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 twin 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

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 pairs 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 ?
    73727475757207072737475767778747273747576757878797772757
    (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

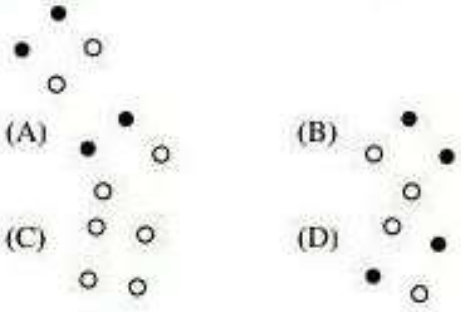
15. A starts and walks towards south he then turn to his right and walks 5 km then again left and walks 3 km and then again left and walks 5 km. In which direction is he from the starting point ?
    (A) West (B) South
    (C) North (D) East

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 ?

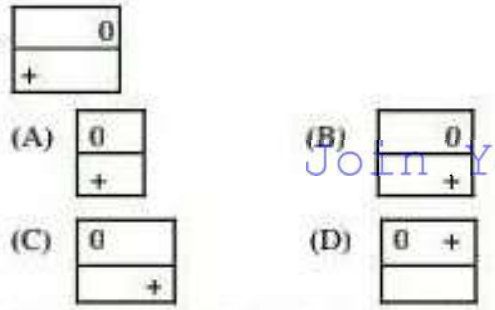
(A) 5 km (B) 6 km
(C) 10 km (D) 20 km

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.



18.



Directions—In the following questions some relationships have been expressed through symbols which are—

x stands for greater than	θ stands for not less than	+ stands for equal to
– stands for Less than	β stands for not greater than	ϕ stands for not equal to

Bearing this relationship in mind work out the following questions.

19. A β B – C implies—

(A) A β B (B) A + C
(C) B + C (D) C × A

20. A ϕ B + C implies—

(A) C – B (B) B + C
(C) C β A (D) A × 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 × and + and numbers 4 and 2—

(A) 2 + 4 × 5 = 13 (B) 2 + 4 × 6 = 15
(C) 2 × 4 + 4 = 18 (D) 2 × 4 + 4 = 9

23. In a certain code 'JUDICIAL' is written as JDUICILA. How will 'GLORIOUS' be written ?

(A) GOTOSRSU (B) GLOOTRSU
(C) GOUICILA (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 enteries in the particular place so as complete the Puzzle.

25.

17	18	19
17	36	01
12	31	?

(A) 12 (B) 11
(C) 13 (D) 15

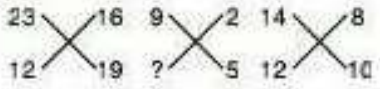
26. Arun is fifth from the left end and Navin is twelfth from the right end in a row are children. If Navin shifts by three places towards Arun he becomes tenth from the left end. How many children are there in the row ?

(A) 22 (B) 24
(C) 21 (D) None of these

27. How many squares can be formed by joining the center of the circles by horizontal and vertical lines.

(A) 8 (B) 10
(C) 6 (D) None of these

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) ← ↓ → ↓ → ↑ ↓ ↑
(B) Δ ∇ → ↓ ↓ ∇ ∇ ↑
(C) ↑ ↑ → ↓ ↑ ↑ Δ Δ
(D) ↑ ↑ → ↓ ↓ ↑ Δ ∇

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 33 13 15 33 17 .....

(A) 15 33 (B) 19 21
(C) 19 33 (D) 33 19

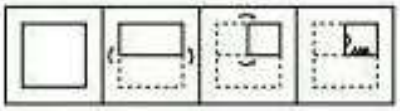
35. If 'BUILDING' is coded as 'CVJMEJOH' and 'INSTITUTE' is coded as JOTUJUVUF, what will be the codes for the following ?

'LUCKNOW' and 'PATNA'

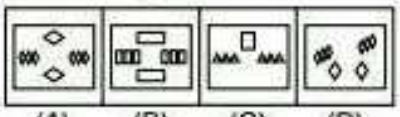
(A) MVDPLOX and QAUOB
(B) MVDLOPY and QBUOB
(C) MVDLOPX and QBUOB
(D) MUDLOPY and QBUOB

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.

