pretended to scold the boy, ordering him to return the remaining money to the woman. Mihir, unaware this was an act to make him believe in

Makarand's honesty, said, "I have decided. I will leave the money with you."

Makarand smiled. "Let's take the bag of coins and bury it in a place that only you and I know of. So, even if something happens to me when you are gone, you will know where your money is." Mihir thought this was a good idea and the two went and hid the bag in a secret place. Mihir left the next day on his pilgrimage, happy his savings were in safe hands. Six months later, he returned, dumped his luggage at home and went to recover his money. Although he searched high and low, there was no sign of the bag.

In panic, he ran to Makarand, who was busy at his shop. When Mihir asked him about the bag, Makarand pretended to be surprised. "But I haven't been that way in all these months. Why don't you search for it again?" he said, putting on his most innocent look. Mihir had no choice and sadly, he made his way home. On the way, he met the old woman he had seen in Makarand's shop. At the sight of his sad face, she asked him what the **matter** was. Mihir told her the whole story. Then she smiled and whispered a plan to him.

The next day, the woman came to Makarand's shop, carrying a big box. "I heard you are a good and honest man. My son went on pilgrimage many months ago and has still not returned. I am worried and have decided to go look for him. Will you look after my box of two hundred gold coins while I am away?" Makarand could not believe his luck. He was about to become rich at the **expense** of the old woman. He was about to launch into his idea about hiding the box, when an angry Mihir entered the shop. "Where is ......." But before he could complete his sentence, Makarand, afraid of being accused in front of the old woman, said quickly. "I forgot. I had seen some pigs digging around there and had removed your bag to keep it safe." And he handed Mihir the bag he had stolen many months ago. Now the old woman pretended she was seeing Mihir for the first time. "Son, did you also go on a pilgrimage? Tell me, did you meet my son anywhere?" Mihir, clutching his precious bag, replied, "Yes, Aunty. I met him on his way home. He should be here in a week." Hearing this the old woman took her box away from Makarand. "Thank you, you have saved me an **unnecessary** trip. Now I will use the money to prepare for my son's welcome!" And the two departed, leaving Makarand staring open-mouthed.

1. Why did Makarand scold his shop assistant for not refunding the correct balance ?
- (A) It was a pretense to trick the customer into buying something more
  - (B) To convince Mihir to leave his money behind with him for safekeeping
  - (C) Makarand himself was very honest and demanded the same from his employees
  - (D) To ensure that the assistant would never steal again
  - (E) He knew Mihir trusted the old woman and wanted to make a good impression
2. Why did Mihir approach Makarand to keep his savings while he went on a pilgrimage ?
- (A) Makarand was a clever businessman and would increase the savings
  - (B) Makarand was the only one he knew who was not going on the pilgrimage
  - (C) Makarand knew of a very safe place to hide the money
  - (D) Makarand had an excellent memory and was Mihir's best friend
  - (E) Mihir felt that he could trust Makarand
3. Why did Makarand remove Mihir's money from its original hiding place ?
- (A) He was afraid that someone would discover it and steal it
  - (B) He was worried that he would forget where it was hidden
  - (C) Since Mihir had not returned within six months he had claimed the money
  - (D) To teach Mihir a valuable lesson about entrusting money to others
  - (E) None of these
4. What was Makarand's initial reaction when Mihir was distressed about having lost his life savings ?
- (A) He asked Mihir to return home as he was very busy
  - (B) He comforted him by promising to loan him the money the next day
  - (C) He pretended not to know what had happened to the money
  - (D) He assured him that he would help find the money
- (E) He asked him to return later as he did not want to discuss it in front of customers
5. Why did Mihir and the old woman hatch a plot ?
- (A) To trick Makarand into returning what rightfully belonged to Mihir
  - (B) to swindle Makarand out of his money
  - (C) To ruin Makarand's reputation so that he would not cheat people
  - (D) To learn how Makarand had spent Mihir's wealth
  - (E) None of these
6. Why did Makarand interrupt Mihir when he came to claim his money the second time ?
- (A) He was busy serving a customer and did not want to be distracted
  - (B) To prevent the old woman from doubting his integrity
  - (C) He had quarrelled with Mihir and they were no longer friends
  - (D) He suddenly remembered where he had hidden the money and was anxious to tell him
  - (E) None of these
7. Which of the following is **TRUE** in the context of the passage ?
- 1. The old woman was the wisest of the villagers.
  - 2. Mihir was trustworthy and kind to the villagers.
  - 3. Makarand was greedy and dishonest.
- (A) Only 3
  - (B) Only 1 and 2
  - (C) Only 1 and 3
  - (D) All 1, 2 and 3
  - (E) None of these
8. What upset Mihir when he returned home from the pilgrimage ?
- (A) He could not remember where he had buried his savings
  - (B) Makarand had failed to regularly check up on Mihir's savings
  - (C) He had lost his entire life savings
  - (D) Makarand's refusal to help him search for his savings
  - (E) Makarand had revealed where Mihir's savings were hidden to the old woman

9. What did Makarand plan to do with the old woman's money ?  
 (A) Use it to repay what he had borrowed from Mihir  
 (B) Keep it safe till her son returned  
 (C) Hide it where the animals would not be able to dig it up  
 (D) Keep the money for himself  
 (E) Invest it in his business so that it would earn interest
10. Why did the old woman help Mihir recover his money ?  
 (A) She had had a similar experience with Makarand and wanted to teach him a lesson  
 (B) Mihir had become friends with her son during the pilgrimage  
 (C) Mihir promised to help her find her son in return  
 (D) She felt sorry for Mihir who had always been kind to her  
 (E) Not clearly mentioned in the passage

**Directions—(Q. 11–13)** Which of the following is **most similar** in meaning to the word given in **bold** as used in the passage.

#### 11. Matter

- |               |              |
|---------------|--------------|
| (A) Substance | (B) Problem  |
| (C) Relevance | (D) Material |
| (E) Object    |              |

#### 12. Expense

- |            |            |
|------------|------------|
| (A) Profit | (B) Amount |
| (C) Cost   | (D) Charge |
| (E) Rate   |            |

#### 13. Sign

- |               |                |
|---------------|----------------|
| (A) Authorise | (B) Warning    |
| (C) Gesture   | (D) Indication |
| (E) Notice    |                |

**Directions—(Q. 14–15)** Which of the following is **most opposite** in meaning to the word given in **bold** as used in the passage.

#### 14. Spoils

- |               |                 |
|---------------|-----------------|
| (A) Enhances  | (B) Accepts     |
| (C) Increases | (D) Indulgences |
| (E) Recovers  |                 |

#### 15. Unnecessary

- |               |               |
|---------------|---------------|
| (A) Needy     | (B) Excessive |
| (C) Surplus   | (D) Avoidable |
| (E) Essential |               |

**Directions—(Q. 16–25)** Read each sentence to find out whether there is any grammatical mistake/error in it. The error, if any, will be in one part of the sentence. Mark the number of the part with error as your answer. If there is no error, mark (E).

16. Handicraft exports have an increase/in the past  
 (A) (B)  
 year / because of the innovative steps / taken  
 (C) by the government. No error  
 (D) (E)
17. SEBI has recently issued / showcause notices  
 (A) (B)  
 to some / insurance companies seeking its  
 (C) explanation for not / complying with certain  
 (D) norms. No error  
 (E)
18. An investor must / be take into account / many  
 (A) (B)  
 factors before / making any financial decision.  
 (C) (D) (E) No error
19. The tax treaty between India and Switzerland  
 (A) have / been amended and we / shall be able  
 (B) to obtain information / about any Swiss bank  
 (C) account by next month. No error  
 (D) (E)
20. Under the scheme banks / provide loan to  
 (A) small and medium / enterprises at two per  
 (B) cent / lower the market rate. No error  
 (C) (D) (E)
21. The next meeting can be / hold next week as /  
 (A) (B)  
 we had the first meeting / over a month ago.  
 (C) (D) No error  
 (E)
22. In his speech/the finance minister stated / that  
 (A) (B)

- the new tax law will be / applicable from April  
 (C) (D)  
 1, 2010. No error  
 (E)
23. I would advise you/to invest in our company /  
 (A) (B)  
 stock although last year / our profits decline.  
 (C) (D)  
 No error  
 (E)
24. A current account is a deposit account / which  
 (A)  
 is offered by banks mainly / to firms and  
 (B) (C)  
 companies who / need banking facilities very  
 (D)  
 frequently. No error  
 (E)
25. The committee will discuss / the draft in  
 (A) (B)  
 detail / and will make suggestions for the /  
 (C)  
 proper implementing the scheme. No error  
 (D) [Join YouTube Channel](#) (E)
- Directions—(Q. 26–30)** In each question below is given a set of 4 sentences S1, S2, S3 and S4 which form a meaningful paragraph. One of the sentences has been removed. Below each set are provided 5 options, one of which may be used to fill in the missing sentence. The letter of the option which can be used in place of the missing sentence is your answer.
- Example S1** Some animals live in lakes.  
 S2 .....  
 S3 Its shelf is useful  
 (A) There are many lakes in India  
 (B) Other animals live in the sea  
 (C) They have all been killed  
 (D) The turtle is one such animal  
 (E) They are caught regularly
26. S1 The budget will be announced next week  
 S2 .....  
 S3 They expect taxes to be raised  
 S4 But the government has to take this  
 tough step  
 (A) People are looking forward to tax cuts  
 (B) There will be no change in policy  
 (C) It may be delayed though  
 (D) Most people are worried  
 (E) We have a new Finance Minister
27. S1 We plan to open fifty new branches this  
 year  
 S2 We have already applied to RBI for  
 licences  
 S3 .....  
 S4 We have accordingly issued an advertise-  
 ment in Employment newspapers last  
 week  
 (A) We are going to lose our jobs  
 (B) RBI will definitely approve our applica-  
 tion  
 (C) We will transfer staff to these branches  
 (D) It will take a long time to get their  
 permission  
 (E) We do not have sufficient staff to run  
 these branches
28. S1 Hari was once travelling through a small  
 village  
 S2 Suddenly it began to rain heavily  
 S3 He had no umbrella and there were no  
 hotels there  
 S4 .....  
 (A) Even his clothes were soaked  
 (B) Hari was late for the function  
 (C) He had no choice but to ask a stranger  
 for shelter  
 (D) Hari was afraid to cross the bridge  
 (E) The villagers were upset because Hari  
 was late
29. S1 Bank customers used to complain that  
 branch timings were not convenient to  
 withdraw money  
 S2 Banks calculated the cost of keeping  
 branches open for longer and everyday  
 S3 .....  
 S4 They then came up with the idea of ATM  
 machines to disburse cash  
 (A) They realized however that it was too  
 expensive  
 (B) They kept the branch open during normal  
 banking hours  
 (C) ATM machines soon became popular

- (D) Customers did not want this facility  
 (E) There were many cases of holdups and theft
30. **S1** I was a teacher for many years  
**S2** I have taught thousands  
**S3** .....  
**S4** But there are a few whom I have never forgotten
- (A) Some students have difficulty remembering  
 (B) I do not remember all of them  
 (C) There are some students who are brilliant  
 (D) Each student is unique  
 (E) Many of my students are very successful today

**Directions—(Q. 31–35)** In each question below a sentence with four words printed in bold type is given. These are lettered as (A), (B), (C) and (D). One of these four words printed in bold may be either **wrongly spelt or inappropriate** in the context of the sentence. Find out the word which is wrongly spelt or inappropriate if any. The letter of that word is your answer. If all the words printed in bold are correctly spelt and also appropriate in the context of the sentence; mark (E) i.e. 'All correct' as your answer.

31. The company has **received** a good  
 (A)  
**responds** from people who have **started**  
 (B) (C)  
 using its new **services**. All correct  
 (D) (E)
32. Ways and Means Advances is a **facility** under  
 (A)  
 which the government can **borrow** from RBI  
 (B)  
 to meet its **revenue requirements**.  
 (C) (D)  
 All correct  
 (E)
33. The government has **ready adopted** many  
 (A) (B)  
**recommendations** of the Narsimhan Comm-  
 ittee on banking sector **reforms**. All correct  
 (D) (E)

34. Statistics are **crucial** for the government to  
 (A)  
**frame effective policies**. All correct  
 (B) (C) (D) (E)
35. We are **finding** it difficult to meet our **targets**  
 (A) (B)  
 because of **short of funds**. All correct  
 (C) (D) (E)

**Directions—(Q. 36–40)** Which of the phrases (A), (B), (C) and (D) given below should replace the phrase given in **bold** in the following sentence to make the sentence meaningful and grammatically correct. If the sentence is correct as it is and no correction is required, mark (E) as the answer.

36. **Although other parts** the world 20 per cent of the farm area is owned by women, in India women own less than 7 per cent.  
 (A) If in other parts  
 (B) However some parts  
 (C) Where another part of  
 (D) While in other parts of  
 (E) No correction required
37. The Indian banking sector is growing rapidly and banks are opening **much of branches** in unbanked areas.  
 (A) many branches  
 (B) numerous branch  
 (C) mostly branch  
 (D) as much branches as  
 (E) No correction required
38. Depending on the location you select the cost of setting up a new factory **has vary from** ₹ 50 lakhs to ₹ 10 crore.  
 (A) is varied between  
 (B) will vary from  
 (C) varying about  
 (D) could vary around  
 (E) No correction required
39. We have received many complaints from customers and have appointed an author to help us identify the reason for the **various delays**.  
 (A) variety of delay  
 (B) various delay  
 (C) varied delaying  
 (D) variety delays  
 (E) No correction required

40. A bank **has** loans to its own employees at interest rates below the rate decided by RBI.  
(A) is giving loans to  
(B) loans their  
(C) can give loans to its  
(D) has given loans for its  
(E) No correction required

46. (A) Not  
(B) No  
(C) More  
(D) Any  
(E) Even

47. (A) Disappointed  
(B) Quarrelsome  
(C) Worthless  
(D) Lazy  
(E) Three

48. (A) Some  
(B) Few

**Directions—(Q. 41–50)** In the following passage there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.

After his able Prime Minister's death, the king wanted one of the late Prime Minister's three sons to take his place. The king wanted to choose the ... (41) ... among them for the job. He ... (42) ... the three sons to be brought ... (43) ... him and set each of them the ... (44) ... of filling a room using whatever ... (45) ... they could so that there was ... (46) ... space left even for an ant.

The ...(47)... sons set to work. The eldest ...(48)... filling his room with garbage which ...(49)... easy to acquire. The second son was ...(50)... and filled the room with cotton but the youngest remained silent and thought for a while.

At the appointed time the king visited each room. The first two rooms were full but there was space for more to sit. When the king entered the third room, the last son lit a candle so the room was full of light. The king was pleased and appointed him Prime Minister.






## **Answers with Explanations**

- ube channel**

1. (B) 2. (E) 3. (E) 4. (C) 5. (A)  
6. (E) 7. (A) 8. (C) 9. (D) 10. (E)  
11. (B) 12. (C) 13. (D) 14. (E) 15. (E)  
16. (A) Write 'have increased'.  
17. (C) Write 'their' in place of 'its'.  
18. (B) Delete 'be'.  
19. (A) Write 'has' in place of 'have'.  
20. (D) Write 'lower than the market rate'.  
21. (B) Write 'held' in place of 'hold'.  
22. (C) Write 'laws' in place of 'law'.  
23. (D) Write 'had declined'.  
24. (E)  
25. (D) Write 'proper' implementation of the scheme'.  
26. (D) 27. (B) 28. (C) 29. (A) 30. (B)  
31. (B) Write 'response'.  
32. (D) Write 'requirements'.  
33. (A) Write 'readily'.  
34. (E)  
35. (C) Write 'shortage'.  
36. (D) 37. (A) 38. (C) 39. (A) 40. (C)  
41. (B) 42. (E) 43. (A) 44. (C) 45. (D)  
46. (B) 47. (E) 48. (D) 49. (A) 50. (C)

### Part—III

### Quantitative Aptitude

1. If  $a, b, c, d$  and  $e$  are five consecutive odd numbers, their average is—  
 (A)  $5(a+4)$   
 (B)  $(d+e)$   
 (C)  $a+4$   
 (D)  $15$
2. The average of 20 numbers is 15 and the average of first 5 is 12. The average of the rest is—  
 (A) 16  
 (B) 15  
 (C) 14  
 (D) 13
3. A tradesman sold an article at a loss of 20%. If the selling price had been increased by ₹ 100, then would have been a gain of 5%. The cost price of the article (in ₹) was—  
 (A) 100  
 (B) 200  
 (C) 400  
 (D) 500
4. The price of an article is first decreased by 20% and then increased by 30%. If the resulting price is ₹ 416, the original price of the article is—  
 (A) ₹ 350  
 (B) ₹ 405  
 (C) ₹ 400  
 (D) ₹ 450
5. A man performs  $\frac{2}{15}$  of the total journey by train,  $\frac{9}{20}$  by bus and the remaining 10 km on foot. His total journey in km is—  
 (A) 15.6  
 (B) 24  
 (C) 16.4  
 (D) 12.8
6. By walking at  $\frac{3}{4}$  of his usual speed, a man reaches his office 20 minute later than usual. His usual time is—  
 (A) 30 min  
 (B) 75 min  
 (C) 90 min  
 (D) 60 min
7. If the compound interest on a certain sum for two year at 12% per annum is ₹ 2,544, the simple interest on it at the same rate for 2 years will be—  
 (A) ₹ 2,400  
 (B) ₹ 2,500  
 (C) ₹ 2,480  
 (D) ₹ 2,440

8. The total cost of 8 buckets and 5 mugs is ₹ 92 and the total cost of 5 buckets and 8 mugs is ₹ 77. Find the cost of 2 mugs and 3 buckets—  
 (A) ₹ 35  
 (B) ₹ 70  
 (C) ₹ 30  
 (D) ₹ 38
9. If  $\frac{a}{1-a} + \frac{b}{1-b} + \frac{c}{1-c} = 1$ , then the value of  $\frac{1}{1-a} + \frac{1}{1-b} + \frac{1}{1-c}$  is—  
 (A) 1  
 (B) 3  
 (C) 4  
 (D) 0
10. If  $(x-3)^2 + (y-5)^2 + (z-4)^2 = 0$ , then the value of  $\frac{x^2}{9} + \frac{y^2}{25} + \frac{z^2}{16}$  is—  
 (A) 12  
 (B) 9  
 (C) 3  
 (D) 1
11. If  $\frac{4x}{3} + 2P = 12$  for what value of  $P, x = 6$ ?  
 (A) 6  
 (B) 4  
 (C) 2  
 (D) 1
12. The value of  $\frac{4+3\sqrt{3}}{7+4\sqrt{3}}$  is—  
 (A)  $5\sqrt{3}-8$   
 (B)  $5\sqrt{3}+8$   
 (C)  $8\sqrt{3}+5$   
 (D)  $8\sqrt{3}-5$
13. If  $x\left(3-\frac{2}{x}\right)=\frac{3}{x}$ , then the value of  $x^2 + \frac{1}{x^2}$  is—  
 (A)  $2\frac{1}{9}$   
 (B)  $2\frac{4}{9}$   
 (C)  $3\frac{1}{9}$   
 (D)  $3\frac{4}{9}$
14. What number must be added to the expression  $16a^2 - 12a$  to make it a perfect square?  
 (A)  $\frac{9}{4}$   
 (B)  $\frac{11}{2}$   
 (C)  $\frac{13}{2}$   
 (D) 16
15. The straight line  $4x + 3y = 12$  passes through—  
 (A) 1st, 2nd and 3rd quadrant  
 (B) 1st, 2nd and 4th quadrant

**146P 1 SSC Higher Secondary Level (10 + 2)**

- (C) 2nd, 3rd and 4th quadrant  
(D) 1st, 3rd and 4th quadrant
16. The sum of three altitudes of a triangle is—  
(A) equal to the sum of three sides  
(B) less than the sum of sides  
(C) greater than the sum of sides  
(D) twice the sum of sides
17. In  $\Delta ABC$ ,  $\angle A + \angle B = 65^\circ$ ,  $\angle B + \angle C = 140^\circ$ , then find  $\angle B$ .  
(A)  $40^\circ$       (B)  $25^\circ$   
(C)  $35^\circ$       (D)  $20^\circ$
18. The length of the tangent drawn to a circle of radius 4 cm from a point 5 cm away from the centre of the circle is—  
(A) 3 cm      (B)  $4\sqrt{2}$  cm  
(C)  $5\sqrt{2}$  cm      (D)  $3\sqrt{2}$  cm
19. A cyclic quadrilateral ABCD is such that AB = BC, AD = DC, AC  $\perp$  BD,  $\angle CAD = \theta$ . Then the angle  $\angle ABC =$   
(A)  $\theta$       (B)  $\frac{\theta}{2}$   
(C)  $2\theta$       (D)  $3\theta$
20. The height of an equilateral triangle is 15 cm. The area of the triangle is—  
(A)  $50\sqrt{3}$  sq cm      (B)  $70\sqrt{3}$  sq cm  
(C)  $75\sqrt{3}$  sq cm      (D)  $150\sqrt{3}$  sq cm
21. Two parallel chords of a circle, of diameter 20 cm lying on the opposite sides of the centre are the lengths 12 cm and 16 cm. The distance between the chords is—  
(A) 16 cm      (B) 24 cm  
(C) 14 cm      (D) 20 cm
22. In  $\Delta ABC$ , DE  $\parallel$  AC. D and E are two points on AB and CB respectively. If AB = 10 cm and AD = 4 cm then BE : CE is—  
(A) 2 : 3      (B) 2 : 5  
(C) 5 : 2      (D) 3 : 2
23. A, B and C are the three points on a circle such that the angles subtended by the chords AB and AC at the centre O are  $90^\circ$  and  $110^\circ$  respectively.  $\angle BAC$  is equal to—  
(A)  $70^\circ$       (B)  $80^\circ$   
(C)  $90^\circ$       (D)  $100^\circ$
24. If the angles of elevation of a balloon from two consecutive kilometre-stones along a road are  $30^\circ$  and  $60^\circ$  respectively, then the height of the balloon above the ground will be—  
(A)  $\frac{\sqrt{3}}{2}$  km      (B)  $\frac{1}{2}$  km  
(C)  $\frac{2}{\sqrt{3}}$  km      (D)  $3\sqrt{3}$  km
25. Evaluate :  $3 \cos 80^\circ \operatorname{cosec} 10^\circ + 2 \cos 59^\circ \operatorname{cosec} 31^\circ$   
(A) 1      (B) 3  
(C) 2      (D) 5
26. The value of  $0.65 \times 0.65 + 0.35 \times 0.35 + 0.70 \times 0.65$  is—  
(A) 1.75      (B) 1.00  
(C) 1.65      (D) 1.55
27. How many numbers between 400 and 800 are divisible by 4, 5 and 6 ?  
(A) 7      (B) 8  
(C) 9      (D) 10
28. If sum of two numbers be  $a$  and their product be  $b$ , then the sum of their reciprocals is—  
(A)  $\frac{1}{a} + \frac{1}{b}$       (B)  $\frac{b}{a}$   
(C)  $\frac{a}{b}$       (D)  $\frac{1}{ab}$
29. In a camp of 160 students provisions are available for 10 days. If 40 more students join the camp, how long will the provisions last ?  
(A) 5      (B)  $6\frac{1}{2}$   
(C) 8      (D)  $12\frac{1}{2}$
30. Three taps A, B, C can fill an overhead tank in 4, 6 and 12 hours respectively. How long would the three taps take to fill the tank, if all of them are opened together?  
(A) 2 hr      (B) 4 hr  
(C) 3 hr      (D) 5 hr
31. The perimeter of a rectangle and an equilateral triangle are same. Also, one of the sides of the rectangle is equal to the side of the triangle. The ratio of the areas of the rectangle and the triangle is—

- (A)  $\sqrt{3} : 1$       (B)  $1 : \sqrt{3}$   
 (C)  $2 : \sqrt{3}$       (D)  $4 : \sqrt{3}$
32. A solid spherical copper ball, whose diameter is 14 cm, is melted and converted into a wire having diameter equal to 14 cm. The length of the wire is—  
 (A) 27 cm      (B)  $\frac{16}{3}$  cm  
 (C) 15 cm      (D)  $\frac{28}{3}$  cm
33. Discount on a pair of shoes marked at ₹ 475 and discounted at 15%, is—  
 (A) ₹ 70      (B) ₹ 71.25  
 (C) ₹ 72      (D) ₹ 72.25
34. The cost price of an article is ₹ 100. A discount series of 5%, 10% successively reduces the price of a article by—  
 (A) ₹ 4.5      (B) ₹ 14.5  
 (C) ₹ 24.5      (D) None of these
35. A grinder was marked at ₹ 3,600. After giving a discount of 10% the dealer made a profit of 8%. Calculate the cost price.  
 (A) ₹ 3,000      (B) ₹ 3,312  
 (C) ₹ 3,240      (D) ₹ 2,960
36. If  $x^2 + 9y^2 = 6xy$ , then  $x : y$  is—  
 (A) 1 : 3      (B) 3 : 2  
 (C) 3 : 1      (D) 2 : 3
37. In a school  $\frac{1}{10}$  of the boys are same in number as  $\frac{1}{4}$  of the girls and  $\frac{5}{8}$  of the girls are same in number as  $\frac{1}{4}$  of the boys. The ratio of the boys to girls in that school is—  
 (A) 2 : 1      (B) 5 : 2  
 (C) 4 : 3      (D) 3 : 2
38. The average of 8 numbers is 27. If each of the numbers is multiplied by 8, find the average of new set of numbers.  
 (A) 1128      (B) 938  
 (C) 316      (D) 216
39. In a prep school, the average weight of 30 girls in a class among 50 students is 16 kg and that of the remaining students is 15.5 kg. What is the average weight of all the students in class?  
 (A) 15.2 kg      (B) 15.8 kg  
 (C) 15.4 kg      (D) 15.6 kg
40. The average age of a husband and his wife was 23 years at the beginning of their marriage. After five years they have a one-year old child. The average age of the family of three, when the child was born, was—  
 (A) 23 years      (B) 24 years  
 (C) 18 years      (D) 20 years
41. If the profit on sale price be 20%, the percentage of profit on cost price is—  
 (A) 20%      (B) 30%  
 (C) 22%      (D) 25%
42. A shopkeeper purchased a TV for ₹ 2,000 and a radio for ₹ 750. He sells the TV at a profit of 20% and the radio at a loss of 5%. The total loss or gain is—  
 (A) Gain ₹ 352.50      (B) Gain ₹ 362.50  
 (C) Loss ₹ 352      (D) Loss ₹ 300
43. A container containing 400 litre of oil lost 8% by leakage. Oil left in the container is—  
 (A) 320 litre      (B) 368 litre  
 (C) 332 litre      (D) 32 litre
44. In an election, three candidates contested. The first candidate got 40% votes and the second got 36% votes. If total number of votes polled were 36000, find the number of votes got by the 3rd candidate.  
 (A) 8040      (B) 8640  
 (C) 9360      (D) 9640
45. A train, 120 m long, takes 6 seconds to pass a telegraph post; the speed of the train is—  
 (A) 72 km/hr      (B) 62 km/hr  
 (C) 55 km/hr      (D) 85 km/hr
46. A train travelled at a speed of 35 km/hr for the first 10 minute and at a speed of 20 km/hr for the next 5 minute. The average speed of the train for the total 15 minute is—  
 (A) 30 km/hr      (B) 23 km/hr  
 (C) 31 km/hr      (D) 29 km/hr

47. What does ₹ 250 amount to in 2 years with compound interest at the rate of 4% in the 1st year and 8% in the second year ?  
 (A) ₹ 280                    (B) ₹ 280.80  
 (C) ₹ 468                    (D) ₹ 290.80
48. If a sum of money amounts to ₹ 12,900 and ₹ 14,250 at the end of the 4th year and 5th year respectively at a certain rate of simple interest, then rate of interest is—  
 (A) 10%                    (B) 12%  
 (C) 18%                    (D) 20%

**Directions**—The following table gives the result of a survey based on newspaper reading habits. study the table and answer questions 49 and 50.

Income Group (Salary/Income per month)	Does not read news- papers	Reads news-papers published in regional languages only	Reads only English Paper	Reads both in regional and English Languages
Below ₹ 5,000	162	271	123	52
₹ 5,000 to ₹ 10,000	13	285	206	82
Above ₹ 10,000	21	209	325	187

49. The number of people who read only English newspapers—  
 (A) 975                    (B) 654  
 (C) 1086                    (D) 221
50. The total number of people surveyed are—  
 (A) 2040                    (B) 1086  
 (C) 12961                    (D) 1936

### Answers with Explanations

1. (D)  $b = a+2$   
 $c = a+4$   
 $d = a+6$   
 $e = a+8$   
 $\text{Average} = \frac{a+b+c+d+e}{5}$   
 $= \frac{5a+20}{5} = a+4$

2. (A) Sum of 20 number  
 $= 15 \times 20 = 300$   
 Sum of first 5 number  
 $= 5 \times 12 = 60$   
 Sum of rest 15 number  
 $= 300 - 60 = 240$

average of rest 15 number  
 $= \frac{240}{15} = 16$

3. (C) (loss % + profit %) of C.P.  
 $= 100$   
 $\frac{25}{100} \times \text{C.P.} = 100$   
 $\boxed{\text{C.P.} = 400}$

Hence, the cost price of the article is ₹ 400.

4. (C) Let original price of the article  
 $= ₹ x$   
 $\frac{x \times 80 \times 130}{100 \times 100} = 416$

$$\frac{416 \times 100}{104}$$

$$\boxed{x = ₹ 400}$$

5. (B) Let total journey =  $x$  km.  
 Then,

$$\text{Total journey by train} = \frac{2x}{15}$$

$$\text{Journey by bus} = \frac{9}{20}x$$

$$\begin{aligned}\text{Journey on foot} &= x - x \left( \frac{2}{15} + \frac{9}{20} \right) \\ &= x - x \left[ \frac{35}{60} \right]\end{aligned}$$

$$\begin{aligned}&= x - \frac{7}{12}x \\ &= \frac{5x}{12} \text{ km}\end{aligned}$$

According to question,

$$\begin{aligned}\frac{5x}{12} &= 10 \\ x &= \frac{10 \times 12}{5} \\ &= 24 \text{ km}\end{aligned}$$

6. (D) Let usual time = T min.  
and usual speed = 1

Then,  $\frac{4}{3}T - T = 20$

$$\frac{1}{3}T = 20$$

$$\boxed{T = 60 \text{ min}}$$

7. (A) C.I =  $P \left[ \left( 1 + \frac{r}{100} \right)^n - 1 \right]$

$$2544 = P \left[ \left( 1 + \frac{12}{100} \right)^2 - 1 \right]$$

$$2544 = P \left[ \left( 1 + \frac{3}{25} \right)^2 - 1 \right]$$

$$2544 = P \times \frac{159}{625}$$

$$P = \frac{2544 \times 625}{159}$$

$$\boxed{P = 10,000}$$

$$\text{S.I.} = \frac{\text{PRT}}{100}$$

$$= \frac{10000 \times 12 \times 2}{100}$$

$$\boxed{\text{S.I.} = ₹ 2400}$$

8. (A) Let the cost of each bucket = 8  
and the cost of each mug = m

Then, according to question

$$8B + 5m = 92$$

$$5B + 8m = 77$$

One solving eq. (1) and (2), we get

$$\boxed{B = 9}$$

and  $\boxed{m = 4}$

The cost of

$$\begin{aligned} 2m + 3B &= 2 \times 4 + 3 \times 9 \\ &= 8 + 27 \\ &= ₹ 35 \end{aligned}$$

9. (C)  $\frac{a}{1-a} + \frac{b}{1-b} + \frac{c}{1-c} = 1$

3 adding on both side,

$$\Rightarrow 1 + \frac{a}{1-a} + 1 + \frac{b}{1-b} + 1 + \frac{c}{1-c} = 1 + 3$$

$$\Rightarrow \frac{1-a+a}{1-a} + \frac{1-b+b}{1-b} + \frac{1-c+c}{1-c} = 4$$

$$\Rightarrow \frac{1}{1-a} + \frac{1}{1-b} + \frac{1}{1-c} = 4$$

10. (C)  $(x-3)^2 + (y-5)^2 + (z-4)^2 = 0$

Taking  $x-3 = 0$

$$y-5 = 0$$

$$z-4 = 0$$

$$x = 3$$

$$y = 5$$

$$z = 4$$

$$\frac{x^2}{9} + \frac{y^2}{25} + \frac{z^2}{16} = \frac{3^2}{9} + \frac{5^2}{25} + \frac{4^2}{16}$$

$$= \frac{9}{9} + \frac{25}{25} + \frac{16}{16}$$

$$= 1 + 1 + 1$$

$$= 3$$

11. (C)  $\frac{4x}{3} + 2p = 12$

If  $x = 6$  then,

$$\frac{4 \times 6}{3} + 2p = 12$$

$$\frac{20}{3} + 2p = 8$$

$$2p = 4$$

$$\boxed{p = 2}$$

12. (A)  $\frac{4+3\sqrt{3}}{7+4\sqrt{3}} = \frac{(4+3\sqrt{3})(7-4\sqrt{3})}{(7+4\sqrt{3})(7-4\sqrt{3})}$

$$= \frac{28 - 16\sqrt{3} + 21\sqrt{3} - 36}{49 - 48}$$

$$= 5\sqrt{3} - 8$$

13. (B)  $x \left( 3 - \frac{2}{x} \right) = \frac{3}{x}$

$$\Rightarrow 3x - 2 = \frac{3}{x}$$

$$\Rightarrow 3x - \frac{3}{x} = 2$$

$$x - \frac{1}{x} = \frac{2}{3}$$

Taking square both side—

$$x^2 + \frac{1}{x^2} - 2 = \frac{4}{9}$$

$$\boxed{x^2 + \frac{1}{x^2} = 2\frac{4}{9}}$$

14. (A)  $16a^2 - 12a = (4a)^2 - 2 \times 4a \times \frac{3}{2} + \left(\frac{3}{2}\right)^2$

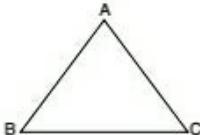
If in this expression,  $\frac{9}{4}$  must be added then make it a perfect square.

