

## Practice Set-5

### Part—I General Intelligence

**Directions**—In questions 1 to 3, select the related letters/word/number from given alternatives.

- CAT : DDY :: BIG : ?  
(A) CLL (B) CLM  
(C) CML (D) CEP
- AGMS : CIOU :: DJPV : ?  
(A) BHNY (B) STUV  
(C) FLRX (D) MNOP
- 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.

- (A) 111 (B) 242  
(C) 551 (D) 383
- (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.

- Y, S, N, J, G, ?  
(A) F (B) E  
(C) H (D) I
- ASY, BRX, CQW, ?  
(A) DVP (B) DPV  
(C) PDV (D) PQD
- 56, 42, 30, 20, ?, 6  
(A) 15 (B) 12  
(C) 18 (D) 14

- Find out the **wrong** number from the given series—

5, 27, 61, 122, 213, 340, 509

- (A) 27 (B) 61  
(C) 122 (D) 509

- 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

- 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

- If 'x' means '-', '-' means 'x', '+' means '+' and '÷' means '+', then

$(15 - 10) \div (130 + 10) \times 50 = ?$

- (A) 1800 (B) 113  
(C) 2000 (D) 123

- 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)  $\div + = -$

- 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.

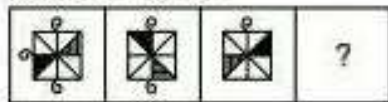
**Conclusions :**

- All people watching English movies like violence.
  - All people who like violence watch English movies.
- (A) Only I follows

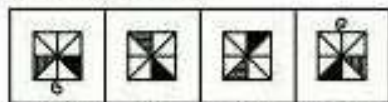
- (B) Only II follows  
 (C) Neither I nor II follows  
 (D) Both I and II follow

21. Select the missing figure from the given responses.

**Question figures**



**Answer figures**

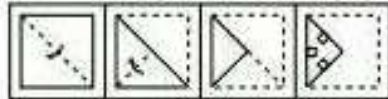


22. Find the odd figure from the given alternatives.

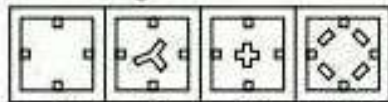


23. A paper is folded and cut as shown in the given question figures. When opened which of the four answer figures will it resemble ?

**Question figures**

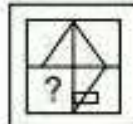


**Answer figures**

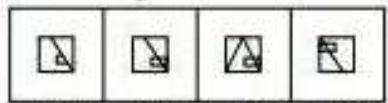


24. Which answer figure will complete the question figure ?

**Question figures**

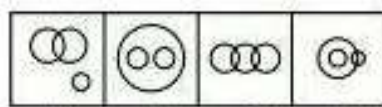


**Answer figures**



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 in 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

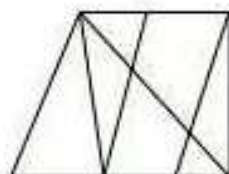
30. Members in which car are travelling to Chennai ?

- (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

**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 'EKVXF TJM' then how should 'PRESENT' be written in the same code?

- (A) IDUJL AO (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,

$$139 \Rightarrow 139 - 1 = 138$$

$$\Rightarrow 138 \div 2 = 69$$

4. (B) All the rest are odd numbers.

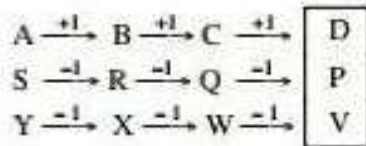
5. (A) All the rest have numbers and its square.