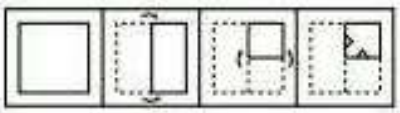
36. **Question Figures**



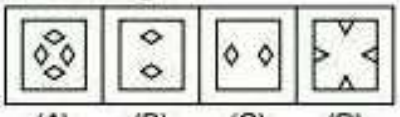
Answer Figures



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 × 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 × B
(C) A / C × B (D) C × 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. $\frac{1}{81}, \frac{1}{54}, \frac{1}{36}, \frac{1}{24}, \ldots$

(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—

IIII – II × I + III × II – II = ?

(A) III (B) IV
(C) IIIII (D) IIII

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—

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 $\frac{(\text{Two})^2}{(\text{Five})^2} = \frac{9}{16}$, $\frac{(\text{Six})^2}{(\text{Seven})^2} = \frac{9}{25}$, then $\frac{(\text{One})^2}{(\text{Hundred})^2} =$

(A) $\frac{9}{49}$ (B) $\frac{9}{36}$

(C) $\frac{25}{9}$ (D) $\frac{16}{9}$

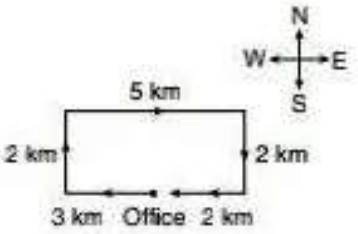
50. A is taller than B, but shorter than C. D is taller than A, but shorter than C and E is taller than B, but shorter than A. The tallest person is—

(A) A (B) C

(C) E (D) D

Answers with Explanations

1. (D)



2. (D) As,

B	D	E
+5↓	+4↓	+4↓
G	H	I

Same as,

J	L	M
+5↓	+4↓	+4↓
O	P	Q

3. (B) As, $4 \xrightarrow{+3} 7$

Same as, $9 \xrightarrow{+3} 12$

4. (D) As,

K	J	L
+4↓	+4↓	+4↓
O	N	P

Same as,

C	B	D
+4↓	+4↓	+4↓
G	F	H

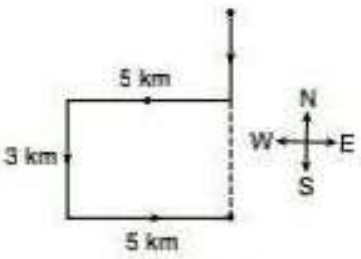
5. (D) 6. (A) 7. (B)

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)

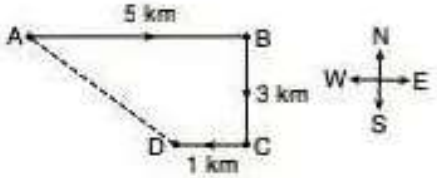
14. (C)

15. (B)



He is in 'South' direction from the starting point.

16. (A)



$AD = \sqrt{(3)^2 + (4)^2}$ km

$= \sqrt{25}$ km

$= 5$ 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,

J	U	D		C		A	L
↓	×			↓		×	
J	D	U		C		L	A

Same as,

G	L	O	R	I	O	U	S
↓	×		↓		↓	×	
G	O	L	R	I	O	S	U

24. (A) As, $\frac{MAN}{SANM}$ and $\frac{WORD}{SORDW}$

Same as, $\frac{SALE}{SALES}$

25. (B) As. $17 + 18 + 19 = 54$

and $17 + 36 + 01 = 54$

Same as, $12 + 31 + ? = 54$

$? = 54 - 43$

$\therefore \quad ? = 11$

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) $7 \times 2 = 14 + 2 = 16$

$16 \times 2 = 32 + 2 = 34$

$34 \times 2 = 68 + 2 = 70$

$70 \times 2 = 140 + 2 = 142$

$142 \times 2 = 284 + 2 = 286$

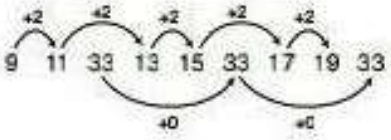
30. (C) 5 is denoted by '↑', 3 is denoted by '→', 4 is denoted by '↓' and 1 is denoted by Δ.