15. (B) Straight line  $4x + 3y = 12$ .

Passes through 1st, 2nd and 4th quadrant.

16. (B) The sum of three altitudes of a triangle is less than the sum of sides.

17. (B)  $\angle A + \angle B = 65^\circ$  ... (1)  
 $\angle B + \angle C = 140^\circ$  ... (2)



we know that,

$$\angle A + \angle B + \angle C = 180^\circ$$

from equation (1) and (2)

$$\angle A + \angle B + \angle B + \angle C = 205^\circ$$

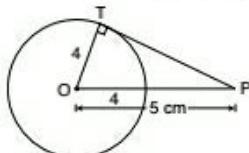
$$180^\circ + \angle B = 205^\circ$$

$$\angle B = 205^\circ - 180^\circ$$

$$\angle B = 25^\circ$$

18. (A) Length of tangent

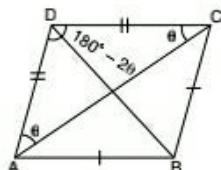
$$\begin{aligned} PT &= \sqrt{OP^2 - OT^2} \\ &= \sqrt{25 - 16} \\ &= \sqrt{9} = 3 \text{ cm} \end{aligned}$$



19. (C)

$$\angle CAD = 0$$

$$AD = DC$$



So,  $\angle CAD = \angle ACD = \theta$

$$\angle ADC = 180 - 2\theta$$

ABCD is a cyclic quadrilateral.

So,  $\angle ADC + \angle ABC = 180^\circ$

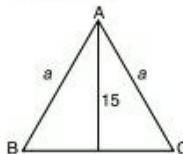
$$180 - 2\theta + \angle ABC = 180^\circ$$

$$\angle ABC = 2\theta$$

20. (C) Area of triangle,

$$\frac{1}{2} \times 15 \times a = \frac{\sqrt{3}}{4} a^2$$

$$a = 10\sqrt{3}$$



*Join YouTube Channel*

$$\therefore \text{Area of equilateral triangle} = \frac{\sqrt{3}}{4} \times (10\sqrt{3})^2$$

$$= \frac{\sqrt{3}}{4} \times 3 \times 100$$

$$= 75\sqrt{3} \text{ cm}^2$$

21. (C)  $\because$  Radius  $= \frac{20}{2} = 10 \text{ cm}$



$$\begin{aligned} OM &= \sqrt{10^2 - 6^2} = \sqrt{64} \\ &= 8 \text{ cm} \end{aligned}$$

$$\begin{aligned} ON &= \sqrt{10^2 - 8^2} = \sqrt{36} \\ &= 6 \text{ cm} \end{aligned}$$

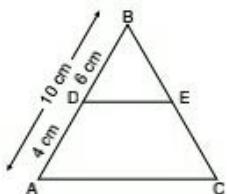
The distance between the chords

$$AB \text{ and } CD = 8 + 6 = 14 \text{ cm}$$

22. (D) In
- $\Delta ABC \dots \Delta BDE$

then,

$$\begin{aligned}\frac{AB}{BD} &= \frac{BC}{BE} \\ \frac{10}{6} &= \frac{BE + EC}{BE}\end{aligned}$$

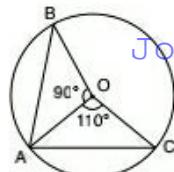


$$SBE = 3BE + 3EC$$

$$2BE = 3EC$$

$$\frac{BE}{CE} = 3 : 2$$

$$\begin{aligned}23. (B) \angle BOC &= 360^\circ - (90 + 110) \\ &= 160^\circ\end{aligned}$$



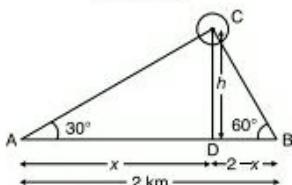
$$\begin{aligned}\angle BAC &= \frac{\angle BOC}{2} \\ &= \frac{160}{2} = 80^\circ\end{aligned}$$

24. (A) Let the height of the balloon above the ground will be
- $h$
- km

In  $\Delta ACD$ ,

$$\tan 30^\circ = \frac{h}{x}$$

$$x = \sqrt{3}h$$

In  $\Delta BCD$ ,

$$\tan 60^\circ = \frac{h}{2-x}$$

$$\sqrt{3}(2 - \sqrt{3}h) = h$$

$$2\sqrt{3} - 3h = h$$

$$2\sqrt{3} = 4h$$

$$h = \frac{2\sqrt{3}}{4} = \frac{\sqrt{3}}{2} \text{ km}$$

25. (D)
- $3 \cos 80^\circ \operatorname{cosec} 10 + 2 \cos 59^\circ \operatorname{cosec} 31$

$$= \frac{3 \cos 80^\circ}{\sin 10^\circ} + \frac{2 \cos 59^\circ}{\sin 31^\circ}$$

$$= \frac{3 \cos 80^\circ}{\sin (90 - 80)^\circ} + \frac{2 \cos 59^\circ}{\sin (90 - 59)^\circ}$$

$$= \frac{3 \cos 80^\circ}{\cos 80^\circ} + \frac{2 \cos 59^\circ}{\cos 59^\circ}$$

$$= 3 + 2 = 5$$

26. (B)
- $0.65 \times 0.65 + 0.35 \times 0.35 + 0.70 \times 0.65$

We know that

$$a^2 + b^2 + 2ab = (a+b)^2$$

So,

$$(0.65)^2 + (0.35)^2 + 2 \times 0.35 \times 0.65$$

$$= (0.65 + 0.35)^2$$

$$= 1.00$$

27. (A) Take LCM of 4, 5, 6 = 60

Now, look for the first term in between 400 and 800 which is divisible by 60, i.e., 420.

Now, look for the last term which is divisible by 60, i.e., 780.

Now, make A.P.  $a = 420, d = 60$ 

$$T_n = a + (n-1)d$$

$$780 = 420 + (n-1)60$$

$$360 = (n-1)60$$

$$n-1 = 6$$

$$n = 7$$

28. (C) Let two numbers are
- $x$
- and
- $y$
- . Then according to question—

$$x + y = a \quad \dots(1)$$

$$x \times y = b \quad \dots(2)$$

Sum of their reciprocals

$$= \frac{1}{x} + \frac{1}{y} = \frac{x+y}{xy}$$

From equations (1) and (2)

$$= \frac{a}{b}$$

29. (C) Let provisions last on  $x$  days.

$$\text{So, } 160 \times 10 = (160 + 40) \times x$$

$$x = \frac{160 \times 10}{200}$$

$$= 8 \text{ days}$$

30. (A) Tap A can fill the tank in 1 hour =  $\frac{1}{4}$

Tap B can fill the tank in 1 hour =  $\frac{1}{6}$

Tap C can fill the tank in 1 hour =  $\frac{1}{12}$

If all of them are opened together, then tank fill in 1 hour

$$= \frac{1}{4} + \frac{1}{6} + \frac{1}{12} = \frac{1}{2}$$

Hence, the three taps of tank to fill the tank in

$$= 2 \text{ hours} \quad \text{Join Youtube Channel}$$

31. (C) Let side of equilateral triangle =  $a$ , length and breadth of rectangle are  $l$  and  $b$  respectively.

According to question—

$$2(l+b) = 3a$$

$$2(a+b) = 3a \quad (\text{Given } l=a)$$

$$2b = a$$

... (1)

$$\frac{\text{Area of rectangle}}{\text{Area of triangle}} = \frac{l \times b}{\frac{\sqrt{3}}{4} a^2}$$

$$= \frac{\frac{a \times b}{2}}{\frac{\sqrt{3}}{4} \times a^2}$$

$$= \frac{\frac{4}{\sqrt{3}} \frac{b}{a}}{\frac{\sqrt{3}}{4} a}$$

$$= \frac{\frac{4}{\sqrt{3}} \times \frac{b}{2b}}{\frac{\sqrt{3}}{4}} \quad [\text{from (1)}]$$

$$= \frac{2}{\sqrt{3}}$$

32. (D) Volume of spherical copper ball = Volume of wire

$$\frac{4}{3} \pi (7)^3 = \pi (7)^2 \times h$$

$$h = \frac{28}{3} \text{ cm}$$

$$33. (B) \text{ Discount} = \frac{475 \times 15}{100}$$

$$= ₹ 71.25$$

34. (B) Single equivalent discount

$$= 5 + 10 - \frac{5 \times 10}{100}$$

$$= 14.5\%$$

Hence, reduce the price

$$= \frac{14.5}{100} \times 100$$

$$= ₹ 14.5$$

35. (A) Cost price

$$= \frac{\text{M.P.} \times (100 - \% \text{ Discount})}{(100 + \% \text{ Profit})}$$

$$= \frac{3600 \times 90}{108}$$

$$= ₹ 3000$$

$$36. (C) x^2 + 9y^2 - 6xy = 0$$

$$\Rightarrow (x - 3y)^2 = 0$$

$$x - 3y = 0$$

$$x = 3y$$

$$\Rightarrow \frac{x}{y} = \frac{3}{1}$$

37. (B) Let number of boys =  $B$  and number of girls =  $G$ .

$$\text{Then, } \frac{1}{10} \times B = \frac{1}{4} \times G$$

$$\Rightarrow \frac{B}{G} = \frac{10}{4} = \frac{5}{2}$$

38. (D) The sum of 8 number

$$= 27 \times 8 = 216$$

If each number is multiplied by 8, then

Average of new set of number

$$= \frac{8 \times (\text{Sum of 8 num.})}{8}$$

$$= \frac{8 \times 216}{8} = 216$$

39. (B) Average weight of all student

$$= \frac{16 \times 30 + 15.5 \times 20}{50}$$

$$= 15.8 \text{ kg}$$

40. (C) Let age of husband H year and age of wife = W, then

$$H + W = 23 \times 2 = 46 \quad \dots(1)$$

When child is born, then age of child = 0 year

Hence, average of the family of three

$$= \frac{(H+4) + (W+4) + 0}{3}$$

$$= \frac{46+8}{3} = \frac{54}{3} = 18 \text{ years}$$

41. (D) % profit on SP

$$= \frac{SP - CP}{SP} \times 100$$

$$20 = \frac{SP - CP}{SP} \times 100$$

$$5 CP = 4 SP$$

$$\Rightarrow SP = \frac{5}{4} CP$$

% profit on CP

$$= \frac{SP - CP}{CP} \times 100$$

$$= \frac{\left(\frac{5}{4} - 1\right)}{1} \times 100$$

$$= \frac{1}{4} \times 100 = 25\%$$

42. (B) Total CP = 2000 + 750

$$= ₹ 2750$$

$$\text{Total SP} = \frac{2000 \times 120}{100} + \frac{750 \times 95}{100}$$

$$= ₹ 3112.50$$

$$\text{Total gain} = SP - CP$$

$$= ₹ 3112.50 - 2750$$

$$= ₹ 362.50$$

43. (B) Oil left in the container

$$= \frac{400 \times (100 - 8)}{100} = 4 \times 92$$

$$= 368 \text{ litre}$$

44. (B) The 3rd candidate got

$$= [100 - (40 + 36)]\% = 24\%$$

The number of votes got by 3rd candidate

$$= \frac{24}{100} \times 36000 = 8640$$

45. (A) Speed of train

$$= \frac{120}{6} \text{ m/sec}$$

$$= \frac{20 \times 18}{5} \text{ km/hr}$$

$$= 72 \text{ km/hr}$$

46. (A) The average speed of train

$$= \frac{\left(\frac{35 \times 10}{60}\right) + 20 \times \frac{5}{60}}{\left(\frac{15}{60}\right)}$$

$$= \frac{350 + 100}{15}$$

$$= 30 \text{ km/hr}$$

47. (B) We know that for 1st year S.I. = C.I.

So, after 1st year

$$\text{Amount} = \frac{250 \times 4 \times 1}{100} + 250$$

$$= ₹ 260$$

After 2nd year

$$\text{Amount} = 260 \left(1 + \frac{8}{100}\right)^1$$

$$= \frac{260 \times 27}{25}$$

$$= ₹ 280.80$$

48. (C) Here is a Direct Formula for SI

$$\text{Rate} = \frac{(a-b) \times 100}{at_2 - bt_1}\%$$

$$\text{Hence, Rate} = \frac{(14250 - 12900) \times 100}{12900 \times 5 - 14250 \times 4}\%$$

$$= \frac{1350 \times 100}{64500 - 57000}\%$$

$$= 18\%$$

49. (B) The number of people who read only English newspapers

$$= 123 + 206 + 325$$

$$= 654$$

50. (D) Total number of people surveyed

$$= (162 + 13 + 21) + (271 + 285 + 209)$$

$$+ (123 + 206 + 325) + (52 + 82 + 187)$$

$$= 1936$$

**Part—IV**  
**General Awareness**

- The term 'Missile Man of India' is normally associated (after Pokharan-II blasts) with—  
 (A) Atal Behari Vajpayee  
 (B) R. Chidambaram  
 (C) A.P.J. Abdul Kalam  
 (D) General V.P. Malik
- The words 'Satyameva Jayate' in the State Emblem of India, have been adopted from which one of the following ?  
 (A) Brahma Upanishad  
 (B) Mungala Upanishad  
 (C) Mundaka Upanishad  
 (D) None of these
- Name the only person who was awarded Nobel Prize, Padma Shree, Padma Bhushan, Padma Vibhushan and Bharat Ratna ?  
 (A) J. L. Nehru      (B) Indira Gandhi  
 (C) Mother Teresa    (D) Aurobindo Ghosh
- Approximately how many kilometres are represented by  $1^{\circ}$  of latitude ?  
 (A) 421 km      (B) 91 km  
 (C) 111 km      (D) 211 km
- Which region of the root provides the penetration force ?  
 (A) Root cap  
 (B) Maturation region  
 (C) Zone of cell division  
 (D) Elongation region
- Which city is known as the Cockpit of Europe ?  
 (A) Venice      (B) Dublin  
 (C) Barcelona    (D) Belgium
- When was SAARC formed ?  
 (A) November 1984    (B) December 1985  
 (C) December 1986    (D) March 1989
- In which types of rocks, would you find coal and petroleum ?  
 (A) Igneous      (B) Sedimentary  
 (C) Granite      (D) Metamorphic
- Sunlight always overcomes the lights of the stars. The fading away of stars in the presence of the sun is known as—  
 (A) eclipse of the stars  
 (B) occultation  
 (C) binding effect  
 (D) None of the above
- Puducherry territory is scattered in several states. Which state does not share boundary with Puducherry ?  
 (A) Andhra Pradesh  
 (B) Kerala  
 (C) Karnataka  
 (D) Tamil Nadu
- Japan's attack on which place brought the USA into second World War ?  
 (A) Seychelles      (B) Pearl Harbour  
 (C) Florida          (D) New York
- Commercial services was started on All India Radio for the first time in—  
 (A) 1957      (B) 1959  
 (C) 1967      (D) 1969
- Saheed-i-Azam Bhagat Singh, Rajguru and Sukhdev were executed by the British Government on March 23, 1931. In which of the following cases they were implicated ?  
 (A) Meerut conspiracy  
 (B) Kakori conspiracy  
 (C) For lobbing bomb in the Assembly Hall  
 (D) Lahore conspiracy
- What is the Fly Leaf ?  
 (A) Thin paper sheet for making packaging material  
 (B) A blank page at the beginning or end of a book  
 (C) A marker in a book  
 (D) A sheet of paper next to the main title of the book
- Now-a-days Kalinga is known as—  
 (A) Odisha      (B) Kohima  
 (C) Karnataka    (D) Maharashtra
- Tughlaq dynasty occupied Delhi throne after decline of—

- (A) Suri dynasty      (B) Slave dynasty  
 (C) Lodhi dynasty      (D) Khilji dynasty
17. MAD stands for—  
 (A) Most active Disease  
 (B) Mica Aluminium Duo  
 (C) Mutually Assured Death  
 (D) Mutually Assured Destruction
18. Which has the highest share of electrical power generation in India ?  
 (A) Thermal power  
 (B) Nuclear power  
 (C) Hydro-power  
 (D) Naphtha-based and gas-based power
19. "Water-water everywhere but not a drop to drink" who stated these lines in a poem ?  
 (A) John Milton  
 (B) Samuel Taylor Coleridge  
 (C) Lord Byron  
 (D) P.B. Shelley
20. How can a person move on a hard icy surface ?  
 (A) He should use roller skates  
 (B) He should hop, sneeze, jump an step in the direction which is opposite to the direction of his required movement  
 (C) He should hop, sneeze, jump and step in the directions in which the movement is required  
 (D) He should skid on his knees and hands
- Join Youtube Channel
21. Kolar Gold Mines are in this state—  
 (A) Karnataka      (B) Bihar  
 (C) Odisha      (D) Madhya Pradesh
22. The Permanent Secretariat of SAARC is at—  
 (A) Islamabad      (B) New Delhi  
 (C) Kathmandu      (D) Colombo
23. If the child loses water and vital nutrients due to diarrhea and fever, then the housewife must treat him with—  
 (A) ORS  
 (B) Penicillin capsules  
 (C) Crocin Syrup  
 (D) Plain water without salt
24. The Shimla Conference was held in—  
 (A) 1943      (B) 1945  
 (C) 1942      (D) 1944
25. He was an Italian navigator. He explored Venezuela, Gulf of Mexico. The USA was named 'America' after him. His name is—  
 (A) Amerigo Vespucci  
 (B) Vasco De Gamma  
 (C) Columbus  
 (D) Andreas Vesalius
26. Which of the following Harappan sites had a dock ?  
 (A) Harappa      (B) Mohenjodaro  
 (C) Lothal      (D) Alamgirpur
27. The great Hindu law-giver was—  
 (A) Kapil      (B) Banahhatta  
 (C) Kautilya      (D) Manu
28. Who were the first to issue gold coins ?  
 (A) Indo Greeks      (B) Shakas  
 (C) Parthians      (D) Kushans
29. India was invaded by Timur Lame in—  
 (A) 1335      (B) 1385  
 (C) 1389      (D) 1398
30. Jallianwala Bagh massacre occurred on—  
 (A) January 30, 1918 (B) April 13, 1919  
 (C) August 14, 1920 (D) July 2, 1930
31. Who is the author of the concept of Antyodaya ?  
 (A) Mahatma Gandhi  
 (B) Vinoba Bhave  
 (C) Sri Aurobindo  
 (D) Jai Prakash Narayan
32. At which one of the following places did Mahatma Gandhi first start his Satyagraha in India ?  
 (A) Ahmedabad      (B) Bardoli  
 (C) Champaran      (D) Kheda
33. Which of the following was in power in the U.K. when India got Independence ?  
 (A) Labour Party  
 (B) Liberal Party

- (C) Conservative Party  
(D) Socialist Party
34. The earth is at the largest distance from the Sun on—  
(A) June 21      (B) January 3  
(C) July 4      (D) June 22
35. The speed of rotation of the earth is—  
(A) 25 km/sec      (B) 31 km/sec  
(C) 39·5 km/sec      (D) 9·72 km/sec
36. Atmospheric humidity is measured by—  
(A) Psychrometer      (B) Anemometer  
(C) Lysimeter      (D) Hydrometer
37. Which is the world's largest desert ?  
(A) Sahara      (B) Gobi  
(C) Thar      (D) Takala Makan
38. Lakshadweep Islands are the product of—  
(A) Volcanic activity  
(B) Wave action  
(C) Sea-floor expansion  
(D) Reef formation
39. Rana Pratap Sagar plant is associated with—  
(A) Nuclear Power      (B) Solar Energy  
(C) Hydroelectricity      (D) Irrigation
40. The first session of the Constituent Assembly was held in—  
(A) Bombay      (B) Kolkata  
(C) Lahore      (D) New Delhi
41. The Prime Minister—  
(A) is head of government  
(B) is the leader of Lok Sabha  
(C) may change the portfolios of the ministers at will  
(D) may do all the above
42. Who was the first Speaker of the Lok Sabha ?  
(A) Mavalankar      (B) P. Upendra  
(C) Hukam Singh      (D) Baliram Bhagat
43. The only Union Territory which has a High Court of its own—  
(A) Delhi      (B) Lakshadweep  
(C) Chandigarh      (D) Daman and Diu
44. Railways is a subject on the—  
(A) Concurrent list      (B) Union list  
(C) State list      (D) Residual list
45. Panchayati Raj was started in the country in—  
(A) 1957      (B) 1952  
(C) 1959      (D) 1951
46. A rolling plan is a plan for—  
(A) One year  
(B) Three year  
(C) Five year  
(D) Year-to-year basis
47. India's wage policy is based on—  
(A) Cost of living  
(B) Standard of living  
(C) Productivity  
(D) None of the above
48. Ten rupee notes bear the signature of—  
(A) President  
(B) Finance Minister  
(C) Secretary Minister of Finance  
(D) Governor, Reserve Bank of India
49. Which of the following taxes is not levied by the Union Government ?  
(A) Wealth Tax      (B) Excise Duty  
(C) Profession Tax      (D) Income Tax
50. Highest milk producer in India is—  
(A) Uttar Pradesh      (B) Gujarat  
(C) Punjab      (D) Haryana
- [Join YouTube Channel](#)
- ### Answers with Explanations
1. (C) A. P. J. Abdul Kalam is popularly known as Missile Man of India for his work on the development of Ballistic Missile and launch vehicle technology.
  2. (C) 'Satyameva Jayate' is taken from the ancient Indian Scripture Mundaka Upanishad.
  3. (C) Among the options Mother Teresa received all the awards mentioned in the question.

4. (C)
5. (D) It is the action of cellular elongation which pushes the root tip with the root cap, forward, through and between the soil.
6. (D)
7. (B) SAARC—The South Asian Association for Regional Cooperation is an organisation of South Asian nations, which was established on 8th Dec., 1985 when the governments of Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka formerly adopted its charta providing for the promotion of economic and social progress, cultural development with the South Asian region.
8. (B) 9. (D)
10. (C) The territory is composed of enclaves on the Coramendel Coast of Tamil Nadu and Andhra Pradesh, with Mahe forming two enclaves on the Coast of Kerala.
11. (B) On the morning of Dec. 7, 1941. The Japanese launched a surprise attack on the US Naval Base at Pearl Harbour near Honolulu, Hawaii. America had finally joined World War-II.
12. (C)
13. (D) Bhagat Singh, Rajguru and Sukhdev were sentenced to death in the Lahore conspiracy case and ordered to be hanged on 24 March, 1931.
14. (B) A blank page at the beginning or end of a book is called fly leaf, which is found/seen in **GOI** (Government of India) published books publications and indicates the beginning and end of book matter.
15. (A) 16. (D) 17. (D) 18. (C)
19. (B) These lines were written by Samuel Taylor Coleridge in his famous poem 'The Rime of Ancient Mariner'.
20. (D)
21. (A) Kolar Gold fields is a mining town in Bangarpet Taluk, in the Kolar District of Karnataka State.
22. (C) 23. (A)
24. (B) Viceroy Lord Wavell organised a conference of the political leaders of all shades to solve the constitutional problem at Shimla on 25th June, 1945.
25. (A) Amerigo Vespucci was an Italian explorer, financier, navigator and cartographer. His discovery of super continent came to be termed as 'America', probably deriving its name from the feminized Latin version of Vespucci's first name.
26. (C) 27. (D) 28. (D) 29. (D) 30. (B)
31. (B) 32. (C) 33. (A) 34. (C) 35. (D)
36. (A) 37. (A) 38. (D) 39. (C) 40. (D)
41. (D) 42. (A) 43. (A) 44. (B) 45. (C)
46. (A) 47. (A) 48. (D) 49. (C) 50. (A)

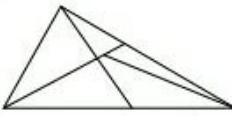
# Practice Set-8

## Part—I General Intelligence

1. AZBZ : CYDY :: EXFX : ?  
(A) GWHW      (B) IVJW  
(C) HWIW      (D) FWFV
2. QYGO : SAIQ :: UCKS : ?  
(A) WEMU      (B) WDMV  
(C) WDLU      (D) VENU
3. ww\_x\_x\_y\_y\_z\_z\_  
(A) w x x      (B) w x y z  
(C) x w z w    (D) w z x y
4. m\_n m\_n - a n a ma\_  
(A) a a m n a n      (B) m m a n a m  
(C) a a m m n n    (D) a m a m m n
5. A is the mother of D and sister of B. B has a daughter C who is married to F. G is the husband of A. How is G related to D ?  
(A) Husband      (B) Son  
(C) Father       (D) Uncle
6. 

9	10	11
5	7	8
19	22	?

  
(A) 25      (B) 24  
(C) 19      (D) 41
7. Some equation are solved on the basis of certain system. Find out the correct answer for the unsolved equation on that basis  $2 \times 3 \times 7 = 4949$ ,  $5 \times 9 \times 4 = 258116$ ,  $4 \times 6 \times 8 = ?$   
(A) 16128      (B) 81216  
(C) 162432     (D) 163664
8. A solid red coloured cube is painted yellow on all sides. The cube is cut into 125 equal cubes. How many sides will have 3 sides yellow ?  
(A) 4      (B) 8  
(C) 12     (D) 10
9. Arun travels 8 km towards the North, turns left and travels 3 km and then again turns, right and covers another 4 km and then turns right and travels another 3 km. How far is he from the starting point ?  
(A) 11 km      (B) 12 km  
(C) 15 km      (D) 18 km
10. What should come in place of question mark (?)  
5, 7, 11, ?, 35, 67  
(A) 17      (B) 19  
(C) 20      (D) 21
11. Which one of the following is different from the other three ?  
(A) Apple      (B) Mango  
(C) Watermelon    (D) Guava
12. If in a code PREMIER is written as XOILSIO, ANTAGONISE is written as MQNMZB-QSXI, then how can REPORT be written in the same code ?  
(A) OIXBMN      (B) OIXBON  
(C) OIQBOM     (D) QIXBOZ
13. Which one of the following is different from the other three ?  
(A) 20-10      (B) 15-12  
(C) 30-18     (D) 45-27
14. How many 9's are there in the number series which are followed by 2 or 3 or 4 or 5 ?  
9392949595920909293949596999894929394  
9596999899999293  
(A) 12      (B) 10  
(C) 18      (D) 16
- Directions—(Q. 15-16)** A Bus starts from point 'S' and runs 10 km towards North. It takes a right turn and run 15 km. It now runs 6 km after taking a left turn. It finally takes a left turn, runs 15 km and stops at point 'T'.

15. How far is point 'T' with respect to point 'S' ?  
 (A) 15 km      (B) 16 km  
 (C) 20 km      (D) 25 km
16. Towards which direction was the vehicle moving before it stopped point 'T' ?  
 (A) West      (B) South  
 (C) North      (D) East
17. Given the 25th February 2008 is Monday, what day is 2nd March of 2008 ?  
 (A) Tuesday      (B) Saturday  
 (C) Sunday      (D) Monday
18. Age of Nareen is equal to Naveen as they are twins. Nakul is younger than Nareen. Priyanka is younger than Balaji but elder than Naveen. Who is the eldest of all ?  
 (A) Nareen      (B) Balaji  
 (C) Nakul      (D) Naveen
19. Given interchanges : signs '+' and '-' number 8 and 10—  
 (A)  $8 - 10 + 6 = 12$       (B)  $10 - 8 + 7 = 4$   
 (C)  $10 + 8 - 9 = 16$       (D)  $10 + 8 - 3 = 10$
20. Cause and effect relationship : RACE : FATIGUE—  
 (A) TRACK : ATHLETE  
 (B) ANT : BUG  
 (C) FAST : HUNGER  
 (D) WALKING : RUNNING
21. Grammatical Relationship : RESTORE : CLIMB—  
 (A) INTO : NYMPH  
 (B) PRECIPICE : ALTHOUGH  
 (C) SEGREGATION : SEEM  
 (D) OVERPOWER SETHE
22. Numerical relationship 4 : 12—  
 (A) 10 : 16      (B) 3 : 4  
 (C) 9 : 27      (D) 12 : 6
23. Which of the following is wrongly matched ?  
 (A) Red Fort, Delhi  
 (B) Great Wall of China, China  
 (C) Humayun Tomb, Delhi  
 (D) White House, Moscow
24. How many such pairs of digits are there in the number 95137248 each of which has as many digit between them in the number as when they are arranged in ascending order ?  
 (A) One      (B) Two  
 (C) Three      (D) None
25. How many triangle are there in the adjoining figure ?
- 
- (A) 12      (B) 10  
 (C) 6      (D) 11
- Directions—(Q. 26–28)** Select the related word/letters/number from the given alternatives.
26. CAT : 21 :: DOG : ?  
 (A) 23      (B) 24  
 (C) 25      (D) 26
27. Painting : Art :: ? : Dance  
 (A) Meera Bai      (B) Function  
 (C) Kathak      (D) Tabla
28. ADIP : DGLS :: BEIQ : ?  
 (A) EHMT      (B) EJQU  
 (C) CGLS      (D) FINU
29. Find the missing number  
 10, 12, 9, 13, 8, 2, ?  
 (A) 11      (B) 7  
 (C) 14      (D) 12
- Directions—(Q. 30–32)** Find the odd number/letters/word from the given alternatives.
30. (A) Heart      (B) Kidney  
 (C) Spleen      (D) Liver
31. (A) ACEG      (B) MOQS  
 (C) GHJL      (D) RTVX
32. (A) 1      (B) 2  
 (C) 3      (D) 4
33. Arrange the following in dictionary order. Then which will be the third word ?
1. Particular      2. Particle
  3. Participate      4. Partiality
- (A) 2      (B) 3  
 (C) 4      (D) 1

34. If D is the daughter of A, D is the sister of M and A's brother is C, how are C and M related?

(A) Mother and Daughter  
 (B) Uncle and Niece  
 (C) Father and Daughter  
 (D) Aunt and Niece

35. From the given alternative words, select the word which **cannot** be formed using the letters of the given word—

INTERDEPENDENCE

- (A) DEPENDENT  
 (B) INTEND  
 (C) INCENT  
 (D) INCIDENT
36. If RATE is written as SBUF, then FIRE can be written as—  
 (A) HJSF                   (B) GJSF  
 (C) GJFS                   (D) JGSF

37. Which one of the given responses can be inserted to make a meaningful word?

A L --- T

(A) TE                     (B) ER  
 (C) FE                     (D) AT

**Directions**—(Q. 38–40) A series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

38. 10, 11, 14, 23, 50, ?

(A) 110                   (B) 104  
 (C) 70                   (D) 131

39. 15, 20, 30, ?, 65

(A) 40                   (B) 45  
 (C) 50                   (D) 60

40. 37, 32, 26, 19, ?