6. (B)

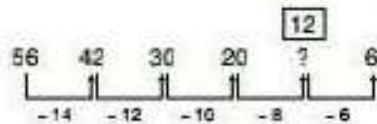
Y	S	N	J	G	E
-6	-5	-4	-3	-2	



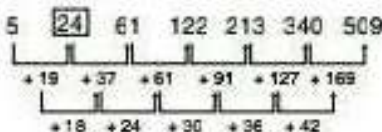
7. (B)



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)  $(15 - 10) + (130 + 10) \times 50$   
 $\Rightarrow (15 \times 10) + (130 + 10) - 50$   
 $= 150 + 13 - 50$   
 $= 113$

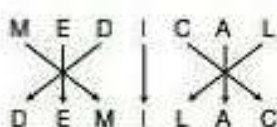
13. (C)  $16 \times 4 \times 5 = 14 \times 6$   
 $\Rightarrow 16 + 4 \times 5 = 14 + 6$   
 $\Rightarrow 4 \times 5 = 14 + 6$   
 $\Rightarrow 20 = 20$

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,



Similarly,



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,

$$3x + x = 48$$

$$\Rightarrow 4x = 48$$

$$\therefore x = 12 \text{ years}$$

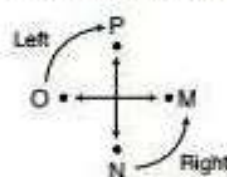
Hence, the age of son 4 years ago  
 $= (12 - 4) \text{ years}$   
 $= 8 \text{ years}$

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 :

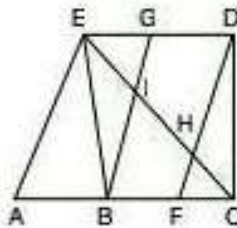
Destination	Vehicles	Person
Delhi	Swift D'zire	T, Z Male Female
Chennai	Ford Ikon	S (Female) R (Male) V (Male)
Hyderabad	Honda City	P, W, Q Male — —

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  $C = 3$

$$CEP = 3 + 5 + 16 = 24$$

$$\text{then, HUX} = 8 + 21 + 24 = 53$$

32. (C) There are 12 triangles in the given figure. Which are—  
 $\triangle ABE$ ,  $\triangle BIE$ ,  $\triangle BGE$ ,  $\triangle IGE$ ,  $\triangle BEC$ ,  $\triangle BIC$ ,  
 $\triangle FHC$ ,  $\triangle FDC$ ,  $\triangle CHD$ ,  $\triangle CDE$ ,  $\triangle HDE$ ,  $\triangle AEC$ .



33. (A) Sun Mon Wed Sat Wed  
 $+1$   $+2$   $+3$   $+4$   
 Sun Sun Mon  
 $+7$   $+6$   $+5$

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—

$$24 \times 2 = 48$$

$$\text{and } 36 \times 2 = 72$$

$$\frac{24}{4} + 24 = 30$$

$$\frac{36}{4} + 36 = 9 + 36$$

$$= 45$$

$$\text{Then, } 48 \times 2 = 96$$

$$\frac{48}{4} + 48 = 12 + 48$$

$$= 60$$

36. (C) According to question,

$$7 - 10 \times 5 \div 6 + 4$$

$$= 7 + 10 \div 5 \times 6 - 4$$

$$= 7 + 2 \times 6 - 4$$

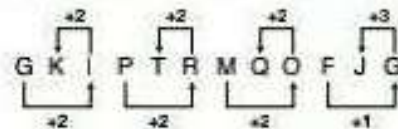
$$= 7 + 12 - 4$$

$$= 15$$

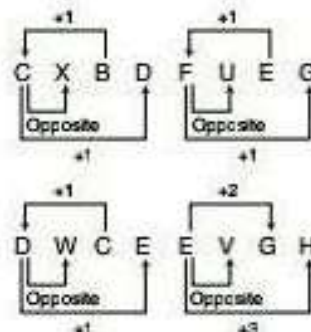
37. (B)

Hence, MNJKM 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.,

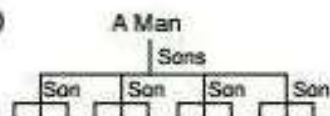


43. (D) Except EVGH, all follow the same rule i.e.,





44. (C)



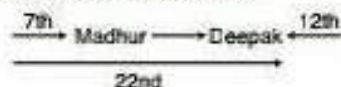
Now total number of male members in whole family

$$= 1 + 4 + 4 \times 3$$

$$= 17$$

45. (C)  $\xrightarrow{7\text{th}}$  Deepak  $\xrightarrow{\quad}$  Madhur  $\xleftarrow{12\text{th}}$ 