31. (A) NICE (**CLEAN**) PENALTY
In clean word, all the alphabets have been taken from both the words.

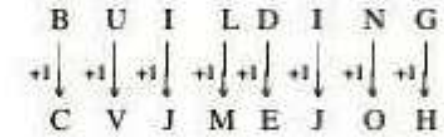
32. (C) Sachin = Rahim > Rahul

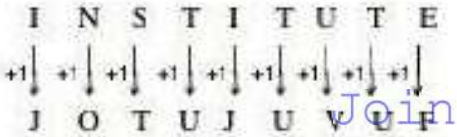
33. (A) As, $X + Y + Z = Z > Y > X$
Same as,
$$Z - Y - X = Z > Y > X$$

34. (C)

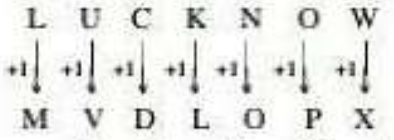


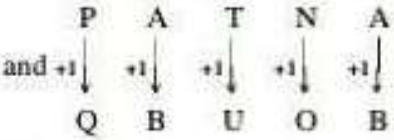
35. (C) As,





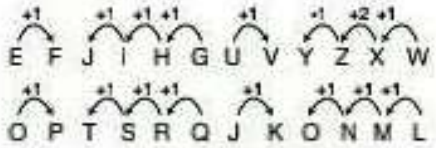
Same as,



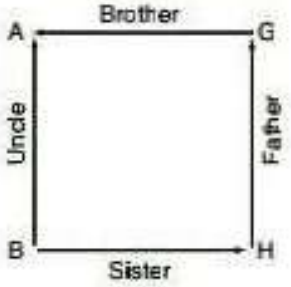


36. (A) 37. (A)

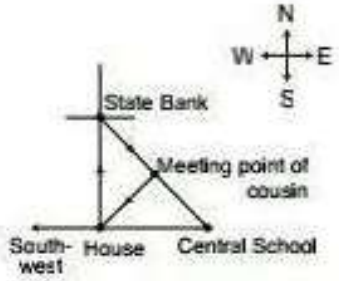
38. (B)



39. (B)



40. (D)



Hence, we are going in south-west direction.

41. (B)

42. (D) By replacing numeric value, then
$$3 - 1 \times 0 + 2 \times 1 - 1 = 4$$
and IIII stand for 4.

43. (A) In all other options, there is a gap of three letters between two letter series.

44. (C)

45. (C) $U < Y < X < Z < W < V$

46. (B) 47. (C) 48. (D)

49. (A) As,
$$\frac{(\text{Two})^2}{(\text{Five})^2} = \frac{(T,w,o)^2}{(F,i,v,e)^2}$$
$$= \frac{(3)^2}{(4)^2} = \frac{9}{16}$$
and
$$\frac{(\text{Six})^2}{(\text{Seven})^2} = \frac{(S,i,x)^2}{(S,e,v,e,n)^2}$$
$$= \frac{(3)^2}{(5)^2} = \frac{9}{25}$$
Same as,
$$\frac{(\text{One})^2}{(\text{Hundred})^2} = \frac{(O,n,e)^2}{(H,u,n,d,r,e,d)^2}$$
$$= \frac{(3)^2}{(7)^2} = \frac{9}{49}$$

50. (B) Proper order of height is
$$B < E < A < D < C$$
Hence, 'C' is the tallest.