(A) 10                   (B) 11  
 (C) 12                   (D) 13

41. Identify the correct response from the given following symbols—

$$2(27 * 3) * 30 * 30 * 18$$

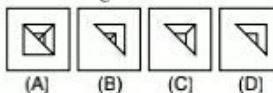
(A)  $+ - = +$            (B)  $\times + \div =$   
 (C)  $+ - + =$            (D)  $\div + - =$

42. Which answer figure will complete the pattern in the question figure?

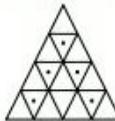
**Question Figure**



**Answer Figures**

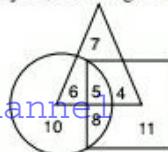


43. Find out the number of triangles with dots—



(A) 5                   (B) 8  
 (C) 10                  (D) 16

44. In the following diagram, the circle represents Cricket players, the triangle represents Hockey



players and the square represents Football players. How many play both Football and Hockey?

(A) 7                   (B) 9  
 (C) 11                  (D) 4

- Directions**—(Q. 45–46) Select the missing number from the given responses—

45.



(A) 37                  (B) 35  
 (C) 31                  (D) 29

46.



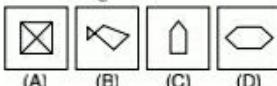
- (A) 100      (B) 81  
 (C) 64      (D) 121

47. Which of the answer figure is embedded in the question figure?

**Question Figure**

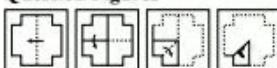


**Answer Figures**

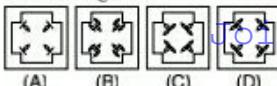


48. A square piece of paper with its corners cut is folded as shown below. From the given responses, indicate how it will appear when opened?

**Question Figures**



**Answer Figures**



49. If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?

**Question Figure**



**Answer Figures**



50. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of Matrix I are numbered from 0 to 4 and that of Matrix II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, e.g., 'S' can be represented by 03.

44, etc., and 'R' can be represented by 69, 78 etc. Similarly, you have to identify the set for the word 'PUPIL'.

**Matrix I**

	0	1	2	3	4
0	P	U	L	S	E
1	U	L	S	E	P
2	L	S	E	P	U
3	S	E	P	U	L
4	E	P	U	L	S

**Matrix II**

	5	6	7	8	9
5	R	A	D	I	O
6	A	D	I	O	R
7	D	I	O	R	A
8	I	O	R	A	D
9	O	R	A	D	I

Join YouTube Channel

(A) 41, 10, 32, 85, 6

(B) 32, 85, 23, 76, 12

(C) 23, 33, 41, 58, 90

(D) 41, 33, 32, 85, 43

**Answers with Explanations**

1. (A) As,

$$\begin{array}{cccc} A & Z & B & Z \\ \downarrow +2 & \downarrow -1 & \downarrow +2 & \downarrow -1 \\ C & Y & D & Y \end{array}$$

Same as,

$$\begin{array}{cccc} E & X & F & X \\ \downarrow +2 & \downarrow -1 & \downarrow +2 & \downarrow -1 \\ G & W & H & W \end{array}$$

2. (A) As,

$$\begin{array}{cccc} Q & Y & G & O \\ \downarrow +2 & \downarrow +2 & \downarrow +2 & \downarrow +2 \\ S & A & I & Q \end{array}$$

Same as,

$$\begin{array}{cccc} U & C & K & S \\ \downarrow +2 & \downarrow +2 & \downarrow +2 & \downarrow +2 \\ W & E & M & U \end{array}$$

3. (B) w w w / x x x / y y y / z z z

4. (C) m a n / m a n / m a n / m a n

5. (C) From relation diagram—



Hence, G is D's father.

6. (B) As,  $9 + 5 + \boxed{5} = 19$

and  $10 + 7 + \boxed{5} = 22$

Same as,  $11 + 8 + \boxed{5} = 24$

7. (D) As,

$$2 \times 3 \times 7 \Rightarrow (2)^2 (3)^2 (7)^2 \\ = 4949$$

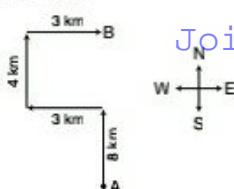
and  $5 \times 9 \times 4 \Rightarrow (5)^2 (9)^2 (4)^2 \\ = 258116$

Same as,

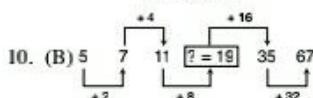
$$4 \times 6 \times 8 \Rightarrow (4)^2 (6)^2 (8)^2 \\ = 163664$$

8. (B) Eight corners cube will have three sides yellow colour.

9. (B)



$$\therefore AB = (8 + 4) \text{ km} \\ = 12 \text{ km}$$



11. (C) Rest are same size.

12. (B) As, P R E M I E R

$\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$   
X O I L S I O

and A N T A G O N I S E

$\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$   
M Q N M Z B Q S X I

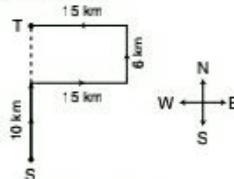
Same as, R E P O R T

$\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$   
O I X B O N

13. (A) In rest both the numbers are divisible by 3.

14. (C)

For Q. 15 and 16 :



15. (B) ∵ Required distance

$$TS = (10 + 6) \text{ km} \\ = 16 \text{ km}$$

16. (A) The vehicle was moving in west direction.

17. (C) Feb. (Leap Year) March March

25	26	27	28	29	1	2
↓	↓	↓	↓	↓	↓	↓
Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.

18. (B) Balaji > Priyanka > Nareen

= Naveen > Nakul

19. (A)  $8 + 10 - 6 \geq 12$

$$\Rightarrow 8 + 10 - 6 = 18 - 6 \\ = 12$$

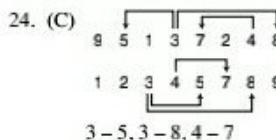
20. (C) As, 'RACE' is related with 'FATIGUE'.  
Same as, 'FAST' is related with 'HUNGER'.

21. (C) As, 'RESTORE' is related with 'CLIMB'.  
Same as 'SEGREGATION' is related with 'SEEM'.

22. (C) As,  $4 \times 3 = 12$

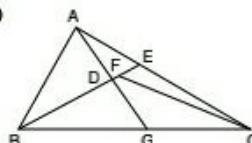
Same as,  $9 \times 3 = 27$

23. (D) 'White House' is in New York.



$$3 - 5, 3 - 8, 4 - 7$$

25. (B)



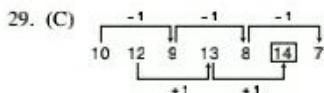
Required number of triangles

$$\begin{aligned} &= \text{ABC, ABD, AED, ABG,} \\ &\quad \text{AGC, EFC, ABE, BDG,} \\ &\quad \text{BEC, BFC} \\ &= 10 \end{aligned}$$

26. (A) CAT : 21 :: DOG : 23

27. (B) Painting is a part of Art and Dance is a part of function.

28. (A) A  $\xrightarrow{+2}$  D      B  $\xrightarrow{+2}$  E  
           D  $\xrightarrow{+2}$  G      E  $\xrightarrow{+2}$  H  
           I  $\xrightarrow{+2}$  L      J  $\xrightarrow{+2}$  M  
           P  $\xrightarrow{+2}$  S      Q  $\xrightarrow{+2}$  T



30. (C)      31. (C)

32. (D) 1, 2 and 3 are only divisible by themselves while 4 is divisible by 2 also.

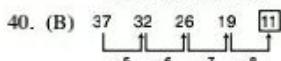
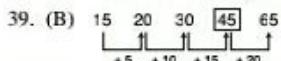
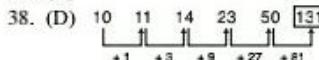
33. (A) Partiality, Participate, Particle, Particular.

34. (B)

35. (D) 'INTERDEPENDENCE' does not contain two I's. Therefore, 'INCIDENT' word can't be formed.

36. (B) R  $\xrightarrow{+1}$  S      F  $\xrightarrow{+1}$  G  
         A  $\xrightarrow{+1}$  B      I  $\xrightarrow{+1}$  J  
         T  $\xrightarrow{+1}$  U      R  $\xrightarrow{+1}$  S  
         E  $\xrightarrow{+1}$  F      E  $\xrightarrow{+1}$  F

37. (B)



41. (D)

$$2(27+3)+30-30 = 18$$

$$2(9)+30-30 = 18$$

$$18+30-30 = 18$$

$$18 = 18$$

$$\text{L.H.S.} = \text{R.H.S.}$$

42. (A)      43. (D)      44. (B)

$$45. (C) 3 \times 2 + 1 = 7$$

$$7 \times 2 + 1 = 15$$

$$63 \times 2 + 1 = 127$$

$$15 \times 2 + 1 = 31$$

46. (A)  $(3+4)^2 = 49$

$$(5+1)^2 = 36$$

$$(7+5)^2 = 144$$

$$(8+2)^2 = 100$$

47. (C)      48. (D)      49. (A)      50. (D)

## Part – II

### English Language

**Directions – (Q. 1–3)** In each of the following questions a bold printed part of the sentence may have an error. The sentence may be made meaningful and correct by replacing the bold printed part with one of the given alternatives (A), (B), (C) and (D). The number of that alternative is the answer.

1. **Shapes** of gods and goddesses are worshipped by people?

- (A) Images      (B) Reflections  
 (C) Clay shapes      (D) Clay toys

2. We **cannot always convey** ourselves in simple sentences—

- (A) cannot always convey  
 (B) can not always express  
 (C) cannot always express  
 (D) No correction required

3. One of most significant **phenomenons** of our time has been the development of the cinema—

- (A) phenomenon  
 (B) phenomena  
 (C) phenomenonna  
 (D) No correction required

**Directions – (Q. 4–5)** Some proverbs idioms are given below with their meanings. Choose the correct meaning of the proverb/idiom.

4. To catch a tarter—

- (A) To trap wanted criminal with great difficulty  
 (B) To catch a dangerous person  
 (C) To meet with disaster  
 (D) To deal with a person who is more than one's watch

5. To be above board—  
 (A) To have a good height  
 (B) To be honest in any business deal  
 (C) To have no debts  
 (D) To try to be beautiful

**Directions**—(Q. 6-7) In questions given below, out of the four alternatives, choose the one which can be substituted for the given words/ sentences—

6. One who is fond of fighting—  
 (A) Bellicose      (B) Aggressive  
 (C) Belligerent    (D) Militant
7. Tending to move away from the centre or axis—  
 (A) Centrifugal    (B) Centripetal  
 (C) Axiomatic    (D) Awry

**Directions**—(Q. 8-12) In the following passage there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, four words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.

Studies of cognitive development have shown that the child's ability to use generalised ... (8)... develops more slowly in history than in any other school subjects. This typical development of reasoning in historical ... (9)... makes it necessary for the historian to focus upon events that may be included in the text. In many cases, the historian may need to ... (10)... with special effort a generalised understanding of key concepts to be used in reference. This ... (11)... may well mean that school history cannot cover as many events as it does at present. Also, school histories may have to provide for topic work or theme-based description rather than merely observe ... (12)... conformity.

8. (A) tasks               (B) concept  
 (C) procedures          (D) theories
9. (A) chronology        (B) arena  
 (C) perspective        (D) conformity
10. (A) tackle             (B) grapple  
 (C) provide             (D) deliver
11. (A) necessity        (B) requirement  
 (C) understanding      (D) rationale

12. (A) internal           (B) metaphorical  
 (C) eternal             (D) chronological

**Directions**—(Q. 13-17) Sentences are given with blanks to be filled in with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four.

13. The computer ..... nonsense because there was a mistake in the programming.  
 (A) produces           (B) produced  
 (C) will produce      (D) produce
14. That farmer may be old but he is.....  
 (A) less energetic    (B) more energetic  
 (C) most energetic   (D) energetic
15. The monitor takes care ..... the class ..... the absence of the teacher.  
 (A) in; at             (B) of; in  
 (C) during; in       (D) of; for
16. When he saw the fish swimming ..... the river, he was extremely happy.  
 (A) on                  (B) besides  
 (C) in                  (D) at

17. The truck was ..... when the bus rammed into it.  
 (A) stationery       (B) machinary  
 (C) machinery       (D) stationary

**Directions**—(Q. 18-20) Out of the four alternatives, choose the one which best expresses the meaning of the given word.

18. Right  
 (A) Correct           (B) Marked  
 (C) Straight          (D) Finished
19. Apprehended  
 (A) Understood       (B) Arrested  
 (C) Feared           (D) Questioned
20. Genuine  
 (A) Real              (B) Unreal  
 (C) Similar           (D) False
21. Guilty  
 (A) Good             (B) Innocent  
 (C) Ingenious       (D) Foolish

**Directions**—(Q. 21-23) Choose the word opposite in meaning to the given word.

22. Brutality  
 (A) Mercy                   (B) Bestiality  
 (C) Cruelty               (D) Humanity

23. Fat  
 (A) Clean                   (B) Mean  
 (C) Weak                   (D) Lean

**Directions—(Q. 24 and 25)** Groups of four words are given. In each group, one word is correctly spelt. Find the correctly spelt word.

24. (A) Possibility           (B) Possibility  
 (C) Possibility             (D) Possebility  
 25. (A) Cuffe               (B) Cough  
 (C) Cuf                   (D) Kough

**Directions—(Q. 26–40)** Read the following passage carefully and answer the questions given below it. Certain words/phrases/sentences have been printed in **bold/italics** to help you locate them while answering some of the questions.

"The best man in the whole tribe is Manute the brave", everyone would say. *You could see for yourself, at any time of the day, just how brave he was. He would jump to the ground from amazing heights, he would fight poisonous snakes, he would catch scorpions with his bare hands, and could cut the palm of his own hand with a knife-without even a flinch.* They said the exact opposite about Pontoma. No one had seen him catch even a monkey.

One day, they happened upon each other in the forest, and Manute was showing Pontoma a coral snake he had just caught, when there began a downpour, the likes of which no one had ever seen. The both ran to shelter themselves under some thick foliage, and there they stayed until the rain had stopped.

However, when they were about to leave the shelter, they heard the roar of a tiger, at a distance of only a couple of metres. The foliage was very thick and **dense**, and the tiger wouldn't be able to get through it to attack them. However, the tiger was almost at the entrance hole. If it happened to come in and find the two tribesmen there, they certainly wouldn't get out alive. Manute was getting restless. *He wanted to get out of that tight hole, and confront the tiger in open space, where he could fully use his great hunting skills.* Pontoma was gesturing at him to keep still and be quiet, but Manute, tired of being stuck with a coward, leapt out of the thicket, surprising the tiger.

The tiger suffered a couple of deep wounds, but soon recovered and hurt Manute with two swipes of its paw, throwing him to the ground. The tiger took the initiative, and leapt upon Manute, but Manute's spear, in the hands of Pontoma, interrupted the tiger's attack. The tiger turned away, wounded, but the spear moved as fast as a beam of light, and with incredible precision, hurting the animal again and again, until it fell to the ground, **lifeless**.

Manute, shocked, and bleeding freely from his injuries, witnessed all his while lying flat on his back on the ground. Never before had he seen anyone **take on** a tiger, and use the spear with such **calmness** and strength, as he had seen Pontoma do just now. Neither of them said a thing. Manute's grateful expression needed no words to be understood. Nor did they need words to know about Pontoma's wounded hand, *or the fact that they were leaving a tiger skin there in the forest.*

From that day on, people gradually remarked less on Manute's braveness. They thought may be he was less courageous than before. The strangest thing was that they now noticed that Manute's old spear was among Pontoma's things. But Manute just smiled, and remembered the day he learned that true bravery lay not in seeking out danger, but in controlling one's fear when danger crosses your path.

26. What did Manute learn from Pontoma ?

- (A) That to be brave, one needs to have friends around who can help in times of crisis
- (B) That to be brave, one needs to keep on practicing all the time
- (C) That to be brave, one needs to face his fear in times of danger
- (D) That to be brave, one needs to know how to use the spear effectively
- (E) That to be brave, one needs to look for danger all the time

27. Which of the following is **false** in the context of the story ?

- (A) Manute was grateful to Pontoma for saving him from the clutches of the tiger
- (B) Manute did manage to inflict a few deep wounds on the tiger
- (C) Pontoma came out unscathed from the fight with the tiger

- (D) In the fight that ensued, the tiger had injured Manute  
 (E) Pontoma saved Manute's life
28. How did Manute's old spear possibly come in Pontoma's possession ?  
 (A) Manute did not want the spear anymore as it was old and had given it to Pontoma  
 (B) Everyone had insisted that Pontoma keep the spear as he had faced the tiger bravely  
 (C) Pontoma and Manute were best of friends and shared all their things  
 (D) Pontoma had used the spear to attack the tiger and it remained with him  
 (E) Pontoma had liked the spear and had asked Manute to lend it to him
29. "*or the fact that they were leaving a tiger skin there in the forest.*" What event in the story does this line signify ?  
 (A) The bravery of Manute  
 (B) The start of the enmity between Manute and Pontoma  
 (C) The death of the tiger  
 (D) The loss incurred by Manute and Pontoma  
 (E) The littering in the forest
30. What did Manute and Pontoma do when it started raining ?  
 (A) They got wet and ran towards their respective homes  
 (B) They decided to share stories of bravery with each other  
 (C) They decided to attack a tiger in the forest to pass their time  
 (D) They took shelter in dense foliage till the rain stopped  
 (E) They looked at coral snakes till the rain stopped
31. Which of the following characteristics can be attributed to Pontoma from the story ?  
 (1) Humble  
 (2) Courageous  
 (3) Talkative  
 (A) Only (1) and (3)  
 (B) Only (1)  
 (C) All (1), (2) and (3)  
 (D) Only (3)  
 (E) Only (1) and (2)
32. Which of the following can be the most appropriate title for the passage/story ?  
 (A) The Life In A Jungle  
 (B) The Friendship Between Manute and Pontoma  
 (C) Manute's Antics  
 (D) The Silent Brave Man  
 (E) The Tiger and Manute
33. "*You could see for yourself, at any time of the day, just how brave he was. He would jump to the ground from amazing heights, he would fight poisonous snakes, he would catch scorpions with his bare hands, and could cut the palm of his own hand with a knife without even a flinch.*" What aspect of Manute's personality does this sentence portray ?  
 (A) Boastfulness      (B) Helpfulness  
 (C) Laziness      (D) Cheerfulness  
 (E) Peacefulness
34. "*He wanted to get out of that tight hole, and confront the tiger in open space, where he could fully use his great hunting skills.*" How can this sentence be best reframed without changing its meaning ?  
 (A) Being stuck in a hiding place, he wanted the tiger to tackle him as he was good at hunting  
 (B) Tackling the tiger, he wanted to hone his hunting skills by coming out of his hiding place  
 (C) Being stuck in a hiding place, he wanted to tackle the tiger for his hunting skills  
 (D) The tiger possessing good hunting skills, wanted him to come out of his hiding place and tackle him  
 (E) Being good at hunting, he wanted to tackle the tiger by coming out of his hiding place
35. Which of the following characteristics can be attributed to Manute from the story ?  
 (1) Energetic  
 (2) Evil  
 (3) Coward  
 (A) Only (2)  
 (B) Only (1)  
 (C) Only (1) and (2)

- (D) Only (2) and (3)  
 (E) All (1), (2) and (3)

**Directions—(Q. 36–38)** Choose the word/group of words which is **most similar** in meaning to the word/group of words printed in **bold** as used in the passage.

**36. TAKE ON**

- |              |           |
|--------------|-----------|
| (A) Ride     | (B) Fight |
| (C) Convince | (D) Buy   |
| (E) Lift     |           |

**37. LIFELESS**

- |                 |           |
|-----------------|-----------|
| (A) Dead        | (B) Tired |
| (C) Unconscious | (D) Weak  |
| (E) Alive       |           |

**38. STAYED**

- |               |              |
|---------------|--------------|
| (A) Resided   | (B) Remained |
| (C) Continued | (D) Lived    |
| (E) Slept     |              |

**Directions—(Q. 39 and 40)** Choose the word/group of words which is **most opposite** in meaning to the word/group of words printed in **bold** as used in the passage.

**39. CALMNESS**

- |                  |               |
|------------------|---------------|
| (A) Tranquillity | (B) Arrogance |
| (C) Turbulence   | (D) Expertise |
| (E) Anxiety      |               |

**40. DENSE**

- |            |            |
|------------|------------|
| (A) Sparse | (B) Dark   |
| (C) Thick  | (D) Bright |
| (E) Flimsy |            |

**Directions—(Q. 41–45)** In each of the following questions, a sentence/s contains a blank space. You have to choose from the options (A), (B), (C), (D) and (E) and fill in the blank in such a manner that it completes the sentence/s in the most meaningful and grammatically appropriate manner.

41. The Manager realized that the clerk had forgotten to do his job and thus ..... for the loss to the Company.  
 (A) knew about                   (B) created  
 (C) hold guilty                 (D) was responsible  
 (E) makes up

42. His vision is very poor but he refuses to do anything about it. .... before he loses his eye-sight completely.

- (A) It is swiftly  
 (B) It won't be long  
 (C) Not soon  
 (D) He will very quickly  
 (E) It is time

43. .... having worked really hard in office, Vilas did not get the much expected promotion.

- (A) Inspite of                   (B) On  
 (C) Since                      (D) Despite of  
 (E) Besides

44. Tonight's game was ..... because of the rain.

- (A) struck of                   (B) called off  
 (C) winning                   (D) played  
 (E) cancelled

45. Riya did not care about me at all, I knew this as she had not even ..... when I told her that I had failed in the exams.

- (A) console me                (B) outspoken  
 (C) seen me                   (D) closed her eyes  
 (E) batted an eyelid

**Directions—(Q. 46–50)** In each of the following questions a short story is given with one of the lines in the story missing and represented by a blank. Select the best out of the five answer choices given to make the story complete and coherent.

46. An elderly carpenter told his employer-contractor of his plans to retire from the house-building business to live a more leisurely life with his wife and enjoy his extended family. The contractor was sorry to see his good worker go and asked if he could build just one more house as a personal favour. The carpenter said yes, but overtime it was easy to see that his heart was not in his work. He resorted to shoddy workmanship and used inferior materials. When the carpenter finished his work, his employer came to inspect the house and said. .... "The carpenter was shocked ! What a shame ! If he had only known he was building his own house, he would have done it all so differently.

- (A) "This house is going to collapse in no time.  
 (B) "You have done a remarkable job.  
 (C) "This is your house; my gift to you.  
 (D) "What a bad job you have done!  
 (E) "I wanted to gift this house to my relative.
47. Once a boy who wanted to buy a puppy went to a store. "Mister," he said to the owner. "I want to buy one of your puppies." The owner called all the puppies outside with a whistle. Out from the doghouse and to the fence ran four little balls of fur. Slowly another little ball appeared; this one noticeably smaller. Then in a somewhat awkward manner the little pup began hobbling toward the others, doing its best to catch up. .... the little boy said, pointing to the pup. The owner knelt down at the boy's side and said, "Son, you don't want that puppy. He will never be able to run and play with you like these other dogs would." With that the little boy reached down, rolled up one leg of his trousers and revealed a steel brace running down both sides of his leg attaching itself to a specially made shoe. Looking back up at the owner, he said, "You see sir, I don't run too well myself, and he will need someone who understands."
- (A) "I want that one.  
 (B) "What is that?  
 (C) "That pup is so ugly.  
 (D) "Is that puppy injured?  
 (E) "I like the pups which came earlier.
48. A selfish fox once invited a stork to dinner at his home in a hollow tree. On arrival at the fox's home, the stork was served soup in a shallow bowl. The fox licked up all his soup very quickly. However, the stork could not have any of it as the bowl was too shallow for her long beak. The poor stork just smiled politely and stayed hungry. The stork then invited the fox over to his home for dinner. The next day, when the fox arrived at the stork's home, he saw that they were also having soup for dinner. This time the soup was served in tall jugs. .... This time it was his turn to go hungry.
- (A) The stork drank the soup easily but the fox could not reach inside the tall jug  
 (B) The fox overturned the tall jug and had his share of the soup  
 (C) The stork politely poured all of the fox's soup into another shallow bowl for the fox to drink  
 (D) The fox could easily reach into the tall jug  
 (E) The fox felt guilty about the way he had treated the stork
49. A man punished his three year old daughter for washing a roll of gold wrapping paper. Money was tight and he became infuriated when the child tried to decorate a box to put under the Christmas tree. Nevertheless, the little girl brought the gift to her father the next morning and said, "This is for you, Daddy." The man was embarrassed by his earlier over reaction ..... He yelled at her, stating, "Don't you know, when you give someone a present, there is supposed to be something inside?" The little girl looked up at him with tears in her eyes and cried, "Oh, Daddy, it's not empty at all. I blew kisses into the box. They're all for you, Daddy." The father was embarrassed and he circled his arms around his little girl, and he begged for her forgiveness.
- (A) But was too egoistic to actually apologize to his little girl  
 (B) And opened the box to find a very lovely gift inside  
 (C) And wanted to make it upto her by praising the gift he had received  
 (D) And decided to apologize to her  
 (E) But his anger flared again when he found out the box was empty
50. One day long ago, some sailors set out to sea in their sailing ship. One of them brought his pet monkey along for the long journey. .... Everyone fell into the sea, and the monkey was sure that he would drown. Suddenly a dolphin appeared and picked him up. They soon reached the island and the monkey came down from the dolphin's back. The monkey thanked the dolphin for saving his life.
- (A) The monkey entertained everyone on the ship with his antics  
 (B) The ship was very sturdy and could withstand strong gusts of wind

- (C) When they were far out at sea, a terrible storm overturned their ship  
 (D) The ship reached the island  
 (E) The monkey rocked the ship and overturned it

### Answers with Explanations

1. (A) 2. (B) 3. (A) 4. (B) 5. (B)  
 6. (A)  
 7. (A) Centrifugal is a force acting radially outwards from the centre.  
 8. (C) 9. (A) 10. (B) 11. (D) 12. (B)  
 13. (B) 14. (D) 15. (B) 16. (C) 17. (D)  
 18. (A) 19. (A) 20. (A) 21. (B) 22. (D)  
 23. (D) 24. (B) 25. (B) 26. (C) 27. (C)  
 28. (D) 29. (C) 30. (D) 31. (E) 32. (D)  
 33. (A) 34. (E) 35. (B) 36. (B) 37. (A)  
 38. (B) 39. (C) 40. (A) 41. (D) 42. (B)  
 43. (A) 44. (B) 45. (D) 46. (C) 47. (A)  
 48. (A) 49. (E) 50. (C)

### Part—III Quantitative Aptitude

1. Probability of getting a multiple of 2 on one dice and a multiple of 3 on the other dice, when both dice are thrown simultaneously, is—

(A)  $\frac{1}{6}$  (B)  $\frac{5}{12}$   
 (C)  $\frac{11}{36}$  (D)  $\frac{5}{36}$

2. The area of a rectangular field is 15 times the sum of its length and breadth. If the length of that field is 40 metre, what is the breadth of that field ?

(A) 24 metre (B) 25 metre  
 (C) 28 metre (D) 32 metre

3. Find the measure of angle, if six times its complement is  $12^\circ$  less than twice its supplements—

(A)  $48^\circ$  (B)  $36^\circ$   
 (C)  $12^\circ$  (D)  $45^\circ$

4. The decimal representation of a rational number is—

- (A) Always terminating  
 (B) Either terminating or repeating  
 (C) Either terminating or non-repeating  
 (D) Neither terminating nor repeating
5. Find the volume and surface area of a sphere of radius 21 cm respectively—  
 (A)  $38908 \text{ cm}^3$  and  $5544 \text{ cm}^2$   
 (B)  $38908 \text{ cm}^3$  and  $5544 \text{ cm}^2$   
 (C)  $38908 \text{ cm}^3$  and  $5454 \text{ cm}^2$   
 (D)  $38918 \text{ cm}^3$  and  $4455 \text{ cm}^2$
6. One acute angle of a right angled triangle is double the other. If the length of its hypotenuse is 10 cm, then its area is—  
 (A)  $\frac{75}{2} \text{ cm}^2$  (B)  $25 \text{ cm}^2$   
 (C)  $\frac{25}{2}\sqrt{3} \text{ cm}^2$  (D) None of these
7. The average marks obtained by 20 students is 45. The average of first ten is 50 and of last 9 is 40. What are the marks obtained by the 11th student ?  
 (A) 30 (B) 0  
 (C) 40 (D) 45
8. If the side of a cube is decreased by 10%, the percentage decrease in the volume of the cube is—  
 (A) 72.9% (B) 10%  
 (C) 19% (D) 27.1%
9. How much is the consumption wattage of a TV which when used 2 hr. a day for 30 days in a month, alongwith household gadgets consuming 5 units a day, aggregates a monthly consumption of 159 electrical units ?  
 (1 unit is 1000 watt)  
 (A) 100 watt (B) 200 watt  
 (C) 150 watt (D) 25 watt
10. A compact disc player when sold for ₹ 13,600 incurred a loss of 15 per cent. At what price should it have been sold to make a profit of 35 per cent on the cost ?  
 (A) ₹ 21,600 (B) ₹ 20,400  
 (C) ₹ 19,600 (D) None of these
11. A bus left with some definite number of passengers. At the first stop, half the passengers

- left the bus and 35 boarded the bus. At the second stop  $\frac{1}{5}$ th of the passengers left and 40 boarded the bus. Then, the bus moved with 80 passenger towards its destination without stopping anywhere. How many passengers were there originally ?
- (A) 40                         (B) 30  
 (C) 50                         (D) 60
12. When three coins are tossed together, the probability that all coins have the same face is—
- (A)  $\frac{1}{4}$                          (B)  $\frac{1}{6}$   
 (C)  $\frac{1}{3}$                          (D) None of these
13. Puneeta borrowed from Reena certain sum for two years at simple interest. Puneeta lent this sum to Venu at the same rate for two years compound interest. At the end of two years she received ₹ 110 as compound interest but paid ₹ 100 as simple interest. Find the sum and rate of interest—
- (A) ₹ 250, rate 10% per annum  
 (B) ₹ 250, rate 20% per annum  
 (C) ₹ 250, rate 25% per annum  
 (D) None of these
14. 2000 soldiers in a fort had enough food for 20 days. But some soldiers were transferred to another fort and the food lasted for 25 days. How many soldiers were transferred ?
- (A) 400                         (B) 450  
 (C) 525                         (D) 500
15. The HCF and LCM of two numbers are 13 and 1989 respectively. If one of the numbers is 117, determine the other—
- (A) 121                         (B) 131  
 (C) 221                         (D) 231
16. The difference between the length and breadth of a rectangle is 23 m. If its perimeter is 206 m, then its area is—
- (A) 2520 m<sup>2</sup>                     (B) 2480 m<sup>2</sup>  
 (C) 2420 m<sup>2</sup>                     (D) None of these
17. Salaries of Akash, Babloo and Chintu are in the ratio of 2 : 3 : 5. If their salaries were increased by 15%, 10% and 20% respectively, what will be the new ratio of their salaries—
- (A) 3 : 3 : 10                     (B) 23 : 33 : 60  
 (C) 20 : 22 : 40                     (D) None of these
18. If a runner takes as much time in running 20 metre as the car takes in covering 50 metre, the distance covered by the runner during the time the car covers 1 km is—
- (A) 400 metre                     (B) 40 metre  
 (C) 440 metre                     (D) None of these
19. If a right circular cone of vertical height 24 cm has a volume of 1232 cm<sup>3</sup>, then the area of its curved surfaces—
- (A) 550 cm                         (B) 625 cm  
 (C) 675 cm                         (D) None of these
20. For celebration of his birthday Ram goes to purchase sweets. He needs to buy a minimum of 300 pieces of rasgulla and 150 pieces of cream roll. Only pre-packed packets are available in the shop for these two items. These are economy pack and premium pack. Economy pack has 4 rasgulla and 1 cream roll costing ₹ 25 per pack and premium pack had 10 rasgulla and 7 cream roll costing ₹ 75 per packet. If he has to meet his requirement with the premium and economy packs, what is the minimum expenditure he has to incur ?
- (A) ₹ 1575                         (B) ₹ 2100  
 (C) ₹ 2425                         (D) ₹ 2975
21. A Shopowner gives a discount of 10% on the marked price of a radio, but in the bargain makes a profit of 10%. If the marked price is ₹ 330, the cost price is rupees—
- (A) ₹ 297                         (B) ₹ 300  
 (C) ₹ 315                         (D) ₹ 270
22. The sum of three numbers is 57 and the ratio of 1st to 2nd is 3 : 7 and 2nd to 3rd is 7 : 9. The second number is—
- (A) 21                                 (B) 27  
 (C) 18                                 (D) 14
23.  $\frac{189}{\sqrt{?}} = 1.89 -$
- (A) 100                                 (B) 1000  
 (C) 10000                             (D) 100000
24.  $0.12 \times 12 \times 0.012 = ?$
- (A) 0.01688                         (B) 0.1728  
 (C) 1.728                             (D) 0.01728