After change the positions,

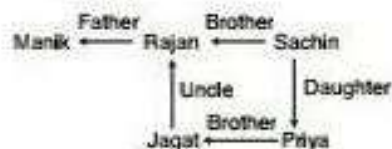


Hence, number of boys in the row

$$= 22 + 12 - 1$$

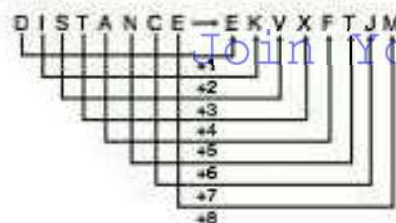
$$= 33$$

46. (A)

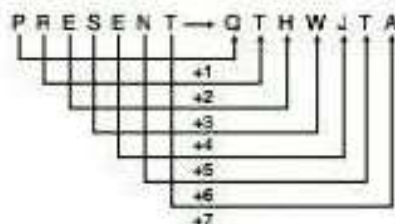


Hence, Rajan is the uncle of Jagat.

47. (D)



Therefore,



48. (C)

$$3 - 2 = 1$$

$$6 - 4 = 2$$

$$10 - 7 = 3$$

$$15 - 11 = 4$$

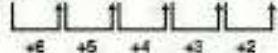
$$21 - 16 = 5$$

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 G L P S 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)

passing. No error  
(D)

3. Every child in the class / are wearing / sandals

(A) (B) (C)

today. No error  
(D)

4. This errors / are made / by foreigners. No error.

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

5. He is / fatter / than me.

(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



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.  
 (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) Addimition  
 (C) Admission (D) Admition
41. (A) Certefecate (B) Cirtificate  
 (C) Certificate (D) Cartifikate
42. (A) Occasionally (B) Occassionally  
 (C) Ocassionally (D) Occasionaly
43. (A) Acknowledge (B) Acknowlege  
 (C) Acknoledge (D) Aknowledge
44. (A) Installasion (B) Installation  
 (C) Instalation (D) Insttallation
45. (A) Successfull (B) Successful  
 (C) Succesful (D) Succesful

**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 Quantative Aptitude

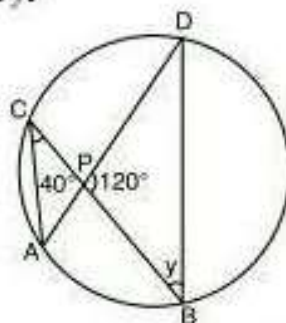
- Two men P and Q start a journey from some place at a speed of  $a$  km/hr and  $3\frac{1}{2}$  km/hr respectively. If they move in same direction then what is the distance between them after 4 hours ?  
 (A) 3 km (B)  $2\frac{1}{2}$  km  
 (C) 2 km (D)  $3\frac{1}{2}$  km
- A 500 m long goods train 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)  $411\cdot6\text{ cm}^3$  (B)  $359\cdot3\text{ cm}^3$   
 (C)  $442\cdot6\text{ cm}^3$  (D)  $450\cdot6\text{ cm}^3$
- 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)  $(x + y) \cdot (x^2 + xy + y^2)$
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—

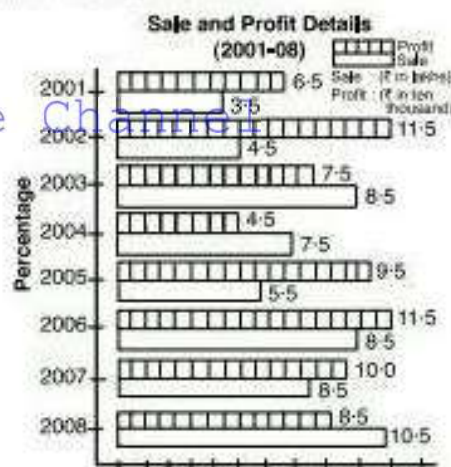
- (A) equilaterals (B) right angled  
(C) equal in area (D) congruent

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.