Part—II
English Language

1. These essays are intellectually ..... and represent various levels of compexity.
   (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
   (C) An essay question
   (D) Expensive thing

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) arbitary, interested

14. Although his work was ..... and ....., he was promoted anyway, simply because he had been with the company longer than anyone else.
(A) forceful, extraneous
(B) negligent, creative
(C) incomplete, imprecise
(D) 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.
(A) so good to (B) rather good to
(C) too good to (D) No improvement

16. If had gone to Mumbai, I would surely bring your books.
(A) would have surely brought
(B) could have surely brought
(C) might have brought
(D) 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—
(A) Optimism
(B) Plagiarism
(C) Nepotism
(D) regionalism

18. Always ready to attack or quarrel—
(A) Creative (B) impatient
(C) aggresive (D) malicious

19. Drawl : Speak : :
(A) Foster : Develop
(B) Seintillate : Flash
(C) Pare : Trim
(D) Saunter : Walk

20. Ratify : Approval : :
(A) Pacify : Conquest
(B) Duel : Combat
(C) Appeal : Authority
(D) 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 ...(21)... of Bengal tigers left in the world has ...(22)... from 1,00,000 to 4,000 over the last century. The main threats are ...(23)... of habitat, poaching and the trade in tiger parts for Eastern medicines. Most Bengal tigers live i n protected areas of India. Anti-poaching task-forces have been ...(24)... up and there is also a trade ...(25)... on tiger products in many countries, as a measure to save this rare species.

21. (A) form (B) kind
(C) glory (D) number

22. (A) limited (B) shrunk
(C) abolished (D) elminated

23. (A) prevention (B) encroaching
(C) condition (D) shift

24. (A) set (B) brought
(C) swept (D) deployed

25. (A) agreement (B) contract
(C) ban (D) link

Directions—(Q. 26–28) Find out the correctly spelt word.

26. (A) Anneversary (B) Annivarsery
(C) Annivarsary (D) Anniversary

27. (A) Maintenence (B) Mantenance
(C) Maintenance (D) Maintinance

28. (A) Guardien (B) Guardain
(C) Guardion (D) 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.
(A) Illegal (B) Illegible
(C) Nonlegible (D) Unlegible

30. A person whose thoughts are turned inwards.
(A) Intelligent (B) Introvert
(C) Extrovert (D) 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

(C) Tea is so hot that one cannot drink it
(D) Tea is very hot and cannot be drunk

45. How many adverbs have been used in the following sentences—
Sita sings well. She speaks very fluently.
(A) 3 (B) 4
(C) 5 (D) None of these

46. Identify adverb among the **bold** words—
(A) An **early** riser
(B) To rise **early**
(C) A **lonely** boy
(D) **Friendly** neighbours

47. Identify plural word among the following alternatives—
(A) Agenda (B) Radius
(C) Syllabus (D) Curriculum

48. In the following question, four options have been given. Identify the option which has correct usage of preposition—
(A) He is ill from fever
(B) He ordered for two cups of tea
(C) I prefer milk than tea
(D) He needs a pen to write with

49. Fill in the gap with suitable preposition—
Sita is indifferent ..... her health.
(A) from (B) by
(C) to (D) of

50. Manish said that he was busy then.
The correct direct speech of the above reported speech is—
(A) Manish said, "He were busy now"
(B) Manish said, "He was busy then"
(C) Manish said, "I am busy now"
(D) Manish said, "He is busy then"

Answers with Explanations

1. (B)	2. (C)	3. (C)	4. (D)	5. (C)
6. (B)	7. (B)	8. (C)	9. (D)	10. (D)
11. (A)	12. (D)	13. (B)	14. (C)	15. (C)
16. (A)	17. (C)	18. (C)	19. (C)	20. (B)
21. (D)	22. (B)	23. (B)	24. (A)	25. (C)
26. (D)	27. (C)	28. (D)	29. (B)	30. (B)

31. (C) Eternal means continuing for ever and having no end. It's opposite Momentary.
32. (D) Barbarian means someone who behaves in a way that is cruel and uncivilized and its opposite is civilised.
33. (B) Adulterated means a food or drink less pure by adding another substance of lower quality. Its oppostie is 'Pure'.
34. (C) 35. (C) 36. (B) 37. (C) 38. (A)
39. (C) In indirect-speech of interrogative sentence 'said' to is changed to 'asked'.
40. (B) The sentence is in 'adverb clause'
41. (D) The sentence is noun clause and noun clause starts with 'that he is an honest men'.
42. (A) 43. (D) 44. (C)
45. (A) Adverbs are : Well, very and fluently.
46. (B) Early adverb modifies infinitive 'To rise'.
47. (A) Agenda is plural of 'Agendum'.
48. (D) 49. (C) 50. (A)