25. The difference between  $\frac{3}{4}$  of 64 and  $\frac{2}{3}$  of 48 is equal to—  
 (A) 24                    (B) 20  
 (C) 32                    (D) 16
26.  $0.5 - 0.0036 = ?$   
 (A) 0.4964              (B) 0.4864  
 (C) 0.4854              (D) 0.4954
27. What per cent of 70 is  $46 \frac{1}{5}?$   
 (A) 63                    (B) 65  
 (C) 66                    (D) 64
28. The sales tax on the motorcycle is 8%. If the marked price of the motorcycle is ₹ 36000, the selling price including sales tax is—  
 (A) ₹ 38800             (B) ₹ 38880  
 (C) ₹ 37880             (D) ₹ 39880
29. The sum of angles of a rhombus is—  
 (A)  $360^\circ$               (B)  $180^\circ$   
 (C)  $156^\circ$                 (D)  $356^\circ$
30. The distance between stations A and B is 1692 km. A train starts from A on Thursday at 8.00 PM and reaches B on Saturday at 8.00 AM. The average speed of the train is—  
 (A) 47 kmph             (B) 37 kmph  
 (C) 67 kmph             (D) 57 kmph
31. The ratio of 250 ml to 2 liters is—  
 (A) 1 : 3                (B) 1 : 6  
 (C) 1 : 8                (D) 1 : 9
32. Angle described a minute hand of a wall clock from 8.00 AM to 8.45 AM will be—  
 (A)  $180^\circ$               (B)  $210^\circ$   
 (C)  $120^\circ$                 (D)  $270^\circ$
33. 15 boys earn ₹ 900 in 5 days. The earning of 20 boys in 7 days will be—  
 (A) ₹ 1680                (B) ₹ 1600  
 (C) ₹ 1640                (D) ₹ 1660
34. The value of  $5^2 + 12^\circ \times 11^\circ$  is—  
 (A) 9                      (B) 26  
 (C) 11                    (D) 0
35. The numerator of a fraction is 4 less than the denominator. If 1 is added to both denominator and numerator, the fraction becomes  $\frac{1}{2}$ . The fraction is—  
 (A)  $\frac{13}{7}$                 (B)  $\frac{3}{7}$   
 (C)  $\frac{7}{11}$                 (D)  $\frac{7}{3}$
36. If eggs are bought at 10 for ₹ 8 and sold at 4 for ₹ 5, the business results in—  
 (A) 50% loss             (B)  $56\frac{1}{4}$ % gain  
 (C) 51% gain            (D)  $56\frac{1}{4}$ % loss
37. 125 metre is  $x\%$  of 750 metre. The value of  $x$  is—  
 (A) 26.66%              (B) 16.33%  
 (C) 16.66%              (D) 66.66%
38. A man sold an article for ₹ 560 and gained 12%, the cost price of the article was—  
 (A) ₹ 450                (B) ₹ 550  
 (C) ₹ 400                (D) ₹ 500
39. The number which is not a perfect square is—  
 (A) 625                   (B) 576  
 (C) 451                   (D) 361
40. The Arithmetic Mean of 13 observations is 14. If the Mean of 1st seven observations is 12 and that of last seven observations is 16, the 7th observation is—  
 (A) 12                    (B) 13  
 (C) 24                    (D) 14
41. A's salary is 50% more than B's. How much per cent is B's salary less than A's?  
 (A)  $33\frac{1}{4}\%$               (B)  $33\frac{1}{3}\%$   
 (C)  $33\frac{1}{2}\%$               (D) 33%
42. When a number is divided by 893, the remainder is 193. What will be the remainder when it is divided by 47?  
 (A) 19                    (B) 5  
 (C) 33                    (D) None of these
43. A fruit seller buys lemons at 2 for a rupee and sells them at 5 for three rupees. His gain per cent is—  
 (A) 10%                   (B) 15%  
 (C) 20%                   (D) 25%

44. If  $x : y = 3 : 4$  then,  $(7x + 3y) : (7x - 3y)$  is equal to—  
 (A) 5 : 2      (B) 4 : 3  
 (C) 11 : 3      (D) None of these
45. A : B = 5 : 7  
 $C : D = 2A : 3B$   
 then AC : BD is—  
 (A) 20 : 38      (B) 50 : 147  
 (C) 10 : 21      (D) None of these
46. If A : B = 2 : 3, B : C = 4 : 5 C : D = 6 : 7,  
 then A : B : C : D is—  
 (A) 18 : 24 : 30 : 35  
 (B) 16 : 24 : 30 : 35  
 (C) 16 : 22 : 30 : 35  
 (D) None of these
47. The three numbers are in ratio of  $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$ .  
 The difference between the greatest and smallest numbers is 36. Find the numbers—  
 (A) 72, 84, 108      (B) 60, 72, 96  
 (C) 72, 96, 108      (D) None of these
48. The average marks obtained by 15 students including  $x$  are 70 and the average marks obtained by 14 students excluding  $x$  is 68. What is the marks obtained by  $x$ —  
 (A) 78      (B) 98  
 (C) 88      (D) None of these
49. Number of diagonals in a 30 sided convex polygon will be—  
 (A) 405      (B) 955  
 (C) 818      (D) 378
50. Two cars start from place A & B, 100 km apart, towards each other. Both cars start simultaneously. A bird sitting on one car starts at the same time towards the other car, and as soon as it reaches the second car, it flies back to the first car and it continues in this manner flying backwards and forwards from one car to the other, until the cars meet. Both cars travel at a speed of 50 kmph and the bird flies at 100 kmph. Total distance covered by the bird will be—  
 (A) 50 km      (B) 100 km  
 (C) 200 km      (D) None of these

**Answers with Explanations**

1. (A) Total favourable outcomes :  
 (2, 3) (2, 6) (4, 3) (4, 6) (6, 3) (6, 6) = 6  
 Total possible outcomes  
 $= 6 \times 6 = 36$   
 $\text{Probability} = \frac{6}{36} = \frac{1}{6}$
2. (A)  $l \times b = 15(l + b)$   
 $l = 40$   
 $40 \times b = 15(40 + b)$   
 $40b = 600 + 15b$   
 $25b = 600$   
 $b = 24 \text{ m}$
3. (A) As per question,  
 $6(90^\circ - x) = 2(180^\circ - x) - 12^\circ$   
 $540^\circ - 6x = 360^\circ - 2x - 12^\circ$   
 $4x = 192^\circ$   
 $x = \frac{192^\circ}{4}$   
 $= 48^\circ$
4. (B)  $\text{Volume} = \frac{4}{3}\pi r^3$   
 $= \frac{4}{3} \times \frac{22}{7} \times 21 \times 21 \times 21$   
 $= 88 \times 441$   
 $= 38808 \text{ cm}^3$   
 $S.A. = 4\pi r^2$   
 $= 4 \times \frac{22}{7} \times 21 \times 21$   
 $= 88 \times 63$   
 $= 5544 \text{ cm}^2$
6. (D) Ratio of sides = Ratio of angles  
 $= 2 : 1$   
 Let sides be  $2x$  and  $x$   
 By Pythagorean theorem,  
 $(2x)^2 + x^2 = 10^2$   
 $4x^2 + x^2 = 100$   
 $5x^2 = 100$   
 $x = \sqrt{20}$   
 $2x = 2\sqrt{20}$   
 $\text{Area} = \frac{1}{2} \times \sqrt{20} \times 2 \times \sqrt{20}$   
 $= 20 \text{ cm}^2$

7. (C) Let marks obtained by 11th student =  $x$

Average of 20 students

$$= \frac{10 \times 50 + x + 9 \times 40}{20}$$

$$45 = \frac{860 + x}{20}$$

$$x = 45 \times 20 - 860 \\ = 40$$

8. (D) Let side be 10 cm

then  $V = 10^3 = 1000 \text{ cm}^3$

when side decreased by 10%

$$\text{Side} = 9 \text{ cm}$$

$$V = 9^3 = 729$$

% decrease in volume,

$$= \frac{(1000 - 729)}{1000} \times 100 \\ = 27.1\%$$

9. (C) Let consumption on TV =  $x$  watt/hr, then

$$30 \times 2 \times x + 5 \times 30 \times 1000 \\ = 159 \times 1000$$

$$60x + 150,000 = 159,000$$

$$60x = 9000$$

$$x = \frac{9000}{60} \\ = 150$$

10. (A)  $(100 - 15)\% = 85\%$

$$85\% = 13,600$$

$$(100 + 35)\% = 135\%$$

$$135\% = \frac{13,600}{85} \times 135 \\ = 21,600$$

11. (B) Let no. of passengers =  $x$

$$\text{At 1st stop} = \frac{x}{2} + 35$$

$$\text{At 2nd stop} = \frac{4}{5} \left( \frac{x}{2} + 35 \right) + 40$$

$$80 = \frac{2x}{5} + 28 + 40$$

$$\frac{2x}{5} = 40 - 28$$

$$\Rightarrow x = 30$$

12. (B)  $\frac{\text{No. of favourable outcomes}}{\text{Total possible outcomes}} = \frac{1}{6}$

13. (B) S. I. for 2 years = 100

$$\text{S. I. for 1 year} = \frac{100}{2} = 50$$

$$\text{C. I.} - \text{S. I.} = 110 - 100$$

$$= 10$$

$$\text{Rate} = \frac{10}{50} \times 100$$

$$= 20\%$$

$$P = \frac{\text{S. I.} \times 100}{R \times T}$$

$$= \frac{50 \times 100}{20 \times 1}$$

$$= 250$$

14. (A) Let  $x$  soldiers be transferred then

$$2000 \times 20 = (2000 - x) \times 25$$

$$\frac{2000 \times 20}{25} = 2000 - x$$

$$x = 2000 - 1600$$

$$= 400$$

15. (C) Second no. =  $\frac{\text{LCM} \times \text{HCF}}{\text{1st No.}}$

$$= \frac{1989 \times 13}{117}$$

$$= 221$$

16. (A)  $l - b = 23$  ... (1)  
 $2(l + b) = 206$

$$l + b = 103$$
 ... (2)

Adding (1) and (2)

$$2l = 126$$

$$l = 63$$

Putting into (2)

$$63 + b = 103$$

$$b = 40$$

$$\text{Area} = l \times b$$

$$= 63 \times 40$$

$$= 2520 \text{ m}^2$$

17. (B)

$$\text{Current ratio} = 2 : 3 : 5$$

$$\text{New ratio} = \frac{2 \times 115}{100} : \frac{3 \times 110}{100} : \frac{5 \times 120}{100} \\ = 230 : 330 : 600 \\ = 23 : 33 : 60$$

18. (A) Runner : Car = 20 : 50

$$= 2 : 5$$

When car covers 1 km i.e., 1000 m

$$\text{the runner will run} = \frac{1000}{5} \times 2 \\ = 400 \text{ m}$$

19. (A)  $\frac{1}{3}\pi r^2 h = 1232$

$$\frac{1}{3} \times \frac{22}{7} \times r^2 \times 24 = 1232$$

$$r^2 = \frac{1232 \times 3 \times 2}{22 \times 24}$$

$$r^2 = 49$$

$$\Rightarrow r = 7 \text{ cm}$$

Again,  $I^2 = r^2 + h^2$

$$I^2 = 7^2 + 24^2$$

$$= 49 + 576$$

$$I^2 = 625$$

$$I = 25 \text{ cm}$$

Curved surface area =  $\pi r l$

$$= \frac{22}{7} \times 7 \times 25$$

$$= 550 \text{ cm}^2$$

20. (B)

21. (D) 110% of C.P. = 90% of M.P.

$$\frac{110}{100} \times \text{C.P.} = \frac{90}{100} \times 330$$

$$\text{C.P.} = \frac{90 \times 330}{110} \\ = 270$$

22. (A) Ratio = 3 : 7 : 9

$$\text{2nd No.} = \frac{7}{3+7+9} \times 57$$

$$= \frac{7}{19} \times 57 \\ = 21$$

23. (C)  $\frac{189}{\sqrt{?}} = 1.89$

$$\sqrt{?} = \frac{1.89}{189} \\ = 100$$

$$\therefore ? = 10000$$

 24. (D)  $0.12 \times 12 \times 0.012 = 0.01728$ 

 25. (D)  $64 \times \frac{3}{4} - 40 \times \frac{2}{3} = 48 - 32 = 16$ 

 26. (A)  $0.5000 - 0.0036 = 0.4964$ 

 27. (C)  $16 \frac{1}{5} = \frac{231}{5}$ 

$$\frac{231}{5 \times 70} \times 100 = 66$$

 28. (B)  $100 + 8 = 108\%$ 

$$108\% \text{ of } 36000 = \frac{108}{100} \times 36000 \\ = 38880$$

 29. (A) Sum of angles of a Rhombus  
(quad.) =  $360^\circ$ 

30. (A) Distance = 1692 km

Time taken = 36 hrs

$$\text{Speed} = \frac{1692}{36}$$

$$= 47 \text{ km/hr}$$

 31. (C)  $2l = 2000 \text{ ml}$ 

$$\text{Ratio} = \frac{250}{2000} = 1 : 8$$

 32. (D) 1 minute =  $6^\circ$ 

$$45 \text{ minutes} = 45 \times 6 \\ = 270^\circ$$

 33. (A)  $15 \text{ boys} \times 5 \text{ days} = 900$ 

$$1 \text{ boy} \times 1 \text{ day} = \frac{900}{15 \times 5}$$

$$20 \text{ boys} \times 7 \text{ days} = \frac{900}{15 \times 5} \times 20 \times 7 \\ = ₹ 1680$$

$$34. (B) 5^2 + 12^\circ \times 11^\circ = 25 + 1 \times 1 \\ = 26$$

 35. (B) Let fraction =  $\frac{x-4}{x}$ 

According to question,

$$\frac{x-4+1}{x+1} = \frac{1}{2}$$

$$\frac{x-3}{x+1} = \frac{1}{2}$$

$$2x-6 = x+1$$

$$x = 7$$

$$\text{Fraction} = \frac{7-4}{7} = \frac{3}{7}$$

 36. (B) C.P. =  $\frac{8}{10}$ 

$$\text{S.P.} = \frac{5}{4}$$

$$\text{Gain \%} = \frac{\left(\frac{5}{4} - \frac{8}{10}\right)}{\frac{8}{10}} \times 100$$

$$= \frac{9}{20} \times \frac{10}{8} \times 100$$

$$= \frac{450}{8} \\ = 56 \frac{1}{4}\%$$

37. (C)  $750 \times \frac{x}{100} = 125$   
 $x = \frac{125 \times 100}{750}$   
 $= \frac{50}{3} = 16\frac{2}{3}\%$

38. (D)  $(100 + 12)\% = 112\%$   
 $112\% \text{ of C.P.} = 560$   
 $\frac{112}{100} \times \text{C.P.} = 560$   
 $\text{C.P.} = \frac{560 \times 100}{112}$   
 $= 500$

39. (C)  $625 - 25^2, 576 - 24^2, 361 - 19^2$   
 $451$  is not a perfect square

40. (D) 7th observation  
 $= (7 \times 12 + 7 \times 16) - 13 \times 14$   
 $= 14(6 + 8) - 13 \times 14$   
 $= 14 \times 14 - 13 \times 14$   
 $= 14(14 - 13)$   
 $= 14 \times 1 = 14$

41. (B) Required percentage  
 $= \frac{50}{150} \times 100$   
 $= 33 \frac{1}{3}\%$

42. (B)  
 $893$  is completely divisible by  $47$   
Now,

$$\begin{array}{r} 193 \\ 47 \end{array} \leftarrow \begin{array}{l} 4 \text{ (Q)} \\ 5 \text{ (R)} \end{array}$$

Remainder = 5

43. (C) C. P. per lemon =  $\frac{1}{2}$   
S. P. per lemon =  $\frac{3}{5}$   
Gain % =  $\frac{\left(\frac{3}{5} - \frac{1}{2}\right)}{1/2} \times 100$   
 $= \frac{1}{10} \times \frac{2}{1} \times 100$   
 $= 20\%$

44. (C)  $x : y = 3 : 4$   
 $(7x + 3y) : (7x - 3y)$   
 $(7 \times 3 + 3 \times 4) : (7 \times 3 - 3 \times 4)$

$$21 + 12 : 21 - 12$$

$$33 : 9 = 11 : 3$$

45. (B)  $A : B = 5 : 7$   
 $C : D = 2A : 3B$   
 $AC : BD = 5 \times 2 \times 5 : 7 \times 3 \times 7$   
 $= 50 : 147$

46. (B)  $A : B = (2 : 3) \times 4 = 8 : 12$   
 $B : C = (4 : 5) \times 3 = 12 : 15$   
 $A : B : C = (8 : 12 : 15) \times 6$   
 $= 48 : 72 : 90$   
 $C : D = (6 : 7) \times 15$   
 $= 90 : 105$   
 $A : B : C : D = 48 : 72 : 90 : 105$   
 $= 16 : 24 : 30 : 35$

47. (C)  $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$   
 $6 : 8 : 9$   
 $9 - 6 = 3$   
3 parts = 36  
1 part =  $\frac{36}{3} = 12$

Numbers :  $12 \times 6, 12 \times 8, 12 \times 9$   
 $= 72, 96, 108$

48. (B) Marks obtained by  $x$   
 $= 15 \times 70 - 14 \times 68$   
 $= 14(15 \times 5 - 68)$   
 $= 14(75 - 68)$   
 $= 14 \times 7 = 98$

49. (A) No. of diagonals =  $\frac{n(n-3)}{2}$   
(where  $n \rightarrow$  number of sides)  
 $= \frac{30(30-3)}{2}$   
 $= 15 \times 27$   
 $= 405$

50. (B) Time taken by cars  
in covering the distance  
 $= \frac{100}{50+50}$   
 $= 1 \text{ hr}$   
Distance covered by the bird in 1 hr  
 $= 1 \times 100$   
 $= 100 \text{ km}$

**Part—IV**  
**General Awareness**

- Who estimated the National Income for the first time in India ?
  - Mahalanobis
  - Dadabhai Naoroji
  - V. K. R. V. Rao
  - Sardar Patel
- Economic development of a country depends on—
  - Natural resources
  - Capital formation
  - Size of the market
  - All of the above
- National Income is generated from—
  - Any money-making activity
  - Any laborious activity
  - Any profit-making activity
  - Any productive activity
- Money supply is governed by the—
  - Planning Commission
  - Finance Commission
  - Reserve Bank of India
  - Commercial Banks
- The headquarters of WTO is at—
  - New York
  - Doha
  - Uruguay
  - Geneva
- Which state is called the ‘Rice Bowl’ of India ?
  - Andhra Pradesh
  - Tamil Nadu
  - Kerala
  - Karnataka
- The highest waterfall of India is—
  - Shimsha falls
  - Hogenakkal falls
  - Courtallam falls
  - Jog falls
- Which state is rich in jute ?
  - West Bengal
  - Tamil Nadu
  - Kerala
  - Odisha
- Which of the following countries are connected by the Palk Strait ?
  - India and Sri Lanka
  - North Korea and South Korea
  - Pakistan and China
  - Britain and France

- Match the following—
 

(a) Hazaribagh	1. Coal
(b) Neyveli	2. Iron
(c) Jharia	3. Lignite
(d) Rourkela	4. Mica

(a)	(b)	(c)	(d)
(A) 3	4	1	2
(B) 3	4	2	1
(C) 1	2	3	4
(D) 4	3	2	1
- What is the minimum percentage of votes a political party must get to acquire the status of a registered party ?
  - 1%
  - 2%
  - 3%
  - 4%
- The term of office of the Comptroller and Auditor General of India is—
  - 3 years
  - 4 years
  - 5 years
  - 6 years
- Who was the first Chief Election Commissioner of India ?
  - G. V. Mavlankar
  - T. Swaminathan
  - K. V. K. Sundaram
  - Sukumar Sen
- What is the retirement age for a Supreme Court Judge ?
  - 62 years
  - 65 years
  - 68 years
  - 70 years
- Name the ‘Political Guru’ of Mahatma Gandhi.
  - Gopalakrishna Gokhale
  - Bal Gangadhar Tilak
  - Aurobindo Ghosh
  - Lala Lajpat Rai
- Arrange the following Magadhan dynasties in chronological order—
 

I. Nandas	II. Sisunagas
III. Mauryas	IV. Haryankas

  - IV, II, III and I
  - II, I, IV and III
  - IV, II, I and III
  - III, I, IV and II
- What is meant by a ‘pir’ in the Sufi tradition ?
  - The Supreme God

Join YouTube Channel

- (B) The Guru of the Sufis  
 (C) The greatest of all Sufi saints  
 (D) The orthodox teacher who contests the Sufi beliefs
18. Khalsa Panth was created by Guru Gobind Singh in which year ?  
 (A) 1599 (B) 1699  
 (C) 1707 (D) 1657
19. Who propounded the Panchsheel Principles ?  
 (A) Mahatma Gandhi  
 (B) Lord Buddha  
 (C) Pandit Jawahar Lal Nehru  
 (D) Swami Dayanand Saraswati
20. On April 12, 1944 Subhash Chandra Bose hoisted the INA Flag in a town. In which State/Union Territory is that town now ?  
 (A) Andaman and Nicobar Islands  
 (B) Tripura  
 (C) Manipur  
 (D) Mizoram
21. Which one of the following is known as the 'immovable property' in the cell ?  
 (A) Carbohydrate (B) Fat  
 (C) Protein (D) Nucleic acid
22. Water from soil enters into the root hairs owing to—  
 (A) Atmospheric pressure  
 (B) Capillary pressure  
 (C) Root pressure  
 (D) Osmotic pressure
23. Breeding and management of bees is known as—  
 (A) Sericulture (B) Silviculture  
 (C) Pisciculture (D) Apiculture
24. The vitamin necessary for coagulation of blood is—  
 (A) Vitamin B (B) Vitamin C  
 (C) Vitamin K (D) Vitamin E
25. The average life span of red blood corpuscles is about—  
 (A) 100 – 200 days (B) 100 – 120 days  
 (C) 160 – 180 days (D) 150 – 200 days
26. Dormancy period of animals during winter season is called—  
 (A) Aestivation (B) Regeneration  
 (C) Hibernation (D) Mutation
27. The angle in which a cricket ball should be hit to travel maximum horizontal distance is—  
 (A)  $60^\circ$  with horizontal  
 (B)  $45^\circ$  with horizontal  
 (C)  $30^\circ$  with horizontal  
 (D)  $15^\circ$  with horizontal
28. The minimum number of geostationary satellites needed for uninterrupted global coverage is—  
 (A) 3 (B) 4  
 (C) 2 (D) 1
29. The best conductor of electricity among the following is—  
 (A) Copper (B) Iron  
 (C) Aluminium (D) Silver
- [Join YouTube Channel](#)
30. The light meter is also technically called—  
 (A) Dark box (B) Blind box  
 (C) Black box (D) Altitude meter
31. Which of the following is **not** a computer network ?  
 (A) Wide area network  
 (B) Local area network  
 (C) Personal network  
 (D) Metropolitan area network
32. When a group of computers is connected together in a small area without the help of telephone lines, it is called—  
 (A) Remote Communication Network (RCN)  
 (B) Local Area Network (LAN)  
 (C) Wide Area Network (WAN)  
 (D) Value Added Network (VAN)
33. Which one of the following elements is used in the manufacture of fertilizers ?  
 (A) Fluorine (B) Potassium  
 (C) Lead (D) Aluminium

34. Natural rubber is the polymer of—  
 (A) Isoprene      (B) Styrene  
 (C) Butadiene    (D) Ethylene
35. In addition to hydrogen, the other abundant element present on Sun's surface is—  
 (A) Helium      (B) Neon  
 (C) Argon       (D) Oxygen
36. Which of the following is the major constituent of LPG ?  
 (A) Methane      (B) Ethane  
 (C) Propane      (D) Butane
37. IUCN categorized major threatened species under—  
 (A) Seven classes      (B) Five classes  
 (C) Six classes      (D) Four classes
38. Minamata disease was caused by—  
 (A) Mercury      (B) Lead  
 (C) Cadmium      (D) Zinc
39. Ozone layer is present in—  
 (A) Troposphere      (B) Ionosphere  
 (C) Stratosphere    (D) Exosphere
40. The first atomic bomb was thrown over—  
 (A) Nagasaki      (B) Hiroshima  
 (C) Tokyo       (D) Hong Kong
41. Which of the following countries has entered into an agreement with India for the supply of Advanced Jet Trainer (HAWK) ?  
 (A) Russia      (B) U.S.A.  
 (C) England      (D) France
42. The name of the 'Cargo Ship' which sank off Mumbai coast recently, causing oil spill in the Arabian Sea, was—  
 (A) Sagar Jyoti      (B) Venus  
 (C) MSC Chitra    (D) Golden Eagle
43. Yuan is the currency of—  
 (A) Japan      (B) China  
 (C) Italy       (D) Yugoslavia
44. The National Integration Council (NIC) is chaired by the—  
 (A) Prime Minister      (B) Finance Minister  
 (C) Home Minister    (D) President of India
45. The 16-year-old school-boy, Arjun Vajpai who became the youngest Indian to successfully climb the world's highest peak, Mount Everest, on May 22, 2010, is from which state ?  
 (A) Uttar Pradesh  
 (B) Madhya Pradesh  
 (C) National Capital Territory of Delhi  
 (D) Uttarakhand
46. Which one of the following is an 'Air-to-Air' missile ?  
 (A) Prithvi      (B) Agni  
 (C) Akash       (D) Astra
47. Santosh Trophy is associated with—  
 (A) Hockey      (B) Football  
 (C) Basketball    (D) Badminton
48. Kathakali classical dance originated in—  
 (A) Kerala      (B) Karnataka  
 (C) Rajasthan    (D) Tamil Nadu
49. The first effective vaccine against polio was prepared by—  
 (A) J. H. Gibbon      (B) Jonas E. Salk  
 (C) Robert Edwards    (D) James Simpson
50. Who discovered sea route to India via the 'Cape of Good Hope' ?  
 (A) Vasco da Gama  
 (B) Amundsen  
 (C) Christopher Columbus  
 (D) John Cabot

**Answers**

- |         |         |         |         |         |
|---------|---------|---------|---------|---------|
| 1. (B)  | 2. (D)  | 3. (D)  | 4. (C)  | 5. (D)  |
| 6. (A)  | 7. (D)  | 8. (A)  | 9. (A)  | 10. (B) |
| 11. (D) | 12. (D) | 13. (D) | 14. (B) | 15. (A) |
| 16. (C) | 17. (B) | 18. (B) | 19. (C) | 20. (C) |
| 21. (A) | 22. (D) | 23. (D) | 24. (C) | 25. (B) |
| 26. (C) | 27. (B) | 28. (A) | 29. (D) | 30. (C) |
| 31. (C) | 32. (B) | 33. (B) | 34. (A) | 35. (A) |
| 36. (C) | 37. (A) | 38. (A) | 39. (C) | 40. (B) |
| 41. (C) | 42. (C) | 43. (B) | 44. (A) | 45. (C) |
| 46. (D) | 47. (B) | 48. (A) | 49. (B) | 50. (C) |

# Practice Set-9

## Part—I General Intelligence

**Directions—(Q. 1–5)** Each question consists of two/three statements followed by two conclusions I and II. Consider the statements to be true even if they are in variance with the commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements using all the statements together. Give answer :

- (A) If only conclusion I follows.
- (B) If only conclusion II follows.
- (C) If either conclusion I or II follows.
- (D) If neither conclusion I nor II follows.
- (E) If both conclusions I and II follow.

### Statements for Q. 1 and 2 :

- All rings are watches.
- Some watches are caps.
- All rings are pen.

### 1. Conclusions :

- I. All pens are caps is a possibility.
- II. All watches are pen.

### 2. Conclusions :

- I. Some caps are rings is a possibility.
- II. At least some pens are watches.

### Statements for Q. 3 and 4 :

- Some steels are irons.
- Some aluminiums are steels.
- No iron is copper.

### 3. Conclusions :

- I. Some coppers are not steels.
- II. Some irons are aluminiums.

### 4. Conclusions :

- I. No steel is copper.
- II. All coppers are aluminiums is a possibility.

### 5. Statements :

- Some rubbers are plastics.
- All glasses are plastics.

### Conclusions :

- I. Some rubbers are glasses.
- II. No glass is rubber.

**Directions—(Q. 6–10)** Study the following information carefully and answer the questions which follow —

7 students A, B, C, D, E, F and G are seated around a circular table, three of them are facing outside and rest of them are facing to the centre of the table. G is seated third to the left of B, who is not seated near to D. A is seated third to the right of E but not near to F. C is facing to the centre of the table and seated second to the left of D. Persons facing outside are not adjacent.

- 6. Which of the following group of students is facing outside ?
  - (A) AEG
  - (B) DFB
  - (C) DAE
  - (D) BGF
  - (E) Cannot be determined
- 7. If 'D' is related to 'A' and 'F' is related to 'B' in a certain way, which of the following would 'C' be related to in the same pattern ?
  - (A) E
  - (B) G
  - (C) D
  - (D) F
  - (E) Cannot be determined
- 8. Who is seated third to the right of D ?
  - (A) F
  - (B) B
  - (C) E
  - (D) G
  - (E) Cannot be determined
- 9. What is the position of C with respect to A ?
  - (A) Second to the left
  - (B) Second to the right
  - (C) Immediate left
  - (D) Third to the right
  - (E) Third to the left

10. Which of the following statements is true ?

- (A) E is seated between C and D
- (B) D is seated between G and F
- (C) A is seated between B and D
- (D) F is seated between A and G
- (E) B is seated between A and E

**Directions—(Q. 11–15)** Study the following information carefully and answer the questions which follow :

8 students L, M, N, O, P, Q, R and S are sitting in a row facing to the same direction.

L is seated fourth to the right of S, who is not near to O. M is seated third to the left of R and second to the right of P. N is seated second to the left of Q.

11. Who is seated fourth to the left of N ?

- |       |       |
|-------|-------|
| (A) O | (B) P |
| (C) S | (D) M |
| (E) L |       |

12. Which of the following two students are seated at the end of the row ?

- |                          |             |
|--------------------------|-------------|
| (A) P and Q              | (B) S and Q |
| (C) P and L              | (D) S and E |
| (E) Cannot be determined |             |

13. If 'R' is related to 'O' and 'N' is related to 'P' in a certain way then which of the following would 'Q' be related to in the same pattern ?

- |       |       |
|-------|-------|
| (A) R | (B) S |
| (C) N | (D) L |
| (E) M |       |

14. Who is seated second to the right of O ?

- |                          |       |
|--------------------------|-------|
| (A) S                    | (B) L |
| (C) N                    | (D) P |
| (E) Cannot be determined |       |

15. Which of the following statements is definitely true ?

- (A) M is seated to the right of S
- (B) O is seated to the left of L
- (C) Q is seated to the right of L
- (D) P is seated to the left of S
- (E) N is seated to the right of M

**Directions—(Q. 16–20)** Study the following information carefully and answer the questions which follow :

A group of two females and three males, A, B, C, D and E are sitting around a circular table. Among the three males there is a singer, an actor and a dancer, while females are unemployed. C is a dancer and married to A, who is the mother of B. The actor is seated immediate right of E. The singer is seated between the actor and his wife while both the females are not adjacent to each other. All are facing to the centre of the table. B is not near to dancer.