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 ₹1,20,00,000 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  $\frac{4}{5}$ th 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—



(A) ₹ 400

(B) ₹ 190

(C) ₹ 200

(D) None of these

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) 13 years

37. The value of

$$\frac{0.953 \times 0.953 - 0.953 \times 0.047}{0.953 \times 0.953 + 0.953 \times 0.047 + 0.047 \times 0.047}$$

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—

(A) 6

(B) 8

(C) 4

(D) 5

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

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

$$\text{Speed} = \frac{\text{distance}}{\text{time}} = \frac{720}{36}$$

$$= 20 \text{ m/s}$$

$$= \frac{20 \times 18}{5} = 72 \text{ km/hr}$$

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.

$$8000 \times 12 = x \times 6$$

$$x = 8000 \times \frac{12}{6}$$

$$= ₹ 16,000$$

5. (B)  $h = 7 \text{ cm}, r = \frac{14}{2} = 7 \text{ cm}$

$$V = \frac{1}{3} \pi r^2 h$$

$$= \frac{1}{3} \times \frac{22}{7} \times 7^2 \times 7$$

$$= \frac{22 \times 49}{3} = \frac{1078}{3}$$

$$= 359.3 \text{ cm}^3$$

6. (D) Note: A well has cylindrical shape.

$$r = \frac{8}{2} = 4 \text{ m}$$

$$h = 14 \text{ m}$$

$$\text{Volume} = \pi r^2 h$$

$$= \frac{22}{7} \times 4^2 \times 14$$

$$= 22 \times 32$$

$$= 704 \text{ m}^3$$

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 =  $h$ ,  $V = \pi r^2 h$

Diameter increased by 50%

$$\text{New radius} = \frac{150}{100} r = \frac{3}{2} r$$

$$\text{New height} = H \text{ (let)}$$

$$\text{New volume} = \text{Previous volume}$$

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$$\pi \left(\frac{3}{2}r\right)^2 \cdot H = \pi r^2 \cdot h$$

$$\frac{9}{4}r^2 \cdot H = \pi r^2 \cdot h$$

$$H = \frac{4}{9}h$$

% 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

$$\Rightarrow 6a^2 = 600$$

$$a = 10 \text{ cm}$$

$$\text{Diagonal} = a\sqrt{3} = \frac{10\sqrt{3}}{\sqrt{3}} \text{ cm}$$

11. (D)  $\sin \theta = -\frac{3}{5}$

$$\sin^2 \theta + \cos^2 \theta = 1$$

$$\left(-\frac{3}{5}\right)^2 + \cos^2 \theta = 1$$

$$\cos^2 \theta = 1 - \frac{9}{25}$$

$$\cos \theta = \frac{4}{5}$$

$$\cos \theta = -\frac{4}{5} \quad (\text{IIIrd quad.})$$

$$\cos \frac{2\theta}{2} - 1 = -\frac{4}{5}$$

$$2 \cos^2 \frac{\theta}{2} = -\frac{4}{5}$$

$$(\because \cos 2\theta = 2 \cos^2 \theta - 1)$$

$$2 \cos^2 \frac{\theta}{2} = \frac{-4}{5} + 1 = \frac{1}{5}$$

$$\cos^2 \frac{\theta}{2} = \frac{1}{10}$$

$$\cos \theta = \frac{1}{\sqrt{10}}$$

12. (A) 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)  $16^{-3/4} + 2^{-3} + 8^{-2/3}$