Part—III
Quantative Aptitude

1. Simplify :

$$\frac{\frac{1}{3}+\frac{1}{4}\left[\frac{2}{5}-\frac{1}{2}\right]}{1\frac{2}{3}\text{ of }\frac{3}{4}-\frac{3}{4}\text{ of }\frac{4}{5}} =$$

(A) $\frac{37}{78}$ (B) $\frac{37}{13}$
(C) $\frac{74}{78}$ (D) $\frac{74}{13}$

2. The sum of the squares of 3 consecutive positive numbers is 365. The sum of the numbers is—
(A) 30 (B) 33
(C) 36 (D) 45

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—

(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—

(A) 45 (B) 45·5
(C) 50 (D) 54·5

19. 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

20. Walking at the rate of 4 km an hour, a man covers a certain distance in 3 hours 45 minute. If he covers the same distance on cycle, cycling at the rate of 16·5 km/hour, the time taken by him is—

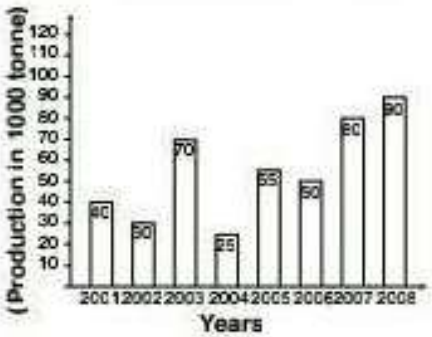
(A) 55·45 minute (B) 54·55 minute
(C) 55·44 minute (D) 45·55 minute

21. 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—(Q. 22-25) Study the following graph and answer questions.

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



22. 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

23. 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

24. What was the percentage decline in the production of salt from 2003 to 2004 ?

(A) 64·2 (B) 180
(C) 62·4 (D) 107

25. 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

26. The simple interest on ₹ 68,000 at 6% per annum for 4 years, is—

(A) ₹ 16,120 (B) ₹ 16,320
(C) ₹ 16,420 (D) ₹ 16,520

27. Cost price of an article is ₹ 320 and it is sold for ₹ 400, profit per cent, is—

(A) 25% (B) 26%
(C) 27% (D) 24%

28. The cost price of an article is ₹ 7,840. If it is sold at a profit of 7% then the selling price of the article, is—

(A) ₹ 8,388·80 (B) ₹ 8,000
(C) ₹ 8,383·80 (D) ₹ 8,833·80

29. The sum of $5^3 + 6^3 + 7^3 + 8^3 + 9^3 + 10^3$, is—

(A) 2295 (B) 2425
(C) 2495 (D) 2925

30. The square root of $(272)^2 - (128)^2$, is—

(A) 256 (B) 200
(C) 240 (D) 144

31. The value of $\left(\frac{343}{1331}\right)^{1/3}$, is—

(A) $\frac{5}{11}$ (B) $\frac{7}{5}$
(C) $\frac{7}{11}$ (D) $\frac{7}{10}$

32. If the radius of a sphere is doubled, then it's volume increases by—

(A) 2 times (B) 3 times
(C) 10 times (D) 8 times

33. The area of a circle having circumference of 132 cm, is—
(A) 693 cm^2 (B) 116 cm^2
(C) 5227 cm^2 (D) 1386 cm^2

34. If $\frac{1}{5} : \frac{1}{x} = \frac{1}{x} : \frac{1}{1{\cdot}25}$, then the value of x, is—
(A) 1·25 (B) 1·5
(C) 2·5 (D) 2·25

35. The tim 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 cells 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. 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 mixed 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 cm^2—

(A) 44
(B) 144
(C) 154
(D) None of the above

Answers with Explanations

1. (A) Given exp.