16. If A is daughter-in-law of E, then how D is related to B ?

- (A) Mother-in-law
- (B) Son-in-law
- (C) Grandson
- (D) Grandmother
- (E) Cannot be determined

17. Who is an actor ?

- |                   |                   |
|-------------------|-------------------|
| (A) B             | (B) D             |
| (C) A             | (D) Either B or A |
| (E) Either D or A |                   |

18. Who is seated second to the left of A ?

- |                          |                |
|--------------------------|----------------|
| (A) Actor                | (B) Singer     |
| (C) Dancer               | (D) Unemployed |
| (E) Cannot be determined |                |

19. Who is seated immediate right of B ?

- |                          |       |
|--------------------------|-------|
| (A) A                    | (B) C |
| (C) D                    | (D) E |
| (E) Cannot be determined |       |

20. Which of the following statements is true ?

- (A) C and D are adjacent to each other
- (B) A and D are adjacent to each other
- (C) B and C are adjacent to each other
- (D) A and C are adjacent to each other
- (E) More than one of the above are true

**Directions—(Q. 21–23)** In these questions, relationship between different elements is shown in the statements. These statements are followed by two conclusions. Read both the statements and give answer :

- (A) If only conclusion I follows.
- (B) If only conclusion II follows.
- (C) If either conclusion I or II follows.
- (D) If neither conclusion I nor II follows.
- (E) If both conclusions I and II follow.

**21. Statements :**

$$A > X, M > K, M = O \geq X$$

**Conclusions :**

I.  $A > K$

II.  $M > X$

**22. Statements :**

$$M \leq T = P, N \geq K > P$$

**Conclusions :**

I.  $N > M$

II.  $K > T$

**23. Statements :**

$$C \geq D = F > G < H \leq K = L > Q$$

**Conclusions :**

I.  $K \geq D$

II.  $F > K$

**Directions—(Q. 24–26)** Study the following information carefully and answer the questions which follow :

In a certain code language,

'mu la fa ta ku' means 'he likes cold drink water'.

'tu ko la mo' means 'people take alcohol drink'.

'fu do ku tu' means 'cold alcohol is harmful'.

'ta lu do ma' means 'they use harmful water'.

'ko lo fo lu' means 'people use hygienic food'.

24. What is the code for 'they take hygienic food' ?

- (A) lo fo mo fu      (B) ma fa fo lo  
 (C) mu fa ma mo    (D) ma lo fo mo  
 (E) None of these

25. Which word is represented by 'fa' ?

- (A) He                  (B) Cold  
 (C) Likes                (D) Is  
 (E) Cannot be determined

26. What can be the code for 'water is harmful food' ?

- (A) ta fu lo do        (B) do fo mo ta  
 (C) ta fo lo fu        (D) tu do fu fo  
 (E) ta fu lo ko

**Directions—(Q. 27–30)** Study the following information carefully and answer the questions which follow :

In a family, there are six members—P, Q, R, S, T and U, each of who belongs to different professions among Manager, Painter, Architect, Scientist, Doctor and Lawyer. There are two married

couples in the family and each married couple has atleast one child. U is the son of P, who is a lawyer. The painter is niece of manager. Q is the daughter of R, who is an architect. T is not married and is the sister of the scientist, who is the father of the painter. S is the grandmother of Q.

27. How lawyer is related to architect ?

- (A) Husband            (B) Father-in-law  
 (C) Brother-in-law    (D) Mother-in-law  
 (E) Father

28. Which of the pairs is unmarried ?

- (A) Manager and Doctor  
 (B) Doctor and Scientist  
 (C) Painter and Manager  
 (D) Doctor and Painter  
 (E) Cannot be determined

29. How T is related to Q ?

- (A) Grandfather       (B) Grandmother  
 (C) Uncle              (D) Aunt  
 (E) Mother

30. Who is the scientist ?

- (A) U, a male          (B) T, a female  
 (C) S, a female        (D) U, a female  
 (E) Q, a female

**Directions—(Q. 31–35)** Each of the questions below consists of a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and answer.

1. If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

2. If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

3. If the data in statement I alone or II alone are sufficient to answer the question.

4. If the data even in both statements I and II together are not sufficient to answer the question.

5. If the data in the both statements I and II together are necessary to answer the question.

31. Deepak is shorter than Ravi and Rohit is taller than Arun. Who is the shortest among them ?

**Statements :**

- I. Ravi is taller than Rohit.
- II. Arun is taller than Ravi.

32. On which day of the week did Anil visit Agra ?

**Statements :**

- I. Anil visited Agra after Thursday but before Sunday.
- II. Anil visited Agra before Monday but after Thursday but not on Saturday.

33. A, B, C, D, E and F are standing in a row facing East. Who is on the immediate left of B ?

**Statements :**

- I. C is second to the left of F, who is fourth to the right of A.
- II. B is second to the right of E and D is immediate near to F.

34. What is the code for 'hand' in a code language ?

**Statements :**

Join YouTube Channel

- I. 'ka dik fu' means 'hand and finger', 'do lu ka' means 'nose and ear' and 'lu fig fu' means 'finger in nose'.
- II. 'na pik la' means 'eyes and nose', 'dik ni la' means 'hand covers eyes' and 'dik ha fa' means covers your eyes.

35. P, Q, R, S and T are sitting around a circular table facing the centre. Who is on the immediate right of P ?

**Statements :**

- I. T is seated immediate left of Q and R is not near to T.
- II. Only S is seated between R and P.

**Directions—(Q. 36–40)** Study the following information carefully and answer the questions given below—

**The candidate must :**

- I. Be a graduate in any stream with at least 60% marks.
- II. Be at least 21 years and not more than 30 years old as on 01-03-2013.
- III. Have post-qualification work experience of at least 2 years in the same field.

- IV. Have secured at least 70% marks in interview.

- V. Have scored at least 156 marks in written examination.

All these cases are given as on 01-03-2013.

In the case of a candidate who satisfies all the criteria except.

- A. At (I) but has secured at least 60% marks in postgraduate diploma/degree, his/her case is to be referred to zonal office.
- B. At (IV) but has post-qualification work experience of at least three years in the same field, his/her case is to be referred to the chairman.

In each of the questions given below is the detailed information of one candidate. You are not to assume anything other than the information provided in each question. Mark answer :

- (A) If the candidate is to be selected.
- (B) If the candidate is not to be selected.
- (C) If the data provided are not sufficient.
- (D) If the case is to be referred to zonal office.
- (E) If the case is to be referred to the chairman.

36. Pooja has secured 76% marks in interview and 56% marks in graduation. She has been working in a financial institution after obtaining her postgraduate degree in economics. She was born on 11 March, 1988. Her score in written examination is 163.

37. Sachin has secured 62% marks in graduation then after he worked with a private bank for 30 months, his score in written examination is 152 and marks in interview is 81%. He was born on 26 January, 1992.

38. Ravi is a junior officer in XYZ Ltd. and have a experience of more than 4 years. His marks in interview and written examination are 65% and 166 respectively. He was born on 15 August, 1989 and completed his graduation with 74% marks.

39. Neelam has secured 65% marks in graduation. She has work experience of more than three years in banking sector. She is 26 years old and secured 68% marks in interview and 169 marks in written examination.

40. Deepesh was born on February 18, 1991 and has an experience of 3 years and 9 months in a co-operative bank. His marks in written examination is 160 and in interview is 74%. He has completed his graduation with 58% and post-graduation with 64%.

**Directions—(Q. 41–45)** Study the information carefully and answer the given questions—

A, D, E, F, H, J and K are sitting in a straight line facing north. (not necessarily in the same order)

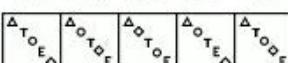
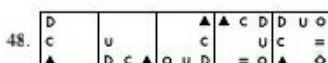
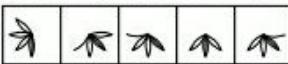
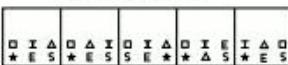
- (a) D sits fourth to the right of A.
  - (b) E is on the extreme left end of the line. There are five persons between E and K.
  - (c) J sits third to the left of K. F is not an immediate neighbour of D.
41. Which of the following represents the person sitting exactly in the middle of the line ?  
 (A) J                                  (B) F  
 (C) H                                  (D) A  
 (E) None of these
42. How many persons sit between A and H ?  
 (A) One                                (B) Two  
 (C) Three                             (D) Four  
 (E) More than four

**Directions—(Q. 46–50)** In each of the questions given below which one of the five answer figures on the right should come after the problem figures on the left, if the sequence were continued ?

Problem Figures



Answer Figures



43. Four of the following are alike in a certain way based on their seating positions in the above arrangement and so form a group.

Which pair **does not** belong to that group ?

- (A) AF                                (B) JH
- (C) EA                                (D) DK
- (E) FH

44. What is the position of F with respect to H ?

- (A) Second to the right
- (B) Immediate to the right
- (C) Immediate to the left
- (D) Third to the right
- (E) Second to the left

45. If the seating arrangement (from left to right) is taken as English alphabets, how many such pairs of letters are there in the arrangement each of which has as many letters between them (in both forward and backward directions) in the arrangement, as they have between them in the English alphabetical series ?

- (A) None                              (B) One
- (C) Two                                (D) Three
- (E) More than three

## Answers with Explanations

For Solution Q. 1 and 2 :

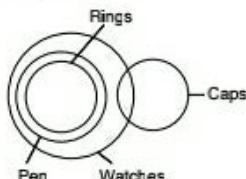


Fig. 1



Fig. 2

1. (A) Conclusion I follows through Fig. 2.  
Conclusion II does not follow through Fig. 1.
2. (E) Conclusion I follows through Fig. 2.  
Conclusion II follows through both the figures.

For Solution Q. 3 and 4 :

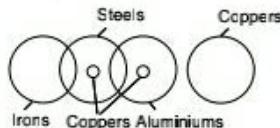


Fig. 2

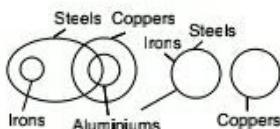


Fig. 2

Fig. 3

3. (D) Conclusion I does not follow through Fig. 1.  
Conclusion II does not follow through Fig. 1 and Fig. 2.
4. (B) Conclusion I does not follow through Fig. 3.  
Conclusion II follows through Fig. 1.

5. (C)

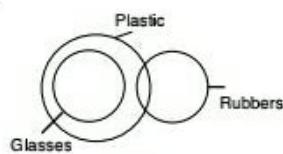


Fig. 1

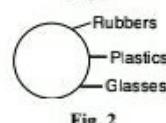
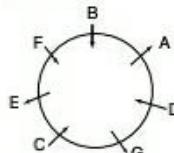


Fig. 2

There is no relation between rubbers and glasses. So either Conclusion I or Conclusion II follows.

For Solution Q. 6 to 10 :



6. (A) 7. (B) 8. (A) 9. (D) 10. (C)

For Solution Q. 11 to 15 :

There are two sitting arrangements

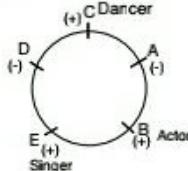
P O M S N R Q L

and

S P O M L N R Q

11. (B) 12. (E) 13. (E) 14. (E) 15. (E)

For Solution Q. 16 to 20 :



{ A is married to C }  
{ E is married to D }

16. (D) 17. (A) 18. (B) 19. (A) 20. (E)
21. (D) A > X ≤ O = M > K

Conclusion I does not follow, there is no relation between A and K.

Conclusion II does not follow, M is greater than and equal to X.

22. (A)  $M \leq T = P < K \leq N$

Conclusion I follows.

Conclusion II does not follow, K cannot be equal to T.

23. (D) Conclusion I does not follow, there is no relation between K and D.

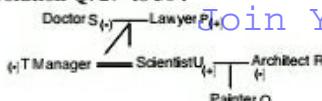
Conclusion II does not follow, there is no relation between F and K.

**For Solution Q. 24 to 26 :**

la	→ drink
tu	→ alcohol
ku	→ cold
do	→ harmful
fu	→ is
ta	→ water
lu	→ use
ma	→ they
ko	→ people
mo	→ take
mu fa	→ he likes
lo fo	→ hygienic food

24. (D) 25. (E) 26. (A)

**For Solution Q. 27 to 30 :**



27. (B) 28. (C) 29. (D) 30. (A)

31. (B) Deepak < Ravi, Rohit > Arun

From statement I,

Ravi > Rohit > Arun

Ravi > Deepak

either Deepak or Arun is shortest.

From statement II,

Rohit > Arun > Ravi > Deepak

Deepak is the shortest.

32. (E) From statement I,

Anil visits Agra on Friday or Saturday.

**For Solution Q. 36 to 40 :**

I	II	III	IV	V	A/I	B/IV	Answer
X	✓	N.A.	✓	✓	N.A.	—	(B)
✓	✓	✓	✓	X	—	—	(B)
✓	✓	N.A.	X	✓	—	—	(B)
✓	✓	✓	X	✓	—	✓	(E)
X	✓	✓	✓	✓	✓	—	(D)

From statement II,

Anil visits Agra on Friday or Sunday.

After adding of statement I and statement II together,

Anil visits Agra on Friday.

33. (E) From statement I,

A ..... C ..... F

From statement II,

E ..... B, D F

After adding of both statements I and II together,

E A B C D F

A is immediate left of B.

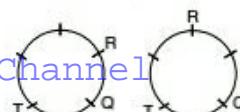
34. (A) From statement I,

The code for 'hand' is 'dik'

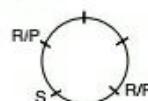
From statement II,

There is no common code for 'Covers eyes' so, the code for 'hand' cannot be determined.

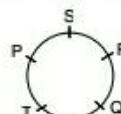
35. (E) From statement I,



From statement II,



After adding of both the statements I and II.

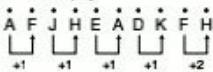


T is seated immediate right of P.

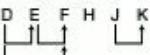
**For Solution Q. 41 to 45 :**

E A F J H D K

41. (A) 42. (B)

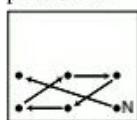
43. (E) A F J H E A D K F H  


44. (E)

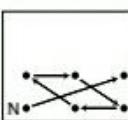
45. (E) A D E F H J K  


D—E, D—F, E—F and J—K

46. (A) In each subsequent figure the designs slide as follows and new designs form at the place of 'N' :



- (1) to (2)  
 (3) to (4)  
 (5) to (6)

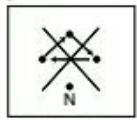


- (2) to (3)  
 (4) to (5)

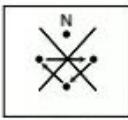
47. (C) In each subsequent figure the leaf with line rotates 45° clock-wise next time after remaining in the same position this time and the half leaf forms new head in the same direction.

48. (D) In each subsequent figure the designs slide one side anticlock-wise and one new design forms at backside each time.

49. (D) In each subsequent figure the designs slide as follows and new designs form at the place of 'N' —

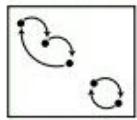


- (1) to (2)  
 (3) to (4)  
 (5) to (6)

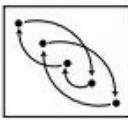


- (2) to (3)  
 (4) to (5)

50. (D) In each subsequent figure the designs slide as follows—



- (1) to (2)  
 (3) to (4)  
 (5) to (6)



- (2) to (3)  
 (4) to (5)

## Part-II English Language

**Directions—(Q. 1-10)** Some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval [●] corresponding to the appropriate letter (A), (B), (C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

1. I have / known him / since two years. No error  
 (A) (B) (C) (D)
2. He is / your brother / isn't it ? No error  
 (A) (B) (C) (D)
3. This time you will have to work / hardly to  
 (A) (B)  
 pass / your qualifying examination. No error  
 (C) (D)
4. My ideas are not / the same as / my father.  
 (A) (B) (C) No error  
 (D)
5. It was / approved answer / to the problem.  
 (A) (B) (C) No error  
 (D)
6. Mumbai is / the richer of / all the Indian cities.  
 (A) (B) (C) No error  
 (D)
7. "The two Towers" are / an excellent movie /  
 (A) (B)  
 produced recently. No error  
 (C) (D)
8. None / has initiated / action against him.  
 (A) (B) (C) No error  
 (D)
9. Justice as well as mercy / allows / it. No error  
 (A) (B) (C) (D)
10. Ravi/sympathises for / this poor girl. No error  
 (A) (B) (C) (D)

**Directions—(Q. 11–20)** Sentences are given with blanks to be filled in with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate oval [●] in the Answer Sheet.

11. Rather than reduce the commuter delays, the new toll road has ..... problems.  
(A) aggravated      (B) minimized  
(C) refined      (D) decreased
12. India has shown considerable ..... in the field of railways.  
(A) efficient      (B) proficiency  
(C) effect      (D) progress
13. Surya is suffering ..... a viral fever.  
(A) from      (B) with  
(C) by      (D) for
14. These talent-contests will enable the students to bring ..... their best.  
(A) in      (B) out  
(C) off      (D) up
15. Janet had always been afraid ..... flying.  
(A) to      (B) from  
(C) of      (D) for
16. Man is generally a ..... animal.  
(A) social      (B) enterprising  
(C) amicable      (D) agile
17. Birds ..... from one place to another during winter.  
(A) migrate      (B) emigrate  
(C) immigrate      (D) transfer
18. The students jumped ..... the opportunity of going on a study tour.  
(A) for      (B) with  
(C) on      (D) at
19. Ravi's marriage was ..... the wishes of his parents.  
(A) opposed      (B) fighting  
(C) against      (D) anti
20. The guests ..... to arrive at 6 P.M.  
(A) are expecting      (B) are expected  
(C) will surely      (D) will be surely

**Directions—(Q. 21–23)** Out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

21. Feeble  
(A) Small      (B) Frail  
(C) Trivial      (D) Supple
22. Commence  
(A) To end      (B) To begin  
(C) To run      (D) To comment
23. Indict  
(A) Indicate      (B) Declare  
(C) Charge      (D) Designate

**Directions—(Q. 24–26)** Choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

24. Affected  
(A) Genuine      (B) Altered  
(C) Confined      (D) Feigned
25. Intricate  
(A) Elaborate      (B) Dainty  
(C) Simple      (D) Painstaking
26. Fiercely  
(A) Gently      (B) Coldly  
(C) Slowly      (D) Quickly

**Directions—(Q. 27–29)** Four alternatives are given for the Idiom/ Phrase **bold** in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase and mark it in the Answer Sheet.

27. Ramu gave the dog a wide berth—  
(A) to give it freedom  
(B) to keep as far away from it as possible  
(C) to teach a lesson to it  
(D) to give false hopes to it
28. Invalids are cared for in hospitals—  
(A) carried about  
(B) looked after  
(C) carelessly treated  
(D) operated upon
29. Slum dwellers live from hand to mouth—  
(A) living with limited earnings

- (B) eating all the time  
 (C) not having anything to eat  
 (D) wasting time

**Directions—(Q. 30–34)** A sentence/part of the sentence is **bold**. Below are given alternatives to the **bold** part at (A), (B) and (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed, your answer is (D).

30. It's a fine day, **no** ?  
 (A) is it ?                   (B) isn't it ?  
 (C) yes ?                   (D) No improvement
31. The show **already begun** by the time we reached—  
 (A) was already begun  
 (B) had already begun  
 (C) already began  
 (D) No improvement
32. **The old man made clay pots who lived in a hut with his wife**—  
 (A) The old man lived with his wife in clay pots in a hut      **Join YouTube Channel**  
 (B) The old man lived in a hut with his wife who makes clay pots  
 (C) The old man who made clay pots lived in a hut with his wife  
 (D) No improvement
33. Copy this document **word by word** and show it to me—  
 (A) word on word           (B) in between words  
 (C) word for word          (D) No improvement
34. Rita **declined** the chance to go to America—  
 (A) refused               (B) turned down  
 (C) turned off             (D) No improvement
- Directions—(Q. 35–39)** Out of the four alternatives, choose the one which can be substituted for the given words/sentence.
35. A confused, complicated or embarrassing situation—  
 (A) Imbroglio             (B) Inflammable  
 (C) Infinitesimal          (D) Awkward
36. A form of a word, phrase, etc. that is shorter than the full form.

- (A) Acronym               (B) Abbreviation  
 (C) Conscription           (D) Bibliography

37. A speech delivered without previous preparation is—

- (A) Conversation  
 (B) Extempore  
 (C) Soliloquy  
 (D) Lecture

38. A person difficult to please—

- (A) Fastidious             (B) Unpleasant  
 (C) Irritable              (D) Aggressive

39. Impossible to change—

- (A) Impossible             (B) Incorrigible  
 (C) Impregnable           (D) Inert

**Directions—(Q. 40–45)** There are four different words out of which one is correctly spelt. Find the correctly spelt word and indicate it by blackening the appropriate oval [●] in the Answer Sheet.

40. (A) Acquaintence      (B) Acquaintance  
 (C) Acquaintence          (D) Acquentance

41. (A) Hypocrisy           (B) Hypocrasy  
 (C) Hypocricy             (D) Hypocrasy

42. (A) Recommended  
 (B) Recommended  
 (C) Recomended  
 (D) Recommendid

43. (A) Refrigerator       (B) Refridgarator  
 (C) Refridgerator          (D) Refrigerator

44. (A) Fourty             (B) Forty  
 (C) Fortie                (D) Fourtie

45. (A) Hankerchief       (B) Handkercheif  
 (C) Hankercheif          (D) Handkerchief

**Directions—(Q. 46–50)** You have a passage with 5 questions. Read the passage carefully and choose the best answer to each question out of the four alternatives and mark it by blackening the appropriate oval [●] in the Answer Sheet.

### Passage

The greatest flourishing of northern Indian culture, art and imperial strength undoubtedly took place during the reign of the Mughal monarchs of the 16th and 17th centuries. The Mughals were

Central Asian descendants of the great Mongol warriors Ghengis Khan and Timur (Tamerlane), whose hordes of cavalry swept across the Eurasian steppe in the 13th and 14th centuries, conquering everything between Beijing and Budapest. But by the turn of the 16th century, the great Mongol empire has splintered; the many royal descendants of Ghengis and Timur fought over the territorial scraps and did their best to hold on to their own minor Sultanates.

One of these Sultans, Babur, was not satisfied with his small kingdom of Ferghana (now in modern-day Kyrgyzstan and eastern Uzbekistan), and he tried and tried again to permanently reconquer Timur's greatest prize, Samarkand. He never succeeded. So instead, Babur turned his attention south to the Sultanate of Delhi in northern India, which had been ruled successively by five dynasties of Muslim warriors from Afghanistan since the late 12th century. As history would show, Babur's campaign against the Delhi Sultanate catalyzed the foundation of one of the greatest dynasties in the history of South Asia : the Mughal Empire.

46. The Mughals can trace their ancestry to—  
 (A) Beijing  
 (B) Budapest  
 (C) Central Asia  
 (D) The Eurasian steppes
47. The Mughals attacked the Delhi Sultanate because—  
 (A) They were the royal descendants of Ghengis Khan  
 (B) They wanted to expand their kingdom  
 (C) They could not gain supremacy in the kingdom of Samarkand  
 (D) Both (B) and (C)
48. The Mughal rulers were responsible for—  
 (A) Unleashing terror amongst their subjects  
 (B) Organizing the Eurasian steppe region  
 (C) Patronizing art and culture  
 (D) In-fighting amongst themselves
49. The Mongols, in the 13th and 14th centuries—  
 (A) Plundered the greater part of Asia and Eastern Europe

- (B) Gave rise to the Mughal dynasty  
 (C) Encouraged imperial strength in northern India

(D) None of the above

50. The word closest in meaning to catalyzed is—  
 (A) Unrestricted    (B) Exploited  
 (C) Disseminated    (D) Accelerated

### Answers with Explanations

1. (C)    2. (C)    3. (B)    4. (B)    5. (B)
6. (B)    7. (A)    8. (B)    9. (D)    10. (B)
11. (A)    12. (D)    13. (A)    14. (B)    15. (C)
16. (A)    17. (A)    18. (C)    19. (C)    20. (B)
21. (B)    22. (B)
23. (C) Indict means accuse formally by legal process.
24. (A)    25. (C)    26. (A)    27. (B)    28. (B)
29. (A)    30. (B)    31. (B)    32. (C)    33. (D)
34. (B)    35. (A)    36. (A)    37. (B)    38. (B)
39. (B)    40. (B)    41. (A)    42. (A)    43. (A)
44. (B)    45. (A)
46. (C) According to the passage the Mughals were Central Asian descendants of the great Mongol warriors Ghengis Khan and Timur.
47. (D)    48. (B)    49. (B)
50. (D) Catalyzed is a word closest in meaning to be accelerated.

### Part—III Quantative Aptitude

1. What is the value of  $\frac{\sqrt{24} + \sqrt{216}}{\sqrt{96}}$ ?  
 (A) 4                          (B)  $2\sqrt{6}$   
 (C)  $4\sqrt{6}$                           (D) 2
2. Price of milk has increased by 20%. To keep the expenditure unchanged, the present consumption is to be reduced by—

- (A)  $16\frac{2}{3}\%$       (B) 20%  
 (C) 18%      (D) 10%
3. A man saves ₹ 2000 at the end of each year and invests the money at 5% compound interest. At the end of 3 years he will have—  
 (A) ₹ 2205      (B) ₹ 4305  
 (C) ₹ 6305      (D) ₹ 4205
4. The length of the largest possible rod that can be placed in a cubical room is  $35\sqrt{3}$ m. The surface area of the largest possible sphere that fit within the cubical room in sq m is—  
 (assuming  $\pi = \frac{22}{7}$ )  
 (A) 4250      (B) 3500  
 (C) 3850      (D) 2450
5. There are two pumps to fill a tank with water. First pump can fill the empty tank in 8 hours, while the second in 10 hours. If both the pumps are opened at the same time and kept open for 4 hours, the part of tank that will be filled up is—  
 (Join YouTube Channel)  
 (A)  $\frac{1}{5}$       (B)  $\frac{9}{10}$   
 (C)  $\frac{1}{10}$       (D)  $\frac{2}{5}$
6. The ratio of two numbers is 3 : 4 and their H.C.F. is 4, then their L.C.M. is—  
 (A) 48      (B) 12  
 (C) 24      (D) 36
7. A sum was lent at simple interest at a certain rate for 2 years. Had it been lent at 3% higher rate, it would have fetched ₹ 300 more. The original sum of money was—  
 (A) ₹ 4000      (B) ₹ 5000  
 (C) ₹ 6000      (D) ₹ 7000
8. A trader allows two successive discounts of 30% and 15% for selling an article. If he gets ₹ 476 for the article its marked price is—  
 (A) 900      (B) 800  
 (C) 750      (D) 600
9. A cyclist, after cycling a distance of 70 km on the second day, finds that the ratio of distances covered by him on the first two days is 4 : 5. If he travels a distance of 42 km on the third day, then the ratio of distances travelled on the third day and the first day is—  
 (A) 2 : 3      (B) 4 : 3  
 (C) 3 : 2      (D) 3 : 4
10. A profit of 10% is made after giving a discount of 5% in a T.V. If the marked price of the TV is ₹ 2640.00, the cost price of the TV was—  
 (A) ₹ 2396      (B) ₹ 2280  
 (C) ₹ 2296      (D) ₹ 2380
11. While selling to the retailer, a company allows 30% discount on the marked price of their products. If the retailer sells those products at marked price, his profit will be—  
 (A)  $42\frac{6}{7}\%$       (B) 30%  
 (C)  $42\frac{1}{7}\%$       (D) 40%
12. The average of 10 items was found to be 80 but while calculating, one of the items was counted as 60 instead of 50. Then the correct average would have been—  
 (A) 79.5      (B) 69  
 (C) 79.25      (D) 79
13. A man bought a horse and a carriage for ₹ 40,000. He sold the horse at a gain of 10% and the carriage at a loss of 5%. He gained 1% on his whole transaction. The cost price of the horse was—  
 (A) ₹ 20000      (B) ₹ 15000  
 (C) ₹ 16000      (D) ₹ 18000
14. If the diameter of a circle is increased by 8%, then its area is increased by—  
 (A) 16.46%      (B) 16.64%  
 (C) 6.64%      (D) 16%
15. A train covers a certain distance in 210 minute at a speed of 60 kmph the time taken by the train, to cover the same distance at a speed of 80 kmph is—  
 (A) 3 hours      (B)  $3\frac{5}{8}$  hours  
 (C)  $2\frac{5}{8}$  hours      (D)  $4\frac{5}{8}$  hours

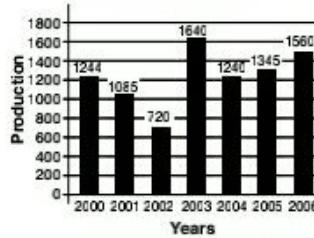
16. The value of  $(\sqrt{4^3} + \sqrt{5^2})^3$  is—  
 (A) 3943                    (B) 4913  
 (C) 4313                    (D) 4193
17. By selling 4 articles for 1 rupees, a man loses 4%. Had he sold three articles per rupee, the profit would have been—  
 (A) 12%                    (B) 30%  
 (C) 28%                    (D) 16%
18. If  $5.5$  of  $a = 0.65$  of  $b$ , then  $a : b$  is equal to—  
 (A) 110 : 13                (B) 13 : 11  
 (C) 11 : 13                (D) 13 : 110
19. An article is sold at a loss of 10%. Had it been sold for ₹ 90 more, there would have been a gain of 5%. The original sale price of the article (in ₹) is—  
 (A) 650                    (B) 540  
 (C) 600                    (D) 628
20. A contractor undertook to finish a work in 92 days and employed 110 men. After 48 days, he found that he had already done  $\frac{3}{5}$  part of the work, the number of men he can withdraw so that the work may still be finished in time is—  
 (A) 30                      (B) 45  
 (C) 40                      (D) 35
21. From a class of 42 boys, a boy aged 10 years goes away and in his place, a new boy is admitted. If on account of this change, the average age of the boys in that class increases by 2 months, the age of the newcomer is—  
 (A) 12 years 2 months  
 (B) 19 years  
 (C) 17 years  
 (D) 10 years 6 months
22. What is to be added to 15% of 160 so that the sum may be equal to 25% of 240 ?  
 (A) 36                      (B) 24  
 (C) 84                      (D) 60
23. Two trains starts from station A and B and travel towards each other at speeds of 16 mile/hour and 21 mile/hour respectively. At

the time of their meeting, the second train has travelled 60 mile more than the first. The distance between A and B (in mile) is—

- (A) 540                    (B) 444  
 (C) 496                    (D) 333

**Directions**—(Q. 24 and 25) The bar diagram below shows the production of potatoes (in quintal) from the year 2000 to 2006. Study the diagram and answer the questions.