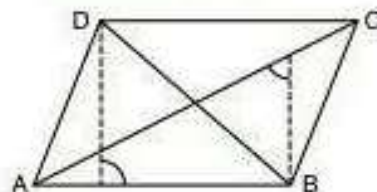
$$(2^4)^{-3/4} + 2^{-3} + (2^3)^{-2/3}$$

$$= 2^{-3} + 2^{-3} + 2^{-2}$$

$$= \frac{1}{2^3} + \frac{1}{2^3} + \frac{1}{2^2}$$

$$= \frac{1}{8} + \frac{1}{8} + \frac{1}{4} = \frac{4}{8} = \frac{1}{2}$$

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) Total increase in sale (2003-2008)

$$= 10.5 - 8.5 = 2.0$$

$$\text{Mean} = \frac{2.0}{5} = 0.4$$

17. (C) Annual Mean Profit

$$= \frac{\text{Total Profit}}{\text{No. of years}}$$

$$= \frac{6.5 + 11.5 + 7.5 + 4.5 + 9.5 + 11.5 + 10.0 + 8.5}{8}$$

$$= \frac{69.5}{8} = 8.7$$

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 :

$$\frac{7.5 \times 10,000}{8.5 \times 1,00,000} \times 100 = \frac{150}{17}$$

$$= 8.8\%$$

2005 :

$$\frac{9.5 \times 10,000}{5.5 \times 1,00,000} \times 100 = \frac{190}{11}$$

$$= 17.2\%$$

19. (D)  $\frac{100}{6.5} \times 8.5 = \frac{1700}{13} = 131$

20. (C) We can observe that—

2008 :  $\frac{8.5}{10.5} = \frac{17}{21}$

2007 :  $\frac{10.5}{8.5} = \frac{20}{17}$

2006 :  $\frac{11.5}{8.5} = \frac{23}{17}$

2005 :  $\frac{9.5}{5.5} = \frac{19}{11}$

2004 :  $\frac{4.5}{7.5} = \frac{9}{15} = \frac{3}{5}$

(2005) :  $\frac{19}{11} > \frac{3}{5}$  (2004)

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

$$= \frac{28}{3} \text{ women}$$

7 men + 5 women

$$= \frac{28}{3} + \frac{15}{3}$$

$$= \frac{43}{3} \text{ women}$$

4 women construct the wall in

$$= 43 \text{ days}$$

1 woman constructs the wall in

$$= 43 \times 4 \text{ days}$$

 $\frac{43}{3}$  women construct the wall in

$$= 43 \times 4 \div \frac{43}{3}$$

$$= 43 \times 4 \times \frac{3}{43}$$

$$= 12 \text{ days}$$

27. (A) Let S. P. be ₹ 100.

According to question—

$$\text{C. P.} = \frac{4}{5} \times 100 = ₹ 80$$

$$\text{New S. P.} = 112\% \text{ of S. P.}$$

$$= 112 \times \frac{100}{100} = 112$$

$$\text{Gain} = 112 - 80 = 32$$

$$\text{Gain \%} = \frac{32}{80} \times 100$$

$$= 40\%$$

28. (A)

Side of the cubical room = 4 m

Diagonal = Distance covered by the insect

$$= 4\sqrt{3} \text{ m}$$

$$\text{Speed} = \frac{\text{Distance covered}}{\text{Time taken}}$$

$$= \frac{4\sqrt{3}}{4}$$

$$= \sqrt{3} \text{ m/s}$$

29. (A)

$$80\% \text{ of horse's C. P.} = 12000$$

$$\text{Horse's C. P.} = \frac{12000}{80} \times 100$$

$$= ₹ 15000$$



$$120\% \text{ of dog's C. P.} = ₹ 12000$$

$$\begin{aligned}\text{Dog's C. P.} &= \frac{12000}{120} \times 100 \\ &= ₹ 10000\end{aligned}$$

$$\begin{aligned}\text{Total C. P.} &= 15000 + 10000 \\ &= ₹ 25000\end{aligned}$$

$$\begin{aligned}\text{Total S. P.} &= 12000 + 12000 \\ &= ₹ 24000\end{aligned}$$