$$= \frac{\frac{1}{3}+\frac{1}{4}\left[\frac{2}{5}-\frac{1}{2}\right]}{\frac{5}{3}\text{ of }\frac{3}{4}-\frac{3}{4}\text{ of }\frac{4}{5}}$$

$$= \frac{\frac{1}{3}+\frac{1}{4}\left[-\frac{1}{10}\right]}{\frac{5}{4}-\frac{3}{5}}$$

$$= \frac{\frac{1}{3}-\frac{1}{40}}{\frac{25-12}{20}} = \frac{37}{40\times 3}\times\frac{20}{13}$$

$$= \frac{37}{13\times 6} = \frac{37}{78}$$

2. (B) Let 3 consecutive positive numbers are x, $(x + 1)$ and $(x + 2)$ respectively, then as per question,

$\because \quad x^2 + (x+1)^2 (x+2)^2 = 365$

$\Rightarrow x^2 + x^2 + 1 + 2x + x^2 + 4 + 4x = 365$

$\Rightarrow \quad 3x^2 + 6x - 360 = 0$

$\Rightarrow \quad x^2 + 2x - 120 = 0$

$\Rightarrow \quad x(x+12) - 10(x+12) = 0$

$\Rightarrow \quad (x+12)(x-10) = 0$

$x = 10, -12$

$\therefore$ Required sum of numbers

$= 10 + 11 + 12$

$= 33$

3. (D)

$\because$ Dividend = (Divisor × Quotient) + Remainder

$\therefore$ As per question,

$\Rightarrow$ Quotient $= 46 \times 5$

$\Rightarrow$ Divisor $= \frac{46\times 5}{10}$

$\Rightarrow$ Remainder $= 46$

$\therefore$ Reqd. dividend

$= \left(46\times 5\times\frac{46\times 5}{10}\right) + 46$

$= 5290 + 46$

$= 5336$

4. (D) To get unit digit of $(25)^{6251}$

Remainder in $\frac{6251-1}{4} = 2$

$\therefore$ Unit digit of $(25)^{6251}$

$= (5)^{2+1}$

$= 125 \sim 5$

Similarly, unit digit of $(36)^{528}$

$= (6)^{3+1}$

$= 1296 \sim 6$

and unit digit of $(73)^{54}$

$= (3)^{1+1} = 9$

$\therefore$ Required unit digit

$= 5 + 6 + 9$

$= 20$

$\sim$ zero

5. (B) Let HCF and LCM of two numbers are x and $4x$ respectively, then as per question,

$\because \quad x + 4x = 125$

$\Rightarrow \quad 5x = 125$

$\therefore \quad x = 25$

$\because$ First number × second number

= HCF × LCM

$\Rightarrow$ 100 × second number

$= 25 \times 4 \times 25$

$\therefore$ Second number = 25

6. (A) $\because \dfrac{1}{(3-\sqrt{8})} \times \dfrac{(3+\sqrt{8})}{(3+\sqrt{8})}$

$= \dfrac{3+\sqrt{8}}{9-8}$

$= 3+\sqrt{8}$

Similarly,

$\dfrac{1}{\sqrt{8}-\sqrt{7}} = \sqrt{8}+\sqrt{7}.$

$\dfrac{1}{\sqrt{7}-\sqrt{6}} = \sqrt{7}+\sqrt{6}.$

$\dfrac{1}{\sqrt{6}-\sqrt{5}} = \sqrt{6}+\sqrt{5}.$

$\dfrac{1}{\sqrt{5}-2} = \sqrt{5}+2$

$\therefore$ 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

$= \dfrac{1}{2}\left(-\dfrac{1}{8}+\dfrac{1}{24}+\dfrac{7}{60}\right)$

$= \dfrac{1}{2}\left(\dfrac{-15+5+14}{120}\right)$

$= \dfrac{1}{2}\left(\dfrac{4}{120}\right) = \dfrac{1}{60}$

$\therefore$ 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.