**Production of Potatoes (in quintal)  
from 2000 to 2006**



24. Considering the average production during this period, the number of years in which the production is above average is—  
 (A) 4                        (B) 1  
 (C) 2                        (D) 3
25. During this period, the highest rate of decline in production is—  
 (A) 35.32%                (B) 24.4%  
 (C) 28.22%                (D) 33.64%
26. If the ratio of two numbers is 2 : 1 and their product is 1800, then the greater number is—  
 (A) 90                      (B) 60  
 (C) 30                      (D) 120
27. In a lake there are 10 steps labelled as A to J. Starting from step A, every minute a frog jumps to the 4th step. Where would the frog be at the 60th minute ?  
 (A) D                        (B) H  
 (C) A                        (D) B
28. In a family there are several brothers and sisters. Every 2 boys have as many brothers as sisters and each 2 girls has 2 brothers less

- than the twice as many as brothers and sisters. Find the number of boys and girls—
- Boys-8, Girls-8
  - Boys-6, Girls-8
  - Boys-6, Girls-10
  - Boys-8, Girls-6
29. Rohan ranks 7th from the top and 26th from the bottom in the class. How many students are there in the class ?
- 33
  - 32
  - 31
  - 34
30. If 'a' means '+', 'b' means 'x', 'c' means '+', 'd' means '-', then find the value of the express  $72 a 9 b 12 a 18 c 25 d 13 b 16 c 32$  ?
- $\frac{439}{9}$
  - $\frac{438}{5}$
  - $\frac{632}{7}$
  - $\frac{437}{3}$
31. When I started from home, the oil tank of car was  $\frac{4}{5}$  full. After consuming 2 litres of petrol, the petrol tank was  $\frac{2}{3}$  full. How many litres of petrol can this oil tank contain when full ?
- 12 litre
  - 10 litre
  - 15 litre
  - 20 litre
32. Which of the following words cannot be made from the letters of the word 'REASONABLE' ?
- NOBLE
  - BONES
  - BRAIN
  - ARSON
33. When a number is divided by another number, the remainder is 23. When twice of this number is divided by the same divisor the remainder is 11. The divisor is—
- 34
  - 35
  - 20
  - 36
34. On dividing a number by 13, we get 1 as remainder. If the quotient is divided by 5, we get 3 as a remainder. If this number is divided by 65, what will be the remainder ?
- 28
  - 18
  - 16
  - 40
35. Find three rational numbers between 2.5 and 3—
- 2.65, 2.701001071 ....., 2.75
  - 2.8, 0, 2.75
  - 2.625, 2.75, 2.875
  - None of the above
36. Value of  $\sqrt[4]{(81)-2}$  is—
- $\frac{1}{9}$
  - $\frac{1}{3}$
  - 9
  - $\frac{1}{81}$
37.  $2\sqrt{3} - \sqrt{3} - 3\sqrt{3} + \sqrt{12}$  is equal to—
- $6\sqrt{3}$
  - $5\sqrt{3}$
  - 0
  - 1
38. A man walked diagonally across a rectangular field whose length and width is 4 m and 3 m respectively. What was the per cent saved by not walking along the edges ?
- 28.4%
  - 30.5%
  - 33.4%
  - 27.6%
39. In an examination of bank P.O., 40% students failed in Mathematics and 30% failed in English, while 20% failed in Mathematics and English both. What percentage of the students passed in both ?
- 48%
  - 50%
  - 70%
  - None of these
40. 15 litre of a mixture contains 20% alcohol and rest water. If 3 litre of water is added in it, then percentage of alcohol in the new mixture will be—
- 25%
  - 20%
  - 16.67%
  - 33.33%
41. The length of a rectangle is increased by 60%. By what percentage would the width have to be decreased to maintain the same area ?
- 75%
  - 60%
  - $37\frac{1}{2}\%$
  - $66\frac{2}{3}\%$

Join YouTube Channel

42. Due to an increase of 15% in the price of milk, a family reduces its consumption of milk by 15%. What is the effect in the expenditure of the family on account of milk ?  
 (A) 3% decrease    (B) 2.25% decrease  
 (C) 2.50% decrease    (D) 3.5% decrease
43. The number of boys and girls in the college are in the ratio 3 : 2. If 20% of the boys and 25% of the girls are adults, then the percentage of the students who are minor is—  
 (A) 76%    (B) 67.5%  
 (C) 78%    (D) 82.5%
44. Monthly incomes of two persons are in the ratio 5 : 4 and their expenditures are in the ratio 9 : 7. If each saves ₹ 500 per month, then what are their monthly incomes ?  
 (A) ₹ 4000, ₹ 3200    (B) ₹ 3500, ₹ 2800  
 (C) ₹ 5000, ₹ 4000    (D) ₹ 4500, ₹ 3600
45. The ratio between two numbers is 5 : 3 and difference between their squares is 144. Find the numbers—  
 (A) 15, 9    (B) 10, 6  
 (C) 5, 3    (D) 20, 12
46. A mixture contains milk and water in the ratio of 7 : 2. On adding 6 litres of water, the ratio of milk and water becomes 7 : 5. Then quantity of water in the final mixture will be—  
 (A) 10 litre    (B) 4 litre  
 (C) 12 litre    (D) None of these
47. If  $(a+b):(b+c):(c+a)=6:7:8$  and  $a+b+c=14$ , then  $c=?$   
 (A) 8    (B) 7  
 (C) 6    (D) 14
48. If the total profit is 26% of selling price, then what per cent of selling price is equal to the 34% of the purchasing price ?  
 (A) 20.36%    (B) 25.16%  
 (C) 17.16%    (D) 24.76%
49. Priya purchased two mixers for ₹ 1500 and made a profit of 9% on one and loss 6% on the other. But overall there is no profit or loss, then the cost price of mixers are in the ratio—  
 (A) 5 : 3    (B) 2 : 3  
 (C) 3 : 2    (D) 3 : 5
50. A shopkeeper allows two successive discounts on an article whose marked price is ₹ 150 and selling price is ₹ 105. What is first discount if second discount is 12.5% ?  
 (A) 20%    (B) 17.5%  
 (C) 16.67%    (D) 25%

### Answers with Explanations

$$\begin{aligned}1. \text{ (D)} \quad \frac{\sqrt{24} + \sqrt{216}}{\sqrt{96}} &= \frac{2\sqrt{6} + 6\sqrt{6}}{4\sqrt{6}} \\&= \frac{8\sqrt{6}}{4\sqrt{6}} \\&= 2\end{aligned}$$

$$\begin{aligned}2. \text{ (A)} \quad \therefore \text{Reqd. reduction in percentage} \\&= \left( \frac{\frac{100}{100} \times 20}{100+20} \right)\% \\&= \left( \frac{20}{12} \right)\% \\&= \frac{50}{3}\% \\&= 16\frac{2}{3}\%\end{aligned}$$

$$\begin{aligned}3. \text{ (C)} \quad \text{Reqd. money at the end of 3 years} \\&= ₹ \left[ 2000 + 2000 \left( 1 + \frac{5}{100} \right) \right. \\&\quad \left. + 2000 \left( 1 + \frac{5}{100} \right)^2 \right] \\&= 2000 \left[ 1 + \left( \frac{21}{20} \right) + \left( \frac{21}{20} \right)^2 \right]\end{aligned}$$

$$\begin{aligned}&= ₹ [2000 + 2100 + 2205] \\&= ₹ 6305\end{aligned}$$

$$\begin{aligned}4. \text{ (C)} \quad \text{An edge of a cubical room} \\&= \frac{35\sqrt{3}}{\sqrt{3}} = 35 \text{ m}\end{aligned}$$

Radius of the sphere

$$= \frac{35}{2} = 17.5 \text{ m}$$

∴ Reqd. surface area of the largest possible sphere.

$$= 4 \times \frac{22}{7} \times 17.5 \times 17.5 \text{ sq m}$$

$$= 3850 \text{ sq m}$$

5. (B) ∵ Part of the tank filled by both the pipes in 1 hour

$$= \frac{1}{8} + \frac{1}{10}$$

$$= \frac{18}{80} \text{ part}$$

∴ Part of the tank filled in 4 hours

$$= \frac{18}{80} \times 4$$

$$= \frac{9}{10} \text{ part}$$

6. (A) Let the two numbers are  $3x$  and  $4x$ , then their H.C.F. =  $x$

$$\therefore x = 4$$

Numbers are 12 and 16

$$\therefore \text{Their L.C.M.} = \frac{12 \times 16}{4}$$

$$= 12 \times 4$$

$$= 48$$

7. (B) Let the principal sum be ₹  $x$  and rate of annual simple interest be  $r\%$ . Then—

$$\begin{aligned}\text{Simple Interest} &= a \\ &= \frac{x \times r \times 2}{100}\end{aligned}$$

$$\text{or } 100a = 2xr \quad \dots(1)$$

$$\text{and } a + 300 = \frac{x \times (r+3) \times 2}{100}$$

$$\text{or } 100(a + 300) = 2xr(r+3) \quad \dots(2)$$

$$\Rightarrow 100a + 30000 = 2xr + 6xr$$

$$\Rightarrow 2xr + 30000 = 2xr + 6xr$$

[from eq. (1)]

$$\Rightarrow 6xr = 30000$$

$$x = ₹ 5000$$

8. (B) Let the marked price be ₹  $x$ , then single equivalent discount for two successive discounts

$$= (+30 + 15 - 4.5)\%$$

$$= 40.5\%$$

$$\therefore x \times \frac{(100 - 40.5)}{100} = 476$$

$$\Rightarrow 59.5x = 47600$$

$$\therefore x = ₹ 800$$

9. (B) Let the distances covered by him in 2 days are  $4x$  km and  $5x$  km respectively.

$$5x = 70$$

$$x = 14$$

$$\therefore \text{Reqd. ratio} = 14 \times 4 : 42$$

$$= 4 : 3$$

10. (B) Let the cost price of the T.V. set be ₹  $x$  then,

$$\therefore x \times \frac{110}{100} = 2640 \times \frac{95}{100}$$

$$\Rightarrow 110x = 2640 \times 95$$

$$\therefore x = \frac{264 \times 95}{11}$$

$$= ₹ 2280$$

11. (A) ∵ Reqd. gain percentage

$$= \frac{30}{70} \times 100\%$$

$$= 42\frac{6}{7}\%$$

12. (D) Reqd. correct average

$$\begin{aligned}&= \frac{10 \times 80 - 60 + 50}{10} \\ &= \frac{800 - 10}{10} \\ &= 79\end{aligned}$$

13. (C) Let the C.P. of horse ₹  $x$  and the cost price of the carriage ₹  $y$

$$\text{Then, } x + y = 40000 \quad \dots(i)$$

$$\text{and } \frac{x \times 110}{100} + \frac{y \times 95}{100}$$

$$= 40000 \times \frac{101}{100} \quad \dots(ii)$$

Substitute the value of  $y$  from eq. (i) in eq. (ii) and on solving them—

$$\begin{aligned}110x + (40000 - x) 95 \\ &= 40000 \times 101 \\ \Rightarrow 15x &= 6 \times 40000 \\ \therefore x &= ₹ 16000\end{aligned}$$

14. (B) Reqd. increased percentage

$$\begin{aligned} &= \frac{8(8+200)}{100}\% \\ &= \frac{64+1600}{100}\% \\ &= \frac{1664}{100}\% \\ &= 16.64\% \end{aligned}$$

15. (C) Certain distance

$$\begin{aligned} &= \frac{60 \times 1000}{60} \times 210 \\ &= 210000 \text{ m} \end{aligned}$$

∴ Required time

$$\begin{aligned} &= \frac{210000}{80 \times 1000} \text{ hours} \\ &= 2 \frac{5}{8} \text{ hours} \end{aligned}$$

16. (B)  $(\sqrt{4^3 + 15^2})^3 = (\sqrt{64 + 225})^3$

$$\begin{aligned} &= (\sqrt{289})^3 \\ &= (17)^3 \\ &= 4913 \end{aligned}$$

17. (C) Let the C. P. of one article be ₹ x. Then—

$$\begin{aligned} \therefore x \times \frac{96}{100} &= \frac{1}{4} \\ \Rightarrow x &= ₹ \frac{25}{96} \end{aligned}$$

∴ Reqd. profit percentage

$$\begin{aligned} &= \left(\frac{1}{3} - \frac{25}{96}\right) \times \frac{96}{25} \times 100\% \\ &= \frac{(96-75)}{3 \times 96} \times \frac{96}{25} \times 100\% \\ &= (7 \times 4)\% \\ &= 28\% \end{aligned}$$

18. (D) ∵  $a \times 5.5 = b \times 0.65$

$$\begin{aligned} \Rightarrow \frac{a}{b} &= \frac{0.65}{5.50} = \frac{65}{550} \\ \therefore a:b &= \frac{13}{110} \\ &= 13:110 \end{aligned}$$

19. (C) Let the original sale price of the article be ₹ x, then,

$$\begin{aligned} \therefore x \times \frac{90}{100} + 90 &= x \times \frac{105}{100} \\ \Rightarrow 9x + 900 &= 10.5x \\ \Rightarrow 1.5x &= 900 \\ \therefore x &= ₹ 600 \end{aligned}$$

20. (A) As per question, let the number of men be x, who can finish the remaining work

$$= \left(1 - \frac{3}{5}\right) \text{ in } 44 \text{ days.}$$

Then,

$$\begin{aligned} \therefore \frac{x \times 44}{2/5} &= \frac{110 \times 48}{3/5} \\ \Rightarrow 22x &= 110 \times 16 \\ \therefore x &= 80 \text{ men} \end{aligned}$$

∴ Reqd. number of men withdrawn by the contractor

$$= 30 \text{ men}$$

21. (C) Let the original average age

₹ x months and age of the newcomer  
= y months.

Then, as per question—

$$\begin{aligned} \frac{42 \times x - 10 \times 12 + y}{42} &= x + 2 \\ \Rightarrow 42x - 120 + y &= 42x + 84 \\ \Rightarrow y &= 120 + 84 \\ &= 204 \text{ months} \\ &= 17 \text{ years} \end{aligned}$$

22. (A) ∵  $160 \times \frac{15}{100} + x = 240 \times \frac{25}{100}$

$$\begin{aligned} \Rightarrow 24 + x &= 60 \\ \therefore \text{Reqd. number } (x) &= 36. \end{aligned}$$

23. (B) Let both the trains meet after t hours.

Then as per question—

$$\begin{aligned} 16 \times t + 60 &= 21 \times t \\ \Rightarrow 5t &= 60 \end{aligned}$$

$$\therefore t = 12 \text{ hours.}$$

The distance between A and B (in mile)

$$\begin{aligned} &= 16 \times 12 + 21 \times 12 \\ &= 192 + 252 \\ &= 444 \text{ mile} \end{aligned}$$

Join YouTube Channel

24. (D) Average production during this period

$$\begin{aligned} &= \frac{1244 + 1085 + 720 + 1640}{7} \\ &= \frac{8834}{7} \\ &= 1262 \text{ quintal} \end{aligned}$$

∴ Required the number of years

$$\begin{aligned} &= (2003, 2005, 2006) \\ &= 3 \text{ years} \end{aligned}$$

25. (D) Reqd. highest rate of decline in production

$$\begin{aligned} &= \frac{(1085 - 720) \times 100}{1085} \% \\ &= \frac{365}{1085} \times 100\% \\ &= 33.64\% \end{aligned}$$

26. (B) Let the greater number =  $2x$

and the smaller number =  $x$

$$\begin{aligned} \therefore 2x \times x &= 1800 \\ \Rightarrow x^2 &= 900 \\ \therefore x &= 30 \end{aligned}$$

Hence, the greater number

$$= 2 \times 30 = 60$$

27. (C) At 5th min. the frog will be at level 'A'.

Hence, in 12 rounds he will be again at 'A' level.

28. (D)

29. (B) Required number of present students in the class

$$= (7 + 26) - 1 = 32$$

30. (D)  $72 a 9 b 12 a 18 c 25 d 13 b 16 c 32$

$$\begin{aligned} &= 72 + 9 \times 12 + 18 + 25 - 13 \times 16 + 32 \\ &= 8 \times \frac{12}{18} + 25 - 208 + 32 \\ &= \frac{16}{3} + 25 - 208 + 32 \\ &= \frac{16}{3} - 151 = -\frac{437}{3} \end{aligned}$$

31. (C) Let the oil tank contain  $x$  litre petrol when full. Hence, as per question

$$\begin{aligned} \frac{4x}{5} - \frac{2x}{3} &= \frac{2x}{15} = 2 \\ \therefore x &= \frac{2 \times 15}{2} = 15 \text{ litre} \end{aligned}$$

32. (C) Letter 'I' is not present in the given word.

33. (B) Let the number is ' $n$ ', quotient  $k$  and divisor  $b$

$$\begin{aligned} n &= bk + 23 \\ \text{and } 2n &= 2bk + 46 \\ \text{If } b &= 35, \text{ then} \\ 2n &= 35(2k + 1) + 11 \end{aligned}$$

Hence, the divisor will be 35.

34. (D) Let the number is  $n$  and the quotient is  $b$ , then

$$\begin{aligned} n &= 13b + 1 \\ \text{and } b &= 5k + 3 \\ \text{Here quotient is } k. \\ \therefore n &= 13(5k + 3) + 1 \\ &= 65k + 39 + 1 \\ &= 65k + 40 \end{aligned}$$

Hence remainder = 40.

35. (C)

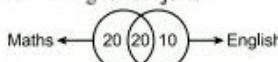
$$\begin{aligned} 36. (\text{A}) \sqrt[4]{(81)^{-2}} &= \sqrt[4]{\frac{1}{(81)^2}} \\ &= \frac{1}{(81)^{1/2}} = \frac{1}{9} \end{aligned}$$

$$\begin{aligned} 37. (\text{C}) 2\sqrt{3} - \sqrt{3} - 3\sqrt{3} + 2\sqrt{3} \\ &= 4\sqrt{3} - 4\sqrt{3} = 0 \end{aligned}$$

38. (A) Required saving per cent

$$\begin{aligned} &= \frac{(7 - 5)}{7} \times 100\% \\ &= \frac{200}{7} \\ &= 28.5\% = 28.4\% \end{aligned}$$

39. (B) By venn diagram, failed students in Maths and English subjects.



Hence, passed students in both the subjects

$$= (100 - 50)\% = 50\%$$

40. (C) Amount of alcohol in 15 litre

$$= \frac{15 \times 20}{100} = 3 \text{ litre}$$

Amount of water

Join Youtube Channel

$$= (15 - 3) \text{ litre}$$

$$= 12 \text{ litre}$$

$\therefore$  Required percentage of alcohol in the new mixture

$$= \frac{3}{(15+3)} \times 100\%$$

$$= \frac{3}{18} \times 100\%$$

$$= 16.67\%$$

41. (C) Let the length of rectangle is  $x$ , then new length

$$= \frac{160x}{100}$$

Let the breadth of rectangle is  $y$  and decreased by  $a\%$ . Then as per question

$$\frac{160x}{100} \times \frac{y(100-a)}{100} = xy$$

$$\Rightarrow 100 - a = \frac{10000}{160}$$

$$\Rightarrow 100 - a = 62.5$$

$$\therefore a = 37.5\%$$

42. (B) Let the original price of milk

$$= ₹x$$

and the amount of milk =  $y$  litre

$\therefore$  Required effect in the expenditure of the family on account of milk

$$= \frac{(xy - 0.85y \times 1.15x)}{xy} \times 100$$

$$= 2.25\%$$

43. (C) Let the number of boys is  $3x$  and the number of girls is  $2x$  then the number of adult students

$$= \frac{3x \times 20}{100} + \frac{2x \times 25}{100}$$

$$= \frac{3}{5}x + \frac{x}{2}$$

$$= \frac{11}{10}x = 1.1x$$

Number of minor students

$$= (5x - 1.1x) = 3.9x$$

Required percentage

$$= \frac{3.9x}{5x} \times 100\%$$

$$= 78\%$$

44. (C) Let the monthly income of two persons are ₹  $5x$  and ₹  $4x$  respectively and their expenditures are ₹  $9y$  and ₹  $7y$ . Then

$$5x - 9y = 500$$

$$4x - 7y = 500$$

On solving,

$$x = 1000$$

$\therefore$  Required monthly incomes

$$= ₹ 5000 \text{ and } ₹ 4000$$

45. (A) Let, if  $7x$  litre milk and  $2x$  litre water in the mixtures, then

$$25x^2 - 9x^2 = 144$$

$$\Rightarrow 16x^2 = 144$$

$$\Rightarrow x^2 = 9$$

$$\therefore x = 3$$

$\therefore$  Required numbers

$$= 5 \times 3 \text{ and } 3 \times 3$$

$$= 15 \text{ and } 9$$

46. (A) Let, if  $7x$  litre milk and  $2x$  litre water in the mixture, then as per question,

$$\begin{aligned} 7x + (2x + 6) &= 7y + 5y \\ \text{and } 2x + 6 &= 5y \end{aligned}$$

$$\text{On solving, } y = 2 \text{ and } x = 2$$

$\therefore$  Required quantity of water in the final mixture

$$= (2 \times 2 + 6) \text{ litre}$$

$$= 10 \text{ litre}$$

47. (C) Let  $(a+b)$ ,  $(b+c)$  and  $(c+a)$  are  $6x$ ,  $7x$  and  $8x$  respectively, then

$$a+b+c = \frac{21x}{2}$$

$$\Rightarrow x = \frac{4}{3}$$

$$\therefore c = 14 - 6 \times \frac{4}{3}$$

$$= 14 - 8 = 6$$

48. (B) Let selling price is ₹ 100 then profit = ₹ 26.

$$\begin{aligned} \therefore \text{Cost price} &= ₹(100 - 26) \\ &= ₹ 74 \end{aligned}$$

34% of cost price

$$= ₹ \frac{34}{100} \times 74 = ₹ 25.16$$

Which 25.16% of the selling price.

49. (B) Cost price of two mixers ₹ 1500, let one's cost pric = ₹  $x$

$$\text{Profit} = \text{₹ } x \times \frac{9}{100}$$

$$\text{Loss} = \text{₹ } (1500 - x) \times \frac{6}{100}$$

$$\therefore x \times \frac{9}{100} = (1500 - x) \times \frac{6}{100}$$

$$\Rightarrow 15x = 9000$$

$$\therefore x = 600$$

and the cost price of second only

$$= \text{₹ } 900$$

∴ Required ratio

$$= \frac{600}{900} = \frac{2}{3} = 2 : 3$$

50. (A) Let the first successive discount is  $x\%$  then as per question,

$$150 \times \frac{(100-x)}{100} \times \frac{(100-12.5)}{100} = 105$$

$$\Rightarrow (15000 - 150x) 87.5 = 1050000$$

$$\Rightarrow 1312500 - 13125x = 1050000$$

$$\therefore x = \frac{262500}{13125} \\ = 20\%$$

## Part—IV

### General Awareness

Join YouTube Channel

1. Which of the following is a organic rock ?  
 (A) Slate      (B) Marble  
 (C) Granite      (D) Coal
2. What is the largest satellite of the planet saturn ?  
 (A) Titan      (B) Enceladus  
 (C) Rhea      (D) Lapteus
3. Which soil is found in Indo-Gangetic planes ?  
 (A) Loam      (B) Alluvial  
 (C) Black      (D) Dry
4. Which is the largest river of Indian sub continent ?  
 (A) Ganges      (B) Indus  
 (C) Godavari      (D) Kaveri
5. 'Leech' belongs to which group ?  
 (A) Insect      (B) Mammals  
 (C) Parasite      (D) None of these
6. Which is the most abundant gas in air ?  
 (A) Nitrogen      (B) Oxygen  
 (C) Hydrogen      (D) Ozone
7. Which is the most abundant element in atmosphere ?  
 (A) Oxygen      (B) Nitrogen  
 (C) Neon      (D) Ozone
8. Whose name is written on ten rupees note ?  
 (A) Governor of RBI  
 (B) Finance Secretary of India  
 (C) Finance Minister of India  
 (D) None of these
9. If speed of rotation of earth increase, then mass of earth would—  
 (A) Decrease  
 (B) Increase  
 (C) No effect  
 (D) May increase or decrease depends upon the speed of rotation
10. Rubber cultivation is done in which areas ?  
 (A) Pampas  
 (B) Savannah  
 (C) Temporary Deciduous Forest  
 (D) None of these
11. Acid and base combine to form—  
 (A) Salt and Water      (B) Base and Water  
 (C) Acid and Water      (D) None of these
12. Radio waves reflects back from which layer ?  
 (A) Troposphere      (B) Stratosphere  
 (C) Mesosphere      (D) Ozone Layer
13. If lime is added to the soil, then—  
 (A) Acidity of soil increases  
 (B) Acidity of soil decreases  
 (C) Salinity of soil increases  
 (D) None of these
14. If a ship comes to sea water from river water, then its bottom will—

- (A) Rises due to buoyancy  
 (B) Rise in water due to more mass of water  
 (C) Same in both sea or river water  
 (D) None of these
15. Liver digests—  
 (A) Proteins                   (B) Fats  
 (C) Amino Acids             (D) Water
16. Which of the following does not excrete waste from the body ?  
 (A) Skin                       (B) Liver  
 (C) Large intestine           (D) Kidney
17. Rickets is due to the deficiency of which ?  
 (A) Vitamin A               (B) Vitamin C  
 (C) Vitamin D               (D) Vitamin B<sub>12</sub>
18. Monetary policy in India is formulated by—  
 (A) Finance Ministry  
 (B) RBI  
 (C) SEBI  
 (D) CLB
19. Which one of the following pairs of goods is an example for Joint Supply ?  
 (A) Coffee and Tea  
 (B) Ink and Pen  
 (C) Tooth Brush and Paste  
 (D) Wool and Mutton
20. Which countries are separated by the 49th parallel ?  
 (A) USA and Canada  
 (B) USA and Mexico  
 (C) France and Germany  
 (D) Russia and China
21. 'Tidal forest' is otherwise called as—  
 (A) Evergreen Forest  
 (B) Monsoon Forest  
 (C) Mangrove Forest  
 (D) Coniferous Forest
22. The rapid sliding of large masses of bed rocks is called—  
 (A) Mass wasting             (B) Landslide  
 (C) Earthquake              (D) Weathering
23. A solid needle placed horizontally on the surface of the water floats due to—  
 (A) Viscosity of Water  
 (B) Capillary Action  
 (C) Water Pressure  
 (D) Surface tension of water
24. Which one of the following is an indicator of air pollution ?  
 (A) Lichens                   (B) Cycas  
 (C) Algae                   (D) Bryophytes
25. Which one of the following acids is commonly found in nature ?  
 (A) Lactic acids             (B) Sulphuric acids  
 (C) Nitric acids             (D) Acetic acids
26. According to 2011 census, which is the second most populous state in India ?  
 (A) West Bengal  
 (B) Maharashtra  
 (C) Andhra Pradesh  
 (D) Bihar
27. The capillary action phenomenon of water climbing up a narrow tube dipped in water is due to—  
 (A) Surface tension  
 (B) Atmospheric pressure  
 (C) Differential temperature  
 (D) Surface friction
28. The smallest functional unit of kidney is—  
 (A) Nephron                  (B) Air Sac  
 (C) Ovaries                  (D) Neuron
29. Kwashiorkar is caused due to deficiency of which nutrient ?  
 (A) Protein                   (B) Vitamin D  
 (C) Iron                      (D) Fat
30. Vasco-de-gama was a native of—  
 (A) Britain                   (B) Portugal  
 (C) Australia               (D) America
31. Who is the Governor of Maharashtra at present ?  
 (A) S. M. Krishna  
 (B) S. C. Jamir

[Join YouTube Channel](#)

- (C) Kateekal Shankarnarayanan  
(D) None of the above
32. The third battle of Panipat was fought between—  
(A) Marathas and Ahmad Shah Abdali  
(B) Humaun and Hemu  
(C) Akbar and Shershah  
(D) None of these
33. Who is the leader of the House in fifteenth Lok-Sabha ?  
(A) Sonia Gandhi  
(B) Sushil Kumar Shinde  
(C) Meira Kumar  
(D) None of these
34. Layer of the atmosphere which is closest to the Earth—  
(A) Troposphere      (B) Stratosphere  
(C) Ionosphere      (D) Mesosphere
35. The maximum strength of Lok Sabha as envisaged by the constitution is—  
(A) 552                (B) 555  
(C) 550                (D) 530
36. Deepika Kumari is a name associated with which game—  
(A) Archery            (B) Boxing  
(C) Weightlifting    (D) Wrestling
37. Acid Rain destroys vegetation because it contains—  
(A) Sulphuric acid  
(B) Nitric acid  
(C) Carbon monoxide  
(D) Ozone
38. Consider the London Olympics held recently. Identify the wrong match—  
(A) Vijay Kumar — Silver in Shooting  
(B) Saina Nehwal — Bronze in Badminton  
(C) Gangan Narang — Bronze in Shooting  
(D) Yogeshwar Dutt — Silver in Wrestling
39. Which country has launched Solar-B satellite to study the sun ?
- (A) China              (B) Japan  
(C) Germany          (D) India
40. Santhali language is chiefly spoken by more than six million people in India. Apart from the states of Bihar and Jharkhand, it is also spoken in the state of—  
(A) Uttar Pradesh and Rajasthan  
(B) Haryana and Jammu-Kashmir  
(C) Himachal Pradesh and Jammu-Kashmir  
(D) Assam, Orrisa, West Bengal and Tripura
41. The Higgs-boson particle which was recently discovered by scientists, is also known as—  
(A) God Particle  
(B) Atomic particle  
(C) High mass particle  
(D) Quantum Particle
42. Recently, over 140 countries have agreed on the first international treaty called Minamata Convention. It aims to reduce the emission and release of which element into air, water and land ?  
(A) Sulphur            (B) Mercury  
(C) Cadmium          (D) Lead
43. What is 'Support Price' for an agricultural commodity ?  
(A) The floor price below which it cannot be sold  
(B) The minimum price at which the government is prepared to buy it  
(C) Money paid to agriculturists in the case of draught  
(D) Subsidy paid by the government over the prices already available in the market
44. Which one of the following items comes under the Concurrent List of the Indian Constitution ?  
(A) Trade Unions  
(B) Citizenship  
(C) Local Government  
(D) Inter-State rivers
45. The authority to alter the boundaries of states in India rests with—

- (A) President      (B) Prime Minister  
 (C) Parliament    (D) State Government
46. The President can nominate two members of the Lok Sabha to give representation to—  
 (A) Indian Christians  
 (B) Parsis  
 (C) Buddhists  
 (D) The Anglo-Indians
47. Electoral disputes arising out of Presidential and Vice-Presidential elections are settled by—  
 (A) Joint Committee of Parliament  
 (B) Election Commission of India  
 (C) Supreme Court of India  
 (D) Central Election Tribunal
48. ..... is not a Central Government tax.  
 (A) Custom Duty    (B) Land Revenue  
 (C) Service Tax    (D) Income Tax
49. Pranab Kumar Mukherjee, was declared elected as ..... President of India on 22nd July, 2012.  
 (A) 11th            (B) 12th  
 (C) 13th            (D) 10th
50. Who among the following players won Australian Open men's Single Title, 2013 ?  
 (A) Novak Djokovic (B) Gisela Dulko  
 (C) Daniel Nestor   (D) Bob Bryan

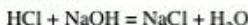
### Answers with Explanations

1. (D)
2. (A) Titan is Saturn's largest moon and the second largest in the solar system.
3. (B)
4. (B) If largest means longest than Indus with 3200 km as against Ganges with 2510 km.
5. (C)
6. (A) Gaseous composition of atmosphere is as below—

Nitrogen	—	78.08%
Oxygen	—	20.95%
Others	—	.97%

7. (B)    8. (A)    9. (C)    10. (D)

11. (A) Arrhenius bases form salt and water with acids such as—



but Lewis basis may form only salt as—



12. (C) Radio waves are reflected off the ionosphere a part of Mesosphere and exosphere. It is at about 85 km to 600 km altitude.
13. (B) If lime (Hydrated lime,  $\text{Ca(OH)}_2$  and Quick lime,  $\text{CaO}$ ) is added/used in acid soils, it improves the acid soil conditions say-reduces the acidity of soil pH. If affects on physical/chemical/biological effect on acid soils inspect of increasing aerobic bacterial acidity in soil. The reaction of hydrated lime in acid soils on acid stones to improve it, can be expressed as :  

$$\text{CaO} + \text{MgO} + 2\text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2 + \text{Mg(OH)}_2$$
14. (A) Since the density of sea water is greater than the density of fresh water, object in sea water floats higher than they do in fresh water. Buoyancy is why Ships float.
15. (B)    16. (B)    17. (C)    18. (B)    19. (D)
20. (A) 49th parallel is the boundary between USA and Canada.

21. (C)    22. (B)    23. (D)    24. (A)    25. (C)  
 26. (B)    27. (A)    28. (A)    29. (A)    30. (B)  
 31. (C)    32. (A)    33. (B)    34. (A)    35. (A)  
 36. (A)    37. (A)  
 38. (D) Sushil Kumar won silver medal in wrestling.  
 39. (B)    40. (D)    41. (A)    42. (B)    43. (B)  
 44. (A)    45. (C)    46. (D)    47. (B)    48. (B)  
 49. (C)    50. (A)

## **Practice Set-10**

## **Part—I**

# **General Intelligence**

1. A start for his office and walks 3 km towards west. Then he turns right and walk 2 km and then again turn right and walk 5 km then again turn right and walk 2 km and then again turn right and walk 2 km where he now from the starting point ?

(A) 5 km                          (B) 10 km  
(C) 20 km                          (D) in his own office

2. BDE : GHI :: JLM : ?

(A) NOP                            (B) NOE  
(C) OPM                            (D) OPQ

3. 4 : 7 :: 9 : ?

(A) 15                             (B) 12  
(C) 16                             (D) 8

4. KJL : ONP :: CBD : ?

(A) ORV                            (B) BCF  
(C) OTM                            (D) GFH

5. Which one of the same triangle, tickle, itch ?

(A) CEEPS                        (B) FLAVOUR  
(C) PUNGENT                      (D) SOUR

6. Which one is like animation, Life, wings ?

(A) Exist                            (B) Enarise  
(C) Mortality                      (D) Surge

7. Opposite : Summer : Winter : : Cold ?

(A) Wet                             (B) Warm  
(C) Freezing                        (D) Bold

8. Net : Ball : Sparrow : ?

(A) Nestle                        (B) Bird  
(C) Sky                             (D) Warma

(B) NOE 737274757572070727  
Join Youtube Channel  
757675387077075

**Directions**—The following question four pairs of word are given out of which word in three pairs are related in each of the same way. Find the pair which is differently related.