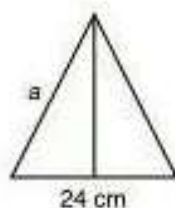
$$\therefore \text{S. P.} < \text{C. P.}$$

$$\begin{aligned}\therefore \text{Loss} &= 25000 - 24000 \\ &= ₹ 1000\end{aligned}$$

$$\begin{aligned}30. \text{ (C) For 1 year } \text{S. I.} &= \text{C. I.} \\ &= 840 - 800 \\ &= ₹ 40 \\ \text{Rate \%} &= \frac{40}{800} \times 100 \\ &= 5\%\end{aligned}$$

$$\begin{aligned}31. \text{ (A) Area} &= \frac{1}{2} \text{ base} \times \text{Height} \\ &= \frac{1}{2} \times 25 \times 10.8 \\ &= 135.0 \text{ cm}^2\end{aligned}$$

$$\begin{aligned}32. \text{ (D) Base} &= 24 \text{ cm} \\ \text{Height} &= \frac{\text{Area} \times 2}{\text{Base}} \\ &= \frac{112 \times 2}{24} \\ &= 16 \text{ cm} \\ a^2 &= 12^2 + 16^2 \\ &= 144 + 256 \\ &= 400 \\ a &= 20 \text{ cm} \\ \text{Perimeter} &= 2 \times a + 24 \\ &= 40 + 24 \\ &= 64 \text{ cm}\end{aligned}$$



$$\begin{aligned}33. \text{ (C) Let C. P.} &= ₹ 100x \\ \text{Then S. P.} &= 115x \\ \text{When C. P.} &= (100 - 5)x \\ &= 95x \\ \text{and S. P.} &= 115x - 21 \\ \text{Then Gain} &= 10\% \text{ of } 95x \\ &= 9.5x \\ 9.5x &= 115x - 21 - 95x\end{aligned}$$

$$9.5x = 20x - 21$$

$$10.5x = 21$$

$$x = \frac{21}{10.5}$$

$$\begin{aligned}\text{C. P.} &= 100x \\ &= 100 \times 2 \\ &= ₹ 200\end{aligned}$$

$$\begin{aligned}34. \text{ (A) C. P. of 1 piece} &= ₹ 480 \\ \text{List price} &= 125\% \text{ of } 480 \\ &= \frac{125 \times 480}{100} \\ &= ₹ 600 \\ \text{S. P.} &= 95\% \text{ of } 600 \\ &= \frac{95}{100} \times 600 \\ &= ₹ 570 \\ \text{Profit \%} &= \frac{(570 - 480)}{480} \times 100 \\ &= \frac{90}{480} \times 100 = \frac{150}{8} \\ &= 18.75\%\end{aligned}$$

$$35. \text{ (B) Let the amount deposited @ 15\% is } x.$$

$$\begin{aligned}\text{Total interest} &= \frac{x \times 15}{100} + \frac{(25000 - x) \times 18}{100} \\ 4050 &= \frac{1}{100} (25000 \times 18 - 18x + 15x) \\ 405000 &= 450000 - 3x \\ 3x &= 450000 - 405000 \\ x &= \frac{45000}{3} \\ &= ₹ 15000\end{aligned}$$

$$\begin{aligned}36. \text{ (D) Average age of boys only} &= \frac{34 \times 14 - 47}{33} \\ &= \frac{476 - 47}{33} \\ &= \frac{429}{33} \\ &= 13 \text{ years}\end{aligned}$$

$$37. \text{ (B)}$$

$$\begin{aligned}&0.953 \times 0.953 - 0.953 \times 0.047 \\ &\quad + 0.047 \times 0.047 \\ &\hline &0.953 \times 0.953 \times 0.953 + 0.047 \\ &\quad \times 0.047 \times 0.047\end{aligned}$$

$$\left( \text{since } \frac{a^2 - ab + b^2}{a^3 + b^3} = \frac{1}{a + b} \right)$$

$$\therefore \frac{1}{0.953 + 0.047} = \frac{1}{1}$$

$$= 1.00$$

$$38. (C) \quad 233 - 187 = 46$$

$$279 - 233 = 46$$

$$\text{Required number} = 46$$

$$39. (B) \quad x = P \left( \frac{R}{100} \right)^2 \left( 3 + \frac{R}{100} \right)$$

$$48 = P \left( \frac{20}{100} \right)^2 \left( 3 + \frac{20}{100} \right)$$

$$48 = \frac{P}{25} \times \frac{16}{5}$$

$$\therefore P = ₹ 375$$

$$40. (D) \quad \text{Time taken} = \frac{300}{60} = 5 \text{ hours}$$

$$41. (D) \quad \text{Distance} = 520 \text{ km}$$

$$\text{Net speed} = 60 + 70$$

$$= 130 \text{ km/hr}$$

$$\text{Time taken to cross each other}$$

$$= \frac{520}{130}$$

$$= 4 \text{ hours}$$

$$42. (D) \text{ Let the, C.P.} = x$$

$$\text{S.P.} = y$$

$$\therefore \text{Profit} = \text{S.P.} - \text{C.P.}$$

$$= y - x$$

If S.P. is doubled

$$\therefore \text{S.P.} = 2y$$

$$\therefore \text{Now profit} = \text{S.P.} - \text{C.P.}$$

$$= 2y - x$$

$$\Rightarrow 2y - x = 3(y - x)$$

$$\Rightarrow 2y - x = 3y - 3x$$

$$\therefore y = 2x$$

$$\therefore \text{Profit \%} = \frac{(y - x)}{x} \times 100\%$$

$$= \frac{(2x - x)}{x} \times 100\%$$

$$= \frac{x}{x} \times 100\%$$

$$= 100\%$$

$$43. (C) \text{ Length of the longest side}$$

$$= \frac{6.6}{3} \times 5 = 11.0 \text{ cm}$$

$$\text{Perimeter} = 6.6 + 6.6 + 11$$

$$= 13.2 + 11$$

$$= 24.2 \text{ cm}$$

$$44. (D) \text{ Let C. P. for P} = 100\%$$

$$\text{then C. P. for Q} = 110\%$$

$$\text{Now, C. P. for R} = \frac{110 \times 112}{100} \%$$

$$1\% = \frac{246.40 \times 10}{112 \times 11} = 2$$

Required money paid by

$$P = 100\% = ₹ 200$$

$$45. (A) \quad 0.06\% = 84$$

$$30\% = \frac{84}{0.06} \times 30$$

$$= 42000$$

$$46. (B) \quad \pi r^2 h = \frac{12320}{1000} (1\text{m}^3 = 1000 \text{ litre})$$