9. (A) Harsh, Polite  
(B) Accident, Negligence  
(C) Devil, Wrong  
(D) Ink, Writing

10. (A) Shave, Razor      (B) Knife, Cut  
(C) Draw, Pencil      (D) House, Live

11. How many 7's are there in the number series which are followed by 2 or 3 or 4 or 5 ?  
7372747575720707223747576777874727374  
7576757879777273  
(A) 12                  (B) 10  
(C) 18                  (D) 16

12. How many 7's are there such that each has a 7 preceding it and 7 following it ?  
(A) 2                  (B) 11  
(C) 16                  (D) 18

13. Which is the alternate crop in jute growing area ?  
(A) Wheat              (B) Tea  
(C) Cotton              (D) Sugarcane

14. Which one of the following is high digestive protein crop ?  
(A) Maize              (B) Cotton  
(C) Wheat              (D) Tea

15. A starts and walks towards south he then turns to his right and walks 5 km then again left and walks 3 km and then again left and walks 5 km. In which direction is he from the starting point ?  
(A) West              (B) South  
(C) North              (D) East

16. A man drove his car 5 km towards east ward direction. He turned right went for 3 km, then he turned west and drove for 1 km. How far is he from the starting point ?  
(A) 5 km                          (B) 6 km  
(C) 10 km                        (D) 20 km

**Directions**—In the answer choices are given the reflected views of the first figure. You are to point out which is the correct reflected view.

17.

(A) 

(B) 

(C) 

(D) 

18.

	0
+	

(A) 

0	
+	

(B) 

	0
+	

*Join*

(C) 

0	
	+

(D) 

0	+

**Directions**—In the following questions some relationships have been expressed through symbols which are—

$x$  stands for greater than     $\theta$  stands for not less than    + stands for equal to  
 $-$  stands for Less than     $\beta$  stands for not greater than     $\phi$  stands for not equal to  
 Bearing this relationship in mind work out the following questions.

19.  $A \beta B - C$  implies—  
 (A)  $A \beta B$       (B)  $A + C$   
 (C)  $B + C$       (D)  $C \times A$

20.  $A \phi B + C$  implies—  
 (A)  $C - B$       (B)  $B + C$   
 (C)  $C \beta A$       (D)  $A \times B$

**Directions**—In the questions below, if the given interchanges are made in signs and numbers, which one of the four answer choices would be correct?

21. Given interchanges : signs  $+$  &  $-$  and numbers 8 and 2—  
 (A)  $2 - 8 + 6 = 4$       (B)  $2 - 8 + 7 = 4$   
 (C)  $2 + 8 - 9 = 16$       (D)  $2 + 8 - 4 = 10$

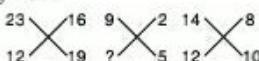
22. Given interchanges : signs  $\times$  and  $+$  and numbers 4 and 2—  
 (A)  $2 + 4 \times 5 = 13$       (B)  $2 + 4 \times 6 = 15$   
 (C)  $2 \times 4 + 4 = 18$       (D)  $2 \times 4 + 4 = 9$

23. In a certain code 'JUDICIAL' is written as JDUICILA. How will 'GLORIOUS' be written?  
 (A) GOTOSRSU      (B) GLOOTRSU  
 (C) GOUCILIA      (D) GOLRIOSU

24. In a certain code MAN is written as SANM and WORD is written as SORDW. How would SALE be written in the code?  
 (A) SALES      (B) LESAS  
 (C) SEALS      (D) LEASS

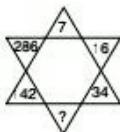
**Directions**—In the question below there is a different rule according to which each of the cells below are filled except one. Understand the rule applied and fill in the entries in the particular place so as complete the Puzzle.

28. Choose the correct number at the sign of interrogation?



- (A) 7                          (B) 3  
 (C) 6                           (D) 8

29. Fill the correct number at the sign of interrogation?



- (A) 56                           (B) 92  
 (C) 70                           (D) 68

**Directions**—The following numerals are written in symbol form. Select the choice that represents the given number the best.

30. 55345511

- (A)  $\leftarrow \downarrow \rightarrow \downarrow \rightarrow \uparrow \downarrow \uparrow$   
 (B)  $\Delta \nabla \rightarrow \downarrow \downarrow \nabla \nabla$   
 (C)  $\uparrow \uparrow \rightarrow \downarrow \uparrow \uparrow \Delta \Delta$   
 (D)  $\uparrow \uparrow \rightarrow \downarrow \downarrow \uparrow \Delta \nabla$

**Directions**—Two words are given in the following question with a blank in between. Select a word from the choices given which is most relevant to the two other words.

31. NICE (.....) PENALTY—

- (A) clean                      (B) time  
 (C) good                       (D) fine

**Directions**—(Q. 32 and 33) Read the following information given below and answer the questions that follow.

$A * B$  means A and B are the same age.

$A - B$  means B is younger than A

$A + B$  means A is younger than B

32. Sachin \* Rahim – Rahul means—

- (A) Rahul is the oldest  
 (B) Rahim is younger than Rahul  
 (C) Rahul is the youngest  
 (D) None of these

33.  $X + Y + Z$  is the same as—

- (A)  $Z - Y - X$                     (B)  $Z - X - Y$   
 (C)  $Y - X - Z$                     (D) None of these

34. Look carefully for the pattern given below, and choose which pair of numbers comes next.

9 11 13 13 15 13 17 .....

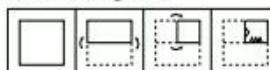
- (A) 15 33                        (B) 19 21  
 (C) 19 33                       (D) 33 19

35. If 'BUILDING' is coded as 'CVJMEJOH' and 'INSTITUTE' is coded as JOTUUVUF, what will be the codes for the following?  
 'LUCKNOW' and 'PATNA'

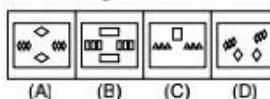
- (A) MVDPLOX and QAUOB  
 (B) MVDLOPY and QBUOB  
 (C) MVDLOPX and QBUOB  
 (D) MUDLOPY and QBUOB

**Directions**—(Q. 36 and 37) In these questions a piece of paper is folded and then cut as shown below. The dotted lines shown are the portion which have been folded. The curve arrow shows the directions of folding. And the number of scissors beneath the figure show the number of portions cut. From the given responses, indicate how it will appear when opened. The opening is in the same order as folding.

36. **Question Figures**



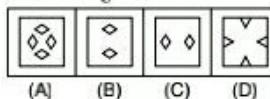
**Answer Figures**



37. **Question Figures**



**Answer Figures**



38. Find the odd one out—

- (A) EFJIHG      (B) UVYZXW  
 (C) OPTSRQ      (D) JKONML

39. If  $M + N$  means  $M$  is brother of  $N$ ,  $M/N$  means  $M$  is father of  $N$  and  $M \times N$  means  $M$  is sister of  $N$ . Which of the following means  $A$  is uncle of  $B$ ?

- (A)  $A + D/E/B$       (B)  $A + G/H \times B$   
 (C)  $A/C \times B$       (D)  $C \times B/A$

40. My house is to the South of the 'State Bank' and the 'Central School' is to the east of my house which is as far away from the 'State Bank' as from the 'Central School'. I first go to the 'State Bank' and then start walking to the 'Central School'. Just when I am half-way through I meet my cousin and then we decide to walk back house. In which direction are we walking now?

- (A) North-East      (B) North-West  
 (C) South-East      (D) South-West

**Directions**—Select the suitable alternatives to complete the series.

41.  $\frac{1}{81}, \frac{1}{54}, \frac{1}{36}, \frac{1}{24}, \dots$

- (A)  $\frac{1}{9}$       (B)  $\frac{1}{16}$   
 (C)  $\frac{1}{32}$       (D) None of these

42. If IIII stands for 3, III for 2, II for 1, and I for 0, solve the following—

$$\text{III} - \text{II} \times \text{I} + \text{III} \times \text{II} - \text{II} = ?$$

- (A) III      (B) IV  
 (C) IIIIII      (D) IIIII

43. Here are four groups of letters, three of them are alike in some way or other while one is different. Identify the one which is different from others?

- (A) mmm qqq ttt      (B) ttt xxx bbb  
 (C) ccc ggg kkk      (D) kkk ooo sss

44. In the following question pick the choice that establishes the logical relationship—

$$\text{AD : BE : CF : ?}$$

- (A) FG      (B) GD  
 (C) DG      (D) EC

**Directions**—(Q. 45 and 46) There were six persons U, V, W, X, Y, Z playing a game of cards. U's father, mother and uncle were in the group. There were two ladies in the group. 'V' the mother of 'U' got more points than her husband. 'X' got more points than 'Y' but less than 'Z'. Niece of 'Y' got lowest points. Father of 'U' got more points than 'Z' but could not win the game.

45. Who won the game and who got the lowest points respectively?

- (A) W and Y      (B) X and V  
 (C) V and U      (D) U only

46. Who is the husband of 'V' and what was his position in the game on the basis of points?

- (A) X, II      (B) W, II  
 (C) Z, II      (D) Y, III

**Directions**—(Q. 47 and 48) From among the five doctors 1, 2, 3, 4 and 5, four engineers G, H, K, L and six teachers M, N, O, P, Q and R, some teams are to be selected. Of these 1, 2, G, H, O, P, Q are females and the rest are males. The formation of teams is subject to the following conditions.

Wherever there is a male doctor, there will not be a female teacher. Wherever there is a male engineer, there will not be a female doctor. There shall not be more than two male teachers in any team.

47. If the team consists of two doctors, two female teachers and two engineers, then all the following teams are possible except—

- (A) 1, 2, G, H, O, Q      (B) O, P, G, H, 1, 2  
 (C) 1, 2, K, L, P, Q      (D) 1, 2, G, H, P, Q

48. If the team consists of two doctors, three female teachers and two engineers, then the members of the team are—

- (A) 3, 4, K, L, O, P, Q  
 (B) 4, 5, G, H, O, P, Q  
 (C) 3, 4, O, P, Q, G, H  
 (D) 1, 2, O, P, Q, G, H

49. If  $\frac{(\text{Two})^2}{(\text{Five})^2} = \frac{9}{16} \cdot \frac{(\text{Six})^2}{(\text{Seven})^2} = \frac{9}{25}$ , then

$$\frac{(\text{One})^2}{(\text{Hundred})^2} =$$

(A)  $\frac{9}{49}$   
 (C)  $\frac{25}{9}$

(B)  $\frac{9}{36}$   
 (D)  $\frac{16}{9}$

50. A is taller than B, but shorter than C. D is taller than A, but shorter than C and E is taller than B, but shorter than A. The tallest person is—

- (A) A                      (B) C  
 (C) E                      (D) D

### Answers with Explanations

1. (D)



2. (D) As,

$$\begin{array}{ccccc} B & D & E & J & L \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ G & H & I & O & P \end{array}$$

Same as,

$$\begin{array}{ccccc} J & L & M & O & P \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ O & P & Q & R & S \end{array}$$

 3. (B) As,  $4 \xrightarrow{+3} 7$ 

 Same as,  $9 \xrightarrow{+3} 12$ 

4. (D) As,

$$\begin{array}{ccccc} K & J & L & C & B \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ O & N & P & G & F \end{array}$$

Same as,

$$\begin{array}{ccccc} B & D & E & F & H \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ G & I & K & L & M \end{array}$$

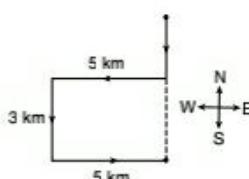
5. (D) 6. (A) 7. (B)

8. (A) As, 'Net' is related with 'Ball' same as 'Sparrow' is related with 'Nestle'.

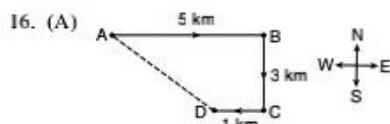
9. (A) 10. (D) 11. (C) 12. (A) 13. (C)

14. (C)

15. (B)



He is in 'South' direction from the starting point.



$$AD = \sqrt{(3)^2 + (4)^2} \text{ km}$$

$$= \sqrt{25} \text{ km}$$

$$= 5 \text{ km}$$

17. (B) 18. (C) 19. (A) 20. (B)

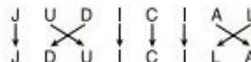
 21. (A)  $2 - 8 + 6 = 4$ 

$$\Rightarrow 8 + 2 - 6 = 10 - 6 = 4$$

 22. (A)  $2 + 4 \times 5 = 13$ 

$$\Rightarrow 4 \times 2 + 5 = 8 + 5 = 13$$

23. (D) As,



Same as,


 24. (A) As,  $\frac{\text{M A N}}{\text{S A N M}}$  and  $\frac{\text{W O R D}}{\text{S O R D W}}$ 

 Same as, S A L E

 Same as, S A L E S

 25. (B) As,  $17 + 18 + 19 = 54$ 

 and  $17 + 36 + 01 = 54$ 

 Same as,  $12 + 31 + ? = 54$ 

$$? = 54 - 43$$

$$? = 11$$

26. (B) Required number of children in the row

$$= (12 + 3 + 10) - 1$$

$$= 25 - 1 = 24$$

27. (A)

28. (C) There is difference of 4 between two ends of line.

 29. (C)  $7 \times 2 = 14 + 2 = 16$ 

$$16 \times 2 = 32 + 2 = 34$$

$$34 \times 2 = 68 + 2 = 70$$

$$70 \times 2 = 140 + 2 = 142$$

$$142 \times 2 = 284 + 2 = 286$$

30. (C) 5 is denoted by ' $\uparrow$ ', 3 is denoted by ' $\rightarrow$ ', 4 is denoted by ' $\downarrow$ ' and 1 is denoted by  $\Delta$ .

31. (A) NICE (CLEAN) PENALTY

In clean word, all the alphabets have been taken from both the words.

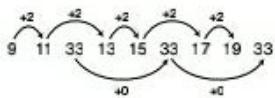
32. (C) Sachin = Rahim > Rahul

33. (A) As, X + Y + Z = Z > Y > X

Same as,

$$Z - Y - X = Z > Y > X$$

34. (C)



35. (C) As,



Same as,

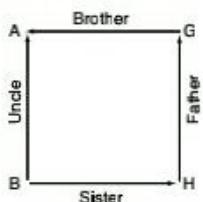


36. (A) 37. (A)

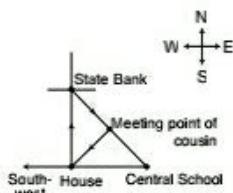
38. (B)



39. (B)



40. (D)



Hence, we are going in south-west direction.

41. (B)  $\frac{1}{81}, \frac{1}{54}, \frac{1}{36}, \frac{1}{24}, \frac{1}{18}$   
 $\times \frac{2}{3} \quad \times \frac{2}{3} \quad \times \frac{2}{3} \quad \times \frac{2}{3}$

42. (D) By replacing numeric value, then

$$3 - 1 \times 0 + 2 \times 1 - 1 = 4$$

and IIIII stand for 4.

43. (A) In all other options, there is a gap of three letters between two letter series.

44. (C)  $AD : BE :: CF : DG$

45. (C) U < Y < X < Z < W < V

46. (B) 47. (C) 48. (D)

49. (A) As,

$$\frac{(\text{Two})^2}{(\text{Five})^2} = \frac{(\text{T.w.o})^2}{(\text{F.i.v.e})^2}$$

$$= \frac{(3)^2}{(4)^2} = \frac{9}{16}$$

and

$$\frac{(\text{Six})^2}{(\text{Seven})^2} = \frac{(\text{S.i.x})^2}{(\text{S.e.v.e.n})^2}$$

$$= \frac{(3)^2}{(5)^2} = \frac{9}{25}$$

Same as,

$$\frac{(\text{One})^2}{(\text{Hundred})^2} = \frac{(\text{O.n.e})^2}{(\text{H,u,n,d,r,e,d})^2}$$

$$= \frac{(3)^2}{(7)^2} = \frac{9}{49}$$

50. (B) Proper order of height is

$$B < E < A < D < C$$

Hence, 'C' is the tallest.

Join YouTube Channel

**Part-II**  
**English Language**

1. These essays are intellectually ..... and represent various levels of complexity.  
 (A) revealing      (B) superior  
 (C) Demanding    (D) Persistent
  2. Many women in the developing countries experience a cycle of poor health that ..... before they are born and persists through adulthood passing from generation to generation.  
 (A) derives      (B) establishes  
 (C) begins       (D) originates
  3. The Education Minister emphasised the need to discover and develop each student's ..... talents.  
 (A) dormant      (B) potential  
 (C) hidden       (D) intrinsic
  4. After the present tax holiday period ends, the power cost of users may become—  
 (A) unreasonable   (B) perishable  
 (C) less           (D) intolerable
- Directions—(Q. 5 and 6)** Some parts of the sentences have errors. Find out which has error and blacked the oval. If a sentence has no error then the answer is (D).
5. (A) My father  
 (B) has returned back  
 (C) to chennai yesterday  
 (D) No error
  6. (A) Being very dark  
 (B) the visitors found it difficulty  
 (C) to locate the switch  
 (D) No error
- Directions—(Q. 7–10)** Choose the alternative which best expressed the meaning of the idiom/phrase.
7. A hard nut to crack.  
 (A) A foolish search  
 (B) A difficult problem
  8. Hand and glove.  
 (A) Very difficult      (B) Open enemy  
 (C) Very intimate      (D) Very rude
  9. To flog dead horse.  
 (A) To do a thing in rain  
 (B) To act in a foolish way  
 (C) To criticise strongly  
 (D) Try to revive interest in a subject that is out of date
  10. Gift of the gab.  
 (A) Lucky  
 (B) A big surprise  
 (C) An honest person  
 (D) To have a talent for speaking
  11. Many ecologists are connected that the 'green house effect' is changing many of the Earth's ..... weather patterns into ..... systems, unable to be accurately forecast by those who study them.  
 (A) predictable, erratic  
 (B) steady, growing  
 (C) uncertain, uncanny  
 (D) chaotic, unforeseeable
  12. Many of the troubles and deficiencies in otherwise thriving foreign enterprises are ..... ignored or diminished by the author of the article in order to.....the ways in which other business might attempt to imitate them.  
 (A) unintentionally, overstate  
 (B) deliberately, stress  
 (C) intermittently, equalize  
 (D) brilliantly, illustrate
  13. Rita realized that she had been ..... in her duties; had she been more ..... the disaster might well have been avoided.  
 (A) unparalleled, careful  
 (B) irreproachable, aware  
 (C) derelict, vigilant  
 (D) arbitrary, interested

14. Although his work was ..... and ....., he was promoted anyway, simply because he had been with the company longer than anyone else.
- forceful, extraneous
  - negligent, creative
  - incomplete, imprecise
  - predictable, careful

**Directions—(Q. 15 and 16)** Choose the alternative which is suitable to express the sentence meaningfully.

15. The offer is **very good so it just can't be true**.
- so good to
  - rather good to
  - too good to
  - No improvement
16. If had gone to Mumbai, I would surely bring your books.
- would have surely brought
  - could have surely brought
  - might have brought
  - No improvement

**Directions—(Q.17–20)** Choose the alternative which can be substituted for the given sentence.

17. Unfair advantages for members of one's own family—
- Optimism
  - Plagiarism
  - Nepotism
  - regionalism
18. Always ready to attack or quarrel—
- Creative
  - impatient
  - aggressive
  - malicious
19. Drawl : Speak ::
- Foster : Develop
  - Seintillate : Flash
  - Pare : Trim
  - Saunter : Walk
20. Ratify : Approval ::
- Pacify : Conquest
  - Duel : Combat
  - Appeal : Authority
  - Tribulate : Opinion

**Directions—(Q. 21–25)** In the following passage, there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.

The ...<sup>(21)</sup>... of Bengal tigers left in the world has ...<sup>(22)</sup>... from 1,00,000 to 4,000 over the last century. The main threats are ...<sup>(23)</sup>... of habitat, poaching and the trade in tiger parts for Eastern medicines. Most Bengal tigers live in protected areas of India. Anti-poaching task-forces have been ...<sup>(24)</sup>... up and there is also a trade ...<sup>(25)</sup>... on tiger products in many countries, as a measure to save this rare species.

- form
- kind
- glory
- number
- limited
- shrunk
- abolished
- eliminated
- prevention
- encroaching
- condition
- shift
- set
- brought
- swept
- deployed
- agreement
- contract
- ban
- link

**Directions—(Q. 26–28)** Find out the correctly spelt word.

- Anneversary
- Annivarsery
- Annivarsary
- Anniversary
- Maintenence
- Maintenance
- Maintenance
- Maintinance
- Guardien
- Guardain
- Guardion
- Guardian

**Directions—(Q. 29 and 30)** In the following questions select the appropriate word that best represents the given set of words.

29. The writing that cannot be read.
- Illegal
  - Illegible
  - Nonlegible
  - Unlegible
30. A person whose thoughts are turned inwards.
- Intelligent
  - Introvert
  - Extrovert
  - Invertebrate

**Directions—(Q. 31–33)** In each of the following questions a word in **bold** is followed by four choices. Select from the choices that word whose meaning is opposite of the word in **bold**.

31. **Eternal**

- |               |                 |
|---------------|-----------------|
| (A) Continual | (B) Endless     |
| (C) Momentary | (D) Everlasting |

32. **Barbarian**

- |                 |               |
|-----------------|---------------|
| (A) Nationalist | (B) Foreigner |
| (C) Heroic      | (D) Civilised |

33. **Adulterated**

- |              |           |
|--------------|-----------|
| (A) Virtuous | (B) Pure  |
| (C) Immature | (D) Solid |

**Directions—(Q. 34–36)** In each of the following questions a word in **bold** is followed by four choices. Select the word that has the same meaning as the word in **bold**.

34. **Enough**

- |              |                |
|--------------|----------------|
| (A) Complete | (B) Balance    |
| (C) Adequate | (D) Inadequate |

35. **Dedicated**

- |             |                |
|-------------|----------------|
| (A) Sincere | (B) Submissive |
| (C) Devoted | (D) Loyal      |

36. **Repercussion**

- |                |              |
|----------------|--------------|
| (A) Opposite   | (B) Shock    |
| (C) Resistance | (D) Reaction |

37. Superlative of Good and opposite of Worst is—

- |          |            |
|----------|------------|
| (A) Bad  | (B) Worse  |
| (C) Best | (D) Better |

38. Fill in the blank using correct article.

Kalidas is ..... Shakespeare of India.

- (A) the
- (B) an
- (C) a
- (D) Any one of the above can be used

39. Correct reported speech of the following direct speech is—

- He said to me, "Where are you going?"
- (A) He said to me where I am going
  - (B) He asked me where I am going

- (C) He asked me where I was going
- (D) He told me where I was going

40. Identify the complex sentence among the followings—

- (A) The mother tiger saw her cubs and she became happy
- (B) When the mother tiger saw her cubs, she became happy
- (C) The mother tiger saw her cubs
- (D) Both (A) and (B) above

41. Choose the correct combination of two simple sentences given below into a complex sentence by using a noun clause : Everybody voted him. They believed him to be an honest man.

- (A) Everybody voted him as he is seeming to be an honest man
- (B) Everybody votes him believing to be an honest man
- (C) Everybody voted him because they believed him to be an honest man
- (D) Everybody voted him believing that he is an honest man

42. Identify the passive voice among the following sentences—

- (A) You have never been cheated by me
- (B) Ram did not speak the truth
- (C) They do not speak English
- (D) My uncle looks after me

43. Identify the correct tense which has been used in this sentence.

By the end of this year he will have saved a lot of money.

- (A) Future perfect continuous tense
- (B) Simple future tense
- (C) Future continuous tense
- (D) Future perfect tense

44. Tea is too hot to drink.

The correct transformation of above sentence is—

- (A) Tea is so hot when you drink it
- (B) Tea is very hot if you drink it

Join YouTube Channel

## **Answers with Explanations**

1. (B)    2. (C)    3. (C)    4. (D)    5. (C)    (A) 36    (B) 33  
 6. (B)    7. (B)    8. (C)    9. (D)    10. (D)    (C) 36    (D) 45  
 11. (A)    12. (D)    13. (B)    14. (C)    15. (C)    3. In a division sum, the divisor is 10 times the quotient and 5 times the remainder. If the remainder is 46, then the dividend is—  
 16. (A)    17. (C)    18. (C)    19. (C)    20. (B)

### **Part – III**

## **Quantitative Aptitude**

- (A) 4236                    (B) 4306  
 (C) 4336                    (D) 5336
4. The units digit of the expression  $25^{6251} + 36^{528} + 73^{54}$  is—  
 (A) 6                        (B) 5  
 (C) 4                        (D) 0
5. The LCM of two numbers is 4 times their HCF. The sum of LCM and HCF is 125. If one of the number is 100, then the other number is—  
 (A) 5                        (B) 25  
 (C) 100                    (D) 125
6.  $\frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}}$   
 $- \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-2} =$   
 (A) 5                        (B) 3  
 (C) 1                        (D) 0
7. A and B can do a piece of work in 8 days, B and C can do it in 24 days while C and A can do it in  $8\frac{4}{7}$  days. In how many days can C do it alone ?  
 (A) 60                      (B) 40  
 (C) 30                      (D) 10
8. A is thrice as good a workman as B and therefore is able to finish a job in 40 days less than B. Working together, they can do it in—  
 (A) 14 days                (B) 13 days  
 (C) 20 days                (D) 15 days
9. In measuring the sides of a rectangle, there is an excess of 5% on one side and 2% deficit on the other. Then the error per cent in the area is—  
 (A) 3·3                    (B) 3·0  
 (C) 2·9                    (D) 2·7
10. An equilateral triangle and a regular hexagon have the same perimeter. The ratio of the area of the triangle to that of the hexagon is—  
 (A) 3 : 2                   (B) 2 : 3  
 (C) 1 : 2                   (D) 1 : 4
11. A sphere and a cube have equal surface areas. The ratio of the volume of the sphere to that of the cube is—  
 (A)  $\sqrt{\pi} : \sqrt{6}$             (B)  $\sqrt{6} : \sqrt{\pi}$   
 (C)  $\sqrt{2} : \sqrt{\pi}$             (D)  $\sqrt{\pi} : 3$
12. The difference between a discount of 35% and two successive discounts of 20% on a certain bill was ₹ 22. The amount of the bill was—  
 (A) ₹ 200                   (B) ₹ 220  
 (C) ₹ 1,100                (D) ₹ 2,200
13. Ratio between the monthly incomes of A and B is 9 : 8 and the ratio between their expenditures is 8 : 7. If they save ₹ 500 each, find A's monthly income.  
 (A) ₹ 3,500                (B) ₹ 4,000  
 (C) ₹ 4,500                (D) ₹ 5,000
14. If  $x : y = 3 : 4$ , then the value of  $\frac{5x-2y}{7x+2y} =$   
 (A)  $\frac{7}{25}$                    (B)  $\frac{7}{23}$   
 (C)  $\frac{7}{29}$                     (D)  $\frac{7}{17}$
15. The average of three numbers is 135. The largest number is 195 and the difference between the other two is 20. The smallest number is—  
 (A) 65                      (B) 95  
 (C) 105                    (D) 115
16. If I purchased 11 books for ₹ 100 and sold 10 books for ₹ 110, the percentage of profit per book sold is—  
 (A) 10                      (B) 11·5  
 (C) 17·3                   (D) 21
17. A cloth merchant sold half of his cloth at 40% profit, half of remaining at 40% loss and the rest was sold at the cost price. In the total transaction his gain or loss will be—  
 (A) 20% gain              (B) 25% loss  
 (C) 10% gain              (D) 15% loss
18. In an examination, 1100 boys and 900 girls appeared. 50% of the boys and 40% of the

girls passed the examination. The percentage of candidates who failed is—

33. The area of a circle having circumference of 132 cm, is—  
 (A)  $693 \text{ cm}^2$       (B)  $116 \text{ cm}^2$   
 (C)  $5227 \text{ cm}^2$       (D)  $1386 \text{ cm}^2$
34. If  $\frac{1}{5} : \frac{1}{x} = \frac{1}{x} : \frac{1}{25}$ , then the value of  $x$ , is—  
 (A) 1.25      (B) 1.5  
 (C) 2.5      (D) 2.25
35. The time in which ₹ 1,000 amounts to ₹ 1,331 at a compound interest at 10% per annum, is—  
 (A) 2 years      (B) 3 years  
 (C) 4 years      (D) 5 years
36. The ratio between two numbers is 5 : 3 and difference between their squares is 144. Find the numbers—  
 (A) 15, 9      (B) 10, 6  
 (C) 5, 3      (D) 20, 12
37. A mixture contains milk and water in the ratio of 7 : 2. On adding 6 litres of water, the ratio of milk and water becomes 7 : 5. Then quantity of water in the final mixture will be—  
 (A) 10 litre      (B) 4 litre  
 (C) 12 litre      (D) None of the above
38. If  $(a+b):(b+c):(c+a)=6:7:8$  and  $a+b+c=14$ , then  $c=?$   
 (A) 8      (B) 7  
 (C) 6      (D) 14
39. If the total profit is 26% of selling price, then what per cent of selling price is equal to the 34% of the purchasing price ?  
 (A) 20.36%      (B) 25.16%  
 (C) 17.16%      (D) 24.76%
40. Priya purchased two mixers for ₹ 1500 and made a profit of 9% on one and loss 6% on the other. But overall there is no profit or loss, then the cost price of mixers are in the ratio—  
 (A) 5 : 3      (B) 2 : 3  
 (C) 3 : 2      (D) 3 : 5
41. A shopkeeper allows two successive discounts on an article whose marked price is ₹ 150 and selling price is ₹ 105. What is first discount if second discount is 12.5% ?  
 (A) 20%      (B) 17.5%  
 (C) 16.67%      (D) 25%
42. An article is sold at 10% loss. Had it been sold for ₹ 30 more, the loss would have been 5% only. What is the cost price of the article ?  
 (A) ₹ 500      (B) ₹ 300  
 (C) ₹ 200      (D) ₹ 600
43. X sells a TV to Y at the gain of 10% and again sells it to Z at a loss of 10%. If Z pays ₹ 9900 to Y, then the cost price of the TV for X is—  
 (A) ₹ 9,900      (B) ₹ 10,000  
 (C) ₹ 11,000      (D) None of the above
44. Join YouTube Channel  
 A sum of money becomes ₹ 13,380 after 3 years and ₹ 20,070 after 6 years on compound interest. The sum is—  
 (A) ₹ 8,920      (B) ₹ 8,890  
 (C) ₹ 8,800      (D) ₹ 9,040
45. ₹ 7,500 is borrowed at compound interest at the rate of 2% for the first year, 4% for the second year and 5% for the third year. The amount paid after 3 years will be—  
 (A) ₹ 8,235      (B) ₹ 8,520.20  
 (C) ₹ 8,353.80      (D) ₹ 8,432
46. The compound interest on ₹ 2800 for  $1\frac{1}{2}$  years at 10% per annum is—  
 (A) ₹ 434      (B) ₹ 436.75  
 (C) ₹ 441.35      (D) ₹ 420
47. The difference between simple and compound interest (compounded annually) on a sum of money for 2 years at 10% per annum is ₹ 65. The sum is—  
 (A) ₹ 65,065      (B) ₹ 6,565  
 (C) ₹ 6,500      (D) ₹ 65,650

48. Ankit invested ₹ 1500 in two banks for two years. In the first bank he invested at 5% and second bank at 6%. He got ₹ 160 as interest. The amounts given at 5% and 6% per annum simple interest are respectively—

(A) ₹ 900 and ₹ 600 (B) ₹ 1000 and ₹ 500  
(C) ₹ 800 and ₹ 700 (D) ₹ 950 and ₹ 550

49. The radii of the internal and external surfaces of metallic spherical shell are 4 cm and 5 cm respectively. It is melted and recast into a solid right circular cylinder of height  $12\frac{1}{3}$  cm.