$$\frac{22}{7} \times r \times r \times 10r = \frac{12320}{1000}$$

$$r^3 = \frac{12320}{22 \times 7 \times 10 \times 1000}$$

$$r^3 = \frac{8}{1000}$$

$$r = \frac{2}{10}$$

$$h = 10r$$

$$= \frac{2}{10} \times 10 = 2 \text{ m}$$

$$47. (A)$$

$$1 + [1 + 1 + \{1 + 1 + (1 + 1 + 2)\}]$$

$$= 1 + [1 + 1 + \{1 + 1 + (\frac{3}{2})\}]$$

$$= 1 + [1 + 1 + \frac{5}{3}]$$

$$= 1 + \frac{8}{3} = \frac{11}{3}$$

$$48. (B) \text{ As per question—}$$

$$36 = \frac{\sum X}{N}$$

$$\Rightarrow \sum X = 36N \quad \dots(1)$$



$$\text{Again, } 37 = \frac{\sum X + 52}{N + 1}$$

$$\Rightarrow 37(N + 1) = 36N + 52$$

$$\Rightarrow 37N + 37 = 36N + 52$$

$$\Rightarrow N = 52 - 37$$

$$\therefore N = 15$$

Again as per question let the required number of runs is  $y$ . Then

$$39 = \frac{\sum X + y}{15 + 1}$$

$$39 \times 16 = 36 \times 15 + y$$

$$624 = 540 + y$$

$$\therefore y = 624 - 540$$

$$= 84$$

$$49. (C) \quad 110\% = 9.24$$

$$100\% = \frac{9.24}{110} \times 100$$

$$= ₹ 8.40$$

Let  $x$  kg sugar @ ₹ 9 kg mixed, then

$$\frac{9 \times x + 7 \times 27}{27 + x} = 8.40$$

$$27 \times 8.40 + 8.4x = 9x + 7 \times 27$$

$$0.6x = 27 \times 8.4 - 27 \times 7$$

$$x = \frac{27(8.4 - 7)}{0.6}$$

$$= \frac{27 \times 1.47}{0.6}$$

$$= 63 \text{ kg}$$

$$50. (A) \text{ In } 1 \text{ day Anil does } = \frac{1}{10}$$

$$\text{and Babu does } = \frac{1}{8}$$

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

$$= \frac{9}{40} \times 8$$

$$= \frac{9}{10}$$

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

9. One of the following was once an associate State of the Union of India and later became a full fledged State—  
 (A) Jharkhand  
 (B) Chhattisgarh  
 (C) Arunachal Pradesh  
 (D) Sikkim
10. President of India can be impeached by—  
 (A) Specially constituted Tribunal  
 (B) Supreme Court  
 (C) Central Cabinet  
 (D) Parliament
11. Who among the following was the leader of Cabinet Mission ?  
 (A) Stafford Cripps  
 (B) Linlithgow  
 (C) A.V. Alexander  
 (D) Sir Pethick Lawrence
12. In which one of the following battles did Nadir Shah defeat the Mughal Emperor Mohammad Shah ?  
 (A) Delhi (B) Karnal  
 (C) Panipat (D) Kanpur
13. *Mahabashya* was written by—  
 (A) Gargi (B) Manu  
 (C) Bana (D) Patanjali
14. The song 'Jana-Gana-Mana' composed by Rabindra Nath Tagore was first published in January 1912 under the title of—  
 (A) Rashtra Jagrati  
 (B) Tatva Bodhini  
 (C) Bharat Vidhata  
 (D) None of the above
15. Sher Shah died while fighting in—  
 (A) Chausa (B) Kalinga  
 (C) Kalinjar (D) None of these
16. Biosphere reserves are meant to—  
 (A) Preserve wild land flora and fauna  
 (B) Experiment and develop forest products  
 (C) Experiment and develop agriculture products  
 (D) All the above
17. Days and nights are caused because of—  
 (A) shape of Earth's orbit  
 (B) revolution movement  
 (C) rotational movement  
 (D) None of the above
18. Chennai gets less rain than other places from the South-West monsoons because—  
 (A) The monsoon runs parallel to Coromandel coast  
 (B) Chennai is too hot to allow moisture to condense  
 (C) They are off-shore winds  
 (D) All the above
19. The climate of India is—  
 (A) Equatorial (B) Monsoonal  
 (C) Mediterranean (D) Continental
20. Laterite soils are found in—  
 (A) heavy rainfall region  
 (B) desert region  
 (C) tropical region  
 (D) tropical region with wet and dry climate
21. Photosynthesis takes place in—  
 (A) Roots of the plants  
 (B) Green parts of the plants  
 (C) Stems of the plants  
 (D) All parts of the plant
22. Universal Blood Donor is—  
 (A) A group (B) B group  
 (C) AB group (D) O group
23. Alcoholic fermentation is brought by—  
 (A) Mushrooms (B) Amoeba  
 (C) Virus (D) Yeast
24. Birds and bats are good fliers. The bat differs from bird in having—  
 (A) Four chambered heart  
 (B) Diaphragm  
 (C) Wings  
 (D) Small brain
25. 'Tube within a tube' type of body plan is found in—  
 (A) Sea anemone (B) Leech  
 (C) Amoeba (D) Sycon



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
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 (Cricketer)  
 (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

- (B) Lord Jagan Nath  
 (C) Sri Chaitanya Prabhu  
 (D) Sri Satya Sai Baba

### Answers with Explanations

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 Aboo hill—A Hindu Religious Temple.  
 46. (C) 47. (A) 48. (D) 49. (A) 50. (B)