Then the diameter of the base of the cylinder will be—

- (A) 3 cm (B) 4 cm  
(C) 8 cm (D) 6 cm

50. The circumference of a circle is equal to the sum of the perimeters of an equilateral triangle of side 12 cm and that of a square of diagonal  $2\sqrt{2}$  cm. Find the area of the circle in  $\text{cm}^2$ —

- (A) 44 (B) 144  
(C) 154 (D) None of the above

Join Youtube Channel

$$\begin{aligned} &= \left( 46 \times 5 \times \frac{46 \times 5}{10} \right) + 46 \\ &= 5290 + 46 \\ &= 5336 \end{aligned}$$

### Answers with Explanations

1. (A) Given exp.

$$\begin{aligned} &= \frac{\frac{1}{3} + \frac{1}{4} \left[ \frac{2}{5} - \frac{1}{2} \right]}{\frac{5}{3} \text{ of } \frac{3}{4} - \frac{3}{4} \text{ of } \frac{4}{5}} \\ &= \frac{\frac{1}{3} + \frac{1}{4} \left[ -\frac{1}{10} \right]}{\frac{5}{4} - \frac{3}{5}} \\ &= \frac{\frac{1}{3} - \frac{1}{40}}{\frac{25}{20} - \frac{12}{20}} = \frac{\frac{37}{40}}{40 \times 3} \times \frac{20}{13} \\ &= \frac{37}{13 \times 6} = \frac{37}{78} \end{aligned}$$

2. (B) Let 3 consecutive positive numbers are  $x$ ,  $(x + 1)$  and  $(x + 2)$  respectively, then as per question,

$$\begin{aligned} &\because x^2 + (x + 1)^2 (x + 2)^2 = 365 \\ &\Rightarrow x^2 + x^2 + 1 + 2x + x^2 + 4 + 4x \\ &\qquad\qquad\qquad = 365 \end{aligned}$$

$$\begin{aligned} &\Rightarrow 3x^2 + 6x - 360 = 0 \\ &\Rightarrow x^2 + 2x - 120 = 0 \\ &\Rightarrow x(x + 12) - 10(x + 12) = 0 \\ &\Rightarrow (x + 12)(x - 10) = 0 \\ &\qquad\qquad\qquad x = 10, -12 \end{aligned}$$

$$\begin{aligned} &\therefore \text{Required sum of numbers} \\ &\qquad\qquad\qquad = 10 + 11 + 12 \\ &\qquad\qquad\qquad = 33 \end{aligned}$$

3. (D)

$$\begin{aligned} &\because \text{Dividend} = (\text{Divisor} \times \text{Quotient}) \\ &\qquad\qquad\qquad + \text{Remainder} \end{aligned}$$

$\therefore$  As per question,

$$\begin{aligned} &\Rightarrow \text{Quotient} = 46 \times 5 \\ &\Rightarrow \text{Divisor} = \frac{46 \times 5}{10} \\ &\Rightarrow \text{Remainder} = 46 \end{aligned}$$

$\therefore$  Reqd. dividend

$$\begin{aligned} &= \left( 46 \times 5 \times \frac{46 \times 5}{10} \right) + 46 \\ &= 5290 + 46 \\ &= 5336 \end{aligned}$$

4. (D) To get unit digit of  $(25)^{6251}$

$$\text{Remainder in } \frac{6251-1}{4} = 2$$

$\therefore$  Unit digit of  $(25)^{6251}$

$$\begin{aligned} &= (5)^{2+1} \\ &= 125 \approx 5 \end{aligned}$$

Similarly, unit digit of  $(36)^{528}$

$$\begin{aligned} &= (6)^{1+1} \\ &= 1296 \approx 6 \end{aligned}$$

and unit digit of  $(73)^{54}$

$$= (3)^{1+1} = 9$$

$\therefore$  Required unit digit

$$\begin{aligned} &= 5 + 6 + 9 \\ &= 20 \\ &\approx \text{zero} \end{aligned}$$

5. (B) Let HCF and LCM of two numbers are  $x$  and  $4x$  respectively, then as per question,

$$\therefore x + 4x = 125$$

$$\Rightarrow 5x = 125$$

$$\therefore x = 25$$

$\therefore$  First number  $\times$  second number

$$= \text{HCF} \times \text{LCM}$$

$\Rightarrow 100 \times \text{second number}$

$$= 25 \times 4 \times 25$$

$\therefore$  Second number = 25

$$6. (\text{A}) \because \frac{1}{(3 - \sqrt{8})} \times \frac{(3 + \sqrt{8})}{(3 + \sqrt{8})} \\ = \frac{3 + \sqrt{8}}{9 - 8} \\ = 3 + \sqrt{8}$$

Similarly,

$$\frac{1}{\sqrt{8} - \sqrt{7}} = \sqrt{8} + \sqrt{7},$$

$$\frac{1}{\sqrt{7} - \sqrt{6}} = \sqrt{7} + \sqrt{6},$$

$$\frac{1}{\sqrt{6} - \sqrt{5}} = \sqrt{6} + \sqrt{5},$$

$$\frac{1}{\sqrt{5} - 2} = \sqrt{5} + 2$$

$\therefore$  Given Exp.

$$= (3 + \sqrt{8}) - (\sqrt{8} + \sqrt{7}) + (\sqrt{7} + \sqrt{6}) \\ - (\sqrt{6} + \sqrt{5}) + (\sqrt{5} + 2) \\ = 3 + 2 = 5$$

7. (A)  $\because$  Work of C for 1 day

$$= \frac{1}{2} \left( -\frac{1}{8} + \frac{1}{24} + \frac{7}{60} \right) \\ = \frac{1}{2} \left( \frac{-15 + 5 + 14}{120} \right) \\ = \frac{1}{2} \left( \frac{4}{120} \right) = \frac{1}{60}$$

$\therefore$  Reqd. No. of days to do work by C alone  
= 60 days.

8. (D) Let B does the work in  $x$  days, then the same work can be done by A in  $\frac{x}{3}$  days.

$$\therefore x - \frac{x}{3} = 40$$

$$\Rightarrow 2x = 120$$

$$\therefore x = 60$$

Required number of days to do work by both (A and B)

$$= \frac{60 \times 20}{60 + 20} = 15 \text{ days}$$

9. (C)  $\therefore$  Required percentage error to measure the area

$$= \left[ +5 - 2 - \frac{2 \times 5}{100} \right] \%$$

$$= [5 - 2 - 0.1] \%$$

$$= 2.9$$

10. (B) Let the sides of equilateral triangle and a regular hexagon are  $x$  and  $y$  respectively, then as per question,

$$\therefore 3x = 6y$$

$$\therefore x = 2y$$

Area of equilateral triangle

$$= \frac{\sqrt{3}}{4} x^2$$

$$= \frac{\sqrt{3}}{4} \times 4y^2 = \sqrt{3}y^2$$

Area of regular hexagon

$$= \frac{3\sqrt{3}}{2} y^2$$

$\therefore$  Required ratio of areas

$$= \frac{\text{Area of } \Delta}{\text{Area of hexagon}}$$

$$= \frac{\sqrt{3} y^2 \times 2}{3\sqrt{3} y^2}$$

$$= \frac{2}{3} = 2 : 3$$

11. (B) Let the radius is  $r$  of the sphere, then whole area of sphere =  $4\pi r^2$ .

Let the side of cube is  $a$ , then whole area of cube =  $6a^2$ .

$$\therefore a^2 = \frac{4}{6} \pi r^2$$

$$\Rightarrow a = \sqrt{\frac{4}{6} \pi r^2}$$

$\therefore$  Required ratio of volumes

$$= \frac{\text{Vol. of sphere}}{\text{Vol. of cube}} = \frac{4/3 \pi r^3}{a^3}$$

$$= \frac{4}{3} \pi r^2 \times \frac{6}{4\pi r^2} \times \sqrt{\frac{6}{4\pi r^2}}$$

$$= \frac{\sqrt{6}}{\sqrt{\pi}} = \sqrt{6} : \sqrt{\pi}$$

12. (D) Let the bill amount was ₹  $x$ , then  
Equivalent discount of two successive discounts of 20%

$$\begin{aligned} &= \left[ -20 - 20 + \frac{400}{100} \right] \% \\ &= -36\% \\ \therefore \quad &36x - 35x = 22 \times 100 \\ \therefore \quad &x = ₹ 2200. \end{aligned}$$

13. (C) Let the monthly incomes of A and B are ₹  $9x$  and ₹  $8x$  respectively and their expenditures are ₹  $8y$  and ₹  $7y$ , then as per question,

$$9x - 8y = 500 \quad \dots(1)$$

$$\text{and} \quad 8x - 7y = 500 \quad \dots(2)$$

To solve equations (1) and (2),

$$x = 500$$

$$\begin{aligned} \therefore \text{Monthly income of A} &= ₹ 500 \times 9 \\ &= ₹ 4500 \end{aligned}$$

14. (C)  $x : y = 3 : 4$

$$\Rightarrow \frac{x}{y} = \frac{3}{4}$$

$$\begin{aligned} \text{Given Exp.} &= \frac{5x - 2y}{7x + 2y} \\ &= \frac{5 \times \frac{3}{4} - 2}{7 \times \frac{3}{4} + 2} \\ &= \frac{15 - 8}{21 + 8} = \frac{7}{29} \end{aligned}$$

15. (B) Let the smallest number is  $x$ , then as per question,

$$\therefore x + (x + 20) + 195 = 135 \times 3$$

$$\Rightarrow 2x = 405 - 195 - 20 = 190$$

$$\therefore x = 95$$

16. (D) The cost price of one book

$$= ₹ \frac{100}{11}$$

The selling price of one book

$$= ₹ \frac{110}{10} = ₹ 11$$

$\therefore$  Required percentage profit

$$\begin{aligned} &= \left( \frac{11 - \frac{100}{11}}{\frac{100}{11}} \right) \times 100\% \\ &= \frac{121 - 100}{100} \times 100\% \\ &= 21\% \end{aligned}$$

17. (C) Let the total cost price is ₹ 100, then as per question,

$\therefore$  Total S.P.

$$\begin{aligned} &= \frac{50 \times 140}{100} + \frac{25 \times 60}{100} + \frac{25 \times 100}{100} \\ &= ₹ (70 + 15 + 25) \\ &= ₹ 110 \end{aligned}$$

Hence, 10% gain in the total transaction.

18. (D) No. of failed boys in the examination

$$= \frac{1100 \times 50}{100} = 550$$

No. of failed girls in the examination

$$= \frac{900 \times 60}{100} = 540$$

$\therefore$  Failed candidates percentage

$$\begin{aligned} &= \frac{(550 + 540)}{2000} \times 100\% \\ &= 54.5\% \end{aligned}$$

19. (D) Effect on gross receipt

$$\begin{aligned} &= \left( 20 - 25 - \frac{500}{100} \right)\% \\ &= -10\% \end{aligned}$$

Hence, 10% decrease.

20. (B) The distance covered by person = speed  $\times$  time

$$\begin{aligned} &= 4 \times 3.75 \text{ km} \\ &= 15 \text{ km} \end{aligned}$$

The time taken to cover this distance

$$\begin{aligned} &= \frac{\text{Distance}}{\text{Speed}} \\ &= \frac{15}{16.5} \times 60 \text{ minute} \\ &= 54.55 \text{ minute.} \end{aligned}$$

21. (B) Let the principal sum and simple interest are ₹  $10x$  and ₹  $3x$  respectively, then as per question,

Hence, required number of years

$$= \frac{3x \times 100}{10x \times 10} = 3 \text{ years.}$$

22. (C) Average production of salt

$$= \frac{40 + 30 + 70 + 25 + 55 + 50 + 80 + 90}{8}$$

$$= \frac{440}{8} = 55 \text{ (1000 tonne)}$$

Hence, the number of years for more than the average production i.e., 2003, 2007, 2008 = 3.

23. (C) The average production of the years 2004 and 2005

$$= \frac{25 + 55}{2}$$

$$= 40 \text{ (1000 tonne)}$$

The average production of the years 2002 and 2006

$$= \frac{30 + 50}{2}$$

$$= 40 \text{ (1000 tonne)}$$

24. (A) Hence, required percentage decline

$$= \frac{70 - 25}{70} \times 100\%$$

$$= \frac{4500}{70} \% = 64.2\%$$

25. (B) ∴ Required percentage increased

$$= \frac{90 - 40}{40} \times 100\%$$

$$= \frac{5000}{40} \% = 125\%$$

26. (B) Required Simple Interest

$$= \frac{68000 \times 6 \times 4}{100}$$

$$= ₹ 16320$$

27. (A) Required per cent

$$= \frac{(400 - 320)}{320} \times 100\%$$

$$= \frac{80}{320} \times 100\% = 25\%$$

28. (A) Required selling price of the article

$$= ₹ 7840 \times \frac{107}{100}$$

$$= ₹ 8388.80$$

29. (D) Required value

$$\begin{aligned} &= 5^3 + 6^3 + 7^3 + 8^3 + 9^3 + 10^3 \\ &= 125 + 216 + 343 + 512 + 729 + 1000 \\ &= 2925 \end{aligned}$$

30. (C) Required square root

$$= \sqrt{(272)^2 - (128)^2}$$

$$= \sqrt{(272 + 128)(272 - 128)}$$

$$= \sqrt{400 \times 144}$$

$$= 20 \times 12$$

$$= 240$$

31. (C) Required value =  $\left(\frac{343}{1331}\right)^{\frac{1}{3}}$

$$= \left(\frac{7}{11}\right)^{3 \times \frac{1}{3}}$$

$$= \frac{7}{11}$$

32. (D) Required volume =  $\frac{4}{3} \pi (2R)^3$

$$= \frac{4}{3} \pi \times 8R^3$$

$$= 8 \left(\frac{4}{3} \pi R^3\right)$$

Hence, the volume of sphere increases by 8 times.

33. (D) Perimeter of circle

$$= 132 \text{ cm}$$

$$2\pi R = 132 \text{ cm}$$

$$R = \frac{132 \times 7}{2 \times 22} \text{ cm}$$

$$R = 21 \text{ cm}$$

Required area of the circle

$$= \pi R^2$$

$$= \frac{22}{7} \times 21 \times 21$$

$$= 1386 \text{ cm}^2$$

34. (C)  $\frac{1}{5} : \frac{1}{x} = \frac{1}{x} : \frac{1}{1.25}$

$$x : 5 = 1.25 : x$$

$$x^2 = \frac{25 \times 25}{100}$$

$$x = \frac{25}{10}$$

$$\therefore x = 2.5$$

35. (B)  $\therefore A = P \left(1 + \frac{R}{100}\right)^n$   
 $1331 = 1000 \left(1 + \frac{10}{100}\right)^n$   
 $\frac{1331}{1000} = \left(\frac{11}{10}\right)^n$   
 $\left(\frac{11}{10}\right)^3 = \left(\frac{11}{10}\right)^n$   
 $\therefore n = 3$  years

36. (A) Let, if  $7x$  litre milk and  $2x$  litre water in the mixtures, then

$$\begin{aligned}25x^2 - 9x^2 &= 144 \\ \Rightarrow 16x^2 &= 144 \\ \Rightarrow x^2 &= 9 \\ \therefore x &= 3\end{aligned}$$

∴ Required numbers  
 $= 5 \times 3$  and  $3 \times 3$   
 $= 15$  and  $9$

37. (A) Let, if  $7x$  litre milk and  $2x$  litre water in the mixture, then as per question,

$$7x + (2x + 6) = 7y + 5y$$

and  $2x + 6 = 5y$  [Join YouTube Channel](#)

On solving,

$$y = 2 \text{ and } x = 2$$

∴ Required quantity of water in the final mixture

$$\begin{aligned}&= (2 \times 2 + 6) \text{ litre} \\ &= 10 \text{ litre}\end{aligned}$$

38. (C) Let  $(a+b)$ ,  $(b+c)$  and  $(c+a)$  are  $6x$ ,  $7x$  and  $8x$  respectively, then

$$\begin{aligned}a + b + c &= \frac{21x}{2} \\ \Rightarrow x &= \frac{4}{3} \\ \therefore c &= 14 - 6 \times \frac{4}{3} \\ &= 14 - 8 = 6\end{aligned}$$

39. (B) Let selling price is ₹ 100 then profit  
 $= ₹ 26.$

∴ Cost price  $= ₹ (100 - 26)$   
 $= ₹ 74$

$$34\% \text{ of cost price} = ₹ \frac{34}{100} \times 74 = ₹ 25.16$$

Which  $25.16\%$  of the selling price.

40. (B) Cost price of two mixers ₹ 1500, let one's cost price = ₹  $x$

$$\text{Profit} = ₹ x \times \frac{9}{100}$$

$$\text{Loss} = ₹ (1500 - x) \times \frac{6}{100}$$

$$\begin{aligned}\therefore x \times \frac{9}{100} &= (1500 - x) \times \frac{6}{100} \\ \Rightarrow 15x &= 9000 \\ \therefore x &= 600\end{aligned}$$

and the cost price of second only

$$= ₹ 900$$

∴ Required ratio

$$= \frac{600}{900} = \frac{2}{3} = 2 : 3$$

41. (A) Let the first successive discount is  $x\%$  then as per question,

$$150 \times \frac{(100-x)}{100} \times \frac{(100-12.5)}{100} = 105$$

$$\Rightarrow (15000 - 150x) 87.5 = 1050000$$

$$\Rightarrow 1312500 - 13125x = 1050000$$

$$\frac{262500}{13125} = 20\%$$

42. (D) Let the cost price of an article is ₹  $x$ . Then as per questions,

$$\therefore \text{Cost price} = ₹ x \times \frac{90}{100}$$

$$\therefore \frac{90x}{100} + 30 = \frac{95x}{100}$$

$$\Rightarrow 90x + 3000 = 95x$$

$$\therefore x = ₹ \frac{3000}{5} = ₹ 600$$

43. (B) Let the cost price of T.V. for X is ₹  $x$ , then as per question,

$$x \times \left(\frac{110}{100}\right) \times \frac{90}{100} = 9900$$

$$\Rightarrow x = \frac{9900 \times 100 \times 100}{9900}$$

$$= ₹ 10000$$

44. (A) Let, that amount is ₹  $x$ , then as per question,

$$13380 = x \left(1 + \frac{R}{100}\right)^3 \quad \dots(i)$$

$$\text{and } 20070 = x \left(1 + \frac{R}{100}\right)^6 \quad \dots(ii)$$

$$\therefore 1.5 = \left(1 + \frac{R}{100}\right)^3 \quad \dots \text{(iii)}$$

From equation (i) and (ii),

$$x = \frac{13380}{1.5} \\ = ₹ 8920$$

45. (C) Required amount after 3 years

$$= 7500 \left(1 + \frac{2}{100}\right) \left(1 + \frac{4}{100}\right) \times \left(1 + \frac{5}{100}\right) \\ = \frac{7500 \times 102 \times 104 \times 105}{100 \times 100 \times 100} \\ = ₹ 8353.80$$

46. (A) Required compound interest

$$= 2800 \left[ \left(1 + \frac{10}{100}\right)^{3/2} - 1 \right] \\ = 2800 \left[ \left(\frac{11}{10}\right)^{3/2} - 1 \right] \\ = 2800 [1.154 - 1] \\ = 2800 \times 0.154 \\ = ₹ 431.20 \approx ₹ 434$$

47. (C) Let that amount is ₹  $x$ , then

$$65 = x \left(\frac{10}{100}\right)^2 \\ \therefore x = 65 \times 100 \\ = ₹ 6500$$

48. (B) Let the invested money in first bank is ₹  $x$  and in second bank is ₹  $(1500 - x)$ .

Then as per question,

$$160 = \frac{x \times 5 \times 2}{100} + \frac{(1500 - x) \times 6 \times 2}{100} \\ 10x + 18000 - 12x = 16000 \\ 2x = 2000 \\ \therefore x = ₹ 1000$$

Hence the amount given to the second bank

$$= ₹ (1500 - 1000) \\ = ₹ 500$$

49. (A) Volume of spherical shell

$$= \frac{4}{3} \pi [(5)^3 - (4)^3] \text{ cm}^3$$

Volume of cylinder

$$= \pi r^2 \times \frac{121}{3} \text{ cm}^3$$

where,  $r$  = Radius of cylinder

$$\therefore r^2 = \frac{4}{121} \times 61 \\ = \frac{244}{121} \\ \therefore r = 1.42 \text{ cm}$$

$\therefore$  Diameter =  $2 \cdot 84 \text{ cm} \approx 3 \text{ cm}$

50. (C) Circumference including triangle's diagonal

$$= 12 \times 3 + (2\sqrt{2})^2 \\ = 36 + 8 = 44 \text{ cm}$$

Circumference of circle

$$2\pi r = 44 \\ r = 7 \text{ cm} \\ \text{Area of circle} = \pi \times (7)^2 \\ = \frac{22}{7} \times 7 \times 7 \\ = 154 \text{ cm}^2$$

## Part IV General Awareness

- Who is the first economist to receive the Nobel Prize in Economics in single ?
  - Simon Kuznets
  - Wassily Leontief
  - Milton Friedman
  - Paul A. Samuelson
- The supply of Money in a country means—
  - Cash balances held by the government
  - Aggregate Stock of money issued by the Central Bank
  - Cash reserves owned by the Commercial Banks
  - Total Stock of money in circulation at a given period of time
- Corner shop is an example for—
  - Partnership
  - Sole trade
  - Limited company
  - Public company

4. Which one of the following is an advantage of the market economic system ?  
 (A) Better governance  
 (B) Equal income distribution  
 (C) Protects the environment  
 (D) Incentives to producers
5. The vertical distance between total cost and total variable cost is—  
 (A) Total average cost  
 (B) Marginal cost  
 (C) Total fixed cost  
 (D) Average fixed cost
6. Who said that, 'Man is by nature a political animal' ?  
 (A) Plato                    (B) Chew  
 (C) Polybius                (D) Aristotle
7. According to Indian Constitution, Right to Property is a—  
 (A) Fundamental Right  
 (B) Legal Right  
 (C) Both (A) and (B)  
 (D) None of these
8. Which among the following are duties of Indian citizens as per Constitution of India ?  
 (A) Respect National Anthem, Flag etc.  
 (B) Develop Scientific temper.  
 (C) Protect and preserve National and Cultural Heritage  
 (D) All of the above
9. The Right to Information is based on the—  
 (A) Right to know implied under Article 14  
 (B) Right to know implied under Article 19 (1) (A)  
 (C) Right to know implied under Article 21  
 (D) Right to know implied under Article 32
10. Which of the following was called by Gandhi as 'Post dated cheque' ?  
 (A) Cripps proposal  
 (B) McDonald Award  
 (C) Simon Commission Report  
 (D) None of these
11. Whom did Ashoka appoint to spread Buddhism to many parts of Asia ?  
 (A) Nagarikas  
 (B) Adhyakshas  
 (C) Mahamatras  
 (D) Dharma Mahamatras
12. Under whose leadership the Sikhs became a Political and Military force ?  
 (A) Guru Har Rai  
 (B) Guru Har Kishan  
 (C) Guru Tegh Bahadur  
 (D) Guru Gobind Singh
13. Khajuraho was the capital of—  
 (A) Paramaras                (B) Chauhans  
 (C) Chandelas                (D) Rathods
14. During the British rule, the only British King to visit India and hold a grand Durbar was—  
 (A) Edward VII              (B) George V  
 (C) James II                 (D) James VII
15. Who among the following noted for the first time the existence of seven castes in India ?  
 (A) Kautilya                 (B) Seleucus Nicator  
 (C) Megasthenes            (D) Justin
16. The largest industry in India is—  
 (A) Textile                  (B) Steel  
 (C) Cement                  (D) Automobile
17. Who have measured first the circumferences of earth ?  
 (A) Hecataeus              (B) Herodotus  
 (C) Aristotle                (D) Eratosthenes
18. Which one of the following land forms is **not** related to glaciers ?  
 (A) Hanging valleys  
 (B) Corries in the mountains  
 (C) U-shaped valleys  
 (D) Natural levees
19. India recently launched a satellite in orbit for the purpose of—  
 (A) Education  
 (B) Marine Exploration  
 (C) Mission to Moon  
 (D) Resource Evaluation

Join YouTube Channel

20. Pedology deals with the scientific study of—  
 (A) Rocks                   (B) Soils  
 (C) Caves                   (D) Fossils
21. Which of the following is exclusively marine animals ?  
 (A) Chondrichthyes  
 (B) Echinoderms  
 (C) Molluscs  
 (D) Coelenterates
22. Which one can imitate human speech ?  
 (A) Whale                   (B) Dolphin  
 (C) Ape                     (D) Bear
23. Haemophilia is a kind of disease which is—  
 (A) Viral                   (B) Bacterial  
 (C) Hereditary              (D) Fungal
24. For a living organism, greatest available energy is from—  
 (A) H<sub>2</sub>O                   (B) CO<sub>2</sub>  
 (C) ATP                     (D) ADP
25. HIV is a—
- (A) Combination of disease symptoms
  - (B) Developmental index
  - (C) Viral disease
  - (D) Retrovirus
26. In winter, when water freezes due to cold, fishes and other aquatic animals—  
 (A) Can live because only the upper layer of the water freezes  
 (B) Migrate to other warmer places  
 (C) Can live safely because they have inbuilt mechanism to withstand the cold  
 (D) Die
27. The planet nearest to the Sun is—  
 (A) Mercury                 (B) Earth  
 (C) Venus                   (D) Pluto
28. The electrical resistance of a conductor is independent of its—  
 (A) Temperature  
 (B) Pressure  
 (C) Length  
 (D) Cross-sectional area
29. The angle of deviation for an incident ray on a plane mirror at angle of incidence of 60° is—  
 (A) 30°                     (B) 90°  
 (C) 60°                     (D) 120°
30. During execution, the program and data should be resident in—  
 (A) Main Memory           (B) Hard Disk  
 (C) Floppy                  (D) Control Unit
31. Which one of the following helps to break a big task into many smaller task and to represent them pictorially, showing the order of instructions ?  
 (A) Entity–Relationship Diagram  
 (B) Flow Chart  
 (C) Connectivity Diagrams  
 (D) Data Flow Diagrams
32. “http://www.yahoo.com” is a/an example of—  
 (A) Website                 (B) URL  
 (C) Web page               (D) Home page
33. Which statement is most correct for air ?  
 (A) Air is a mixture of nitrogen and oxygen  
 (B) Air is a mixture of nitrogen, oxygen and inert gases  
 (C) Air is a mixture of hydrogen, nitrogen and air  
 (D) Air is a mixture of nitrogen, oxygen and ozone affecting the ozone layer of the atmosphere are—  
 (A) Lead tetra-alkyls  
 (B) Metal carbonyls  
 (C) Chlorofluorocarbons  
 (D) Diarsines
35. Which of the following is one of the major components of acid rain ?  
 (A) Hydrochloric acid  
 (B) Acetic acid  
 (C) Phosphoric acid  
 (D) Sulphuric acid
36. Which one of the following nonmetals is not a poor conductor of electricity ?  
 (A) Phosphorus              (B) Bromide  
 (C) Selenium                (D) Sulphur

Join YouTube Channel

37. What is the colour of fresh domestic sewage ?  
 (A) Dark brown      (B) Red  
 (C) Black      (D) Grey
38. One of the following is an international agency working for the protection of the environment—  
 (A) NASA      (B) UNO  
 (C) Green Peace      (D) Chipko
39. Which of the following affects biodiversity ?  
 (A) Environmental Pollution  
 (B) Ocean acidification  
 (C) Climate change  
 (D) All of the above
40. Coal is regarded as the worst environmental pollutant when burnt because its burning releases large amount of—  
 1. Carbon dioxide  
 2. Sulphur dioxide  
 3. Nitrogen oxides (NOX)  
 4. Methane
- Join YouTube Channel
- Which of the above statements are true ?  
 (A) 1 and 4      (B) 1, 2 and 3  
 (C) 1, 3 and 4      (D) 1, 2, 3 and 4
41. India witnessed its biggest ever power black-out on August 1st, 2012 due to collapse of—  
 (A) Northern power grid  
 (B) Southern power grid  
 (C) Eastern power grid  
 (D) Western power grid
42. Which of the following organizations has recently been declared unlawful by the Home Ministry ?  
 (A) SIMI      (B) Salwa Judum  
 (C) Shiv Sena      (D) Bajrang Dal
43. Who is the author of the book 'Turning Point—A Journey Through Challenges' ?  
 (A) Hamid Ansari  
 (B) A. P. J. Abdul Kalam  
 (C) Jaswant Singh  
 (D) Ashok Gehlot
44. Synagogue is the place of worship of—  
 (A) Judais      (B) Shintois  
 (C) Zoroastrian      (D) Taoi
45. Who of the following is **not** associated with Sitar ?  
 (A) Amir Khusrau  
 (B) Ravi Shankar  
 (C) Ustad Alauddin Khan  
 (D) Amjad Ali Khan
46. Santosh Trophy is associated with—  
 (A) Hockey      (B) Football  
 (C) Basketball      (D) Badminton
47. Andrew Strauss of England who retired recently from International Cricket, was a captain in which format of the game ?  
 (A) Twenty-Twenty      (B) Test  
 (C) One day      (D) None of these
48. The Laureus World Sportswoman of the Year Award (2011) was awarded to—  
 (A) Lindsey Vonn      (B) Venus Williams  
 (C) Maria Sharapova      (D) Petra Kvitova
49. Who among the following is considered as the inventor of the World Wide Web (www) ?  
 (A) Edward Kasner      (B) Bill Gates  
 (C) Tim Berners-Lee      (D) Vinod Dham
50. 'Bull' and 'Bear' is associated with—  
 (A) Stock Market  
 (B) Banking  
 (C) Foreign Exchange Reserve  
 (D) Internal Trade
- ### Answers with Explanations
1. (D) Paul A. Samuelson of United States is the first economist to receive the Nobel Prize in Economics in single in 1970 for the scientific work through which he developed static and dynamic economic theory and activity contributed to raising the level of analysis in economic science.
2. (D)    3. (B)    4. (D)    5. (C)

6. (D) 'Man is by nature a political animal' is a statement of Aristotle. Aristotle was the student of Plato.
7. (B) There were seven fundamental rights in the constitution. But according to the 44th Constitutional Amendment Act, (1979 AD), Right to Property was taken away from the list of Fundamental Rights and placed in a new Article 300A as an ordinary legal right.
8. (D)
9. (B) Right to Information is a legal right. The Right to Information is based on the right to know implied under Article 19 (1) (A).
10. (A) 11. (D)
12. (\*) Guru Hargovind was the sixth guru of sikhs. He organised sikhs into army and got Akal Takhta prepared. He used to sit on the throne with two swords. Hence, no option is correct.
13. (C) **Dynasty**                   **Capital**  
 Paramaras                          Dhara Nagari  
 Chauhans                          Ahichhatra  
 Chandelas                         Khajuraho  
 Rathods                           Varanasi (Kashi)
14. (B) 15. (C)
16. (B) Steel is the largest industry in India.
17. (D) 18. (D) 19. (B)
20. (B) Pedology deals with the scientific study of soils. Indian Council of Agricultural Research (ICAR) divides Indian soils into eight groups.
21. (B) Echinoderms have spiny skin. All the animals in this group are marine. Water vascular system is present. Examples—starfish, sea urchin, brittle stars, sea cucumber etc.
22. (B)
23. (C) Haemophilia is a kind of disease which is hereditary.
24. (C) The greatest available energy is from ATP. 2 Atom of ATP equals to 16000 calorie ( $2 \times 8000$ ) energy.
25. (C) HIV is a viral disease.
26. ELISA (Enzyme Linked Immune Sorvent Assay) is a test for HIV virus.
27. (A) In winter, when water freezes due to cold, fishes and other aquatic animals can live because only the upper layer of the water freezes.
28. (B)
29. (D) The angle of deviation on a plane mirror is twice of the incidence angle.
30. (A) 31. (C) 32. (B) 33. (B)
34. (C) The compounds affecting the ozone layer of the atmosphere are chlorofluorocarbons. Ozone layer prevents humans from skin cancer.
35. (D) Sulphuric acid is one of the major components of acid rain.
36. (A) 37. (A) 38. (D)
39. (D) Environmental Pollution, Ocean acidification and climate change affects biodiversity.
40. (D)
41. (A) India witnessed its biggest ever power blackout on August 1, 2012 due to collapse of Northern power grid.
42. (A)
43. (B) A.P.J. Abdul Kalam is Ex-President of India. He is called as Missile Man. He is the author of the book 'Turning Point—A Journey Through Challenges'.
44. (A) Synagogue is the place of worship of Judais.
45. (D) 46. (B)
47. (B) Andrew Strauss of England who retired recently from International Cricket was a captain in test format of the game.
48. (A) 49. (C) 50. (A)

UPKAR'S

# Practice Sets

**SSC**

## Combined Higher Secondary Level

(10+2)

Join Youtube Channel

**EXAMINATION**



**YOUR SUCCESS  
IS  
OUR AIM  
SURE SUCCESS  
WITH  
OUR NAME  
THAT IS**



ISBN 978-93-5013-545-7