$\because \quad x - \dfrac{x}{3} = 40$

$\Rightarrow \quad 2x = 120$

$\therefore \quad x = 60$

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

$= \dfrac{60 \times 20}{60+20} = 15$ days

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

$= \left[+5-2-\dfrac{2\times 5}{100}\right]\%$

$= [5-2-0{\cdot}1]\%$

$= 2{\cdot}9$

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

$\because \quad 3x = 6y$

$\therefore \quad x = 2y$

Area of equilateral triangle

$= \dfrac{\sqrt{3}}{4}x^2$

$= \dfrac{\sqrt{3}}{4} \times 4y^2 = \sqrt{3}y^2$

Area of regular hexagon

$= \dfrac{3\sqrt{3}}{2}y^2$

$\therefore$ Required ratio of areas

$= \dfrac{\text{Area of } \Delta}{\text{Area of hexagon}}$

$= \dfrac{\sqrt{3}\,y^2 \times 2}{3\sqrt{3}\,y^2}$

$= \dfrac{2}{3} = 2:3$

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 = $6a^2$.

$\because \quad a^2 = \dfrac{4}{6}\pi r^2$

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

$\therefore$ Required ratio of volumes

$= \dfrac{\text{Vol. of sphere}}{\text{Vol. of cube}} = \dfrac{4/3\,\pi r^3}{a^3}$

$$= \frac{4}{3}\pi r^2 \times \frac{6}{4\pi r^2} \times \sqrt{\frac{6}{4\pi r^2}}$$

$$= \frac{\sqrt{6}}{\sqrt{\pi}} \Rightarrow \sqrt{6} : \sqrt{\pi}$$

12. (D) Let the bill amount was ₹ x, then
Equivalent discount of two successive discounts of 20%

$$= \left[-20 - 20 + \frac{400}{100}\right]\%$$

$$= -36\%$$

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

$\therefore$ $x = ₹\,2200.$

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,

$$9x - 8y = 500 \quad \ldots(1)$$

and $$8x - 7y = 500 \quad \ldots(2)$$

To solve equations (1) and (2),

$$x = 500$$

$\therefore$ Monthly income of A

$$= ₹\,500 \times 9$$

$$= ₹\,4500$$

14. (C) $x : y = 3 : 4$

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

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

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

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

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

$\because$ $x + (x + 20) + 195 = 135 \times 3$

$\Rightarrow$ $2x = 405 - 195 - 20 = 190$

$\therefore$ $x = 95$

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

$$= \left(\frac{11 - \frac{100}{11}}{\frac{100}{11}}\right) \times 100\%$$

$$= \frac{121 - 100}{100} \times 100\%$$

$$= 21\%$$

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

$\therefore$ Total S.P.

$$= \frac{50 \times 140}{100} + \frac{25 \times 60}{100} + \frac{25 \times 100}{100}$$

$$= ₹\,(70 + 15 + 25)$$

$$= ₹\,110$$

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

$$= \frac{(550 + 540)}{2000} \times 100\%$$

$$= 54{\cdot}5\%$$

19. (D) Effect on gross receipt

$$= \left(20 - 25 - \frac{500}{100}\right)\%$$

$$= -10\%$$

Hence, 10% decrease.

20. (B) The distance covered by person = speed × time

$$= 4 \times 3{\cdot}75 \text{ km}$$

$$= 15 \text{ km}$$

The time taken to cover this distance

$$= \frac{\text{Distance}}{\text{Speed}}$$

$$= \frac{15}{16{\cdot}5} \times 60 \text{ minute}$$

$$= 54{\cdot}55 \text{ minute.}$$

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

$$= \frac{70 - 25}{70} \times 100\%$$

$$= \frac{4500}{70}\% = 64{\cdot}2\%$$

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

$$= ₹\,7840 \times \frac{107}{100}$$

$$= ₹\,8388{\cdot}80$$

29. (D) Required value

$$= 5^3 + 6^3 + 7^3 + 8^3 + 9^3 + 10^3$$

$$= 125 + 216 + 343 + 512 + 729 + 1000$$

$$= 2925$$

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) $\frac{1}{5} : \frac{1}{x} = \frac{1}{x} : \frac{1}{1{\cdot}25}$

$$x : 5 = 1{\cdot}25 : x$$

$$x^2 = \frac{25 \times 25}{100}$$

$$x = \frac{25}{10}$$

$$\therefore \quad x = 2{\cdot}5$$

35. (B) $\because \quad A = P\left(1+\frac{R}{100}\right)^n$

$$1331 = 1000\left(1+\frac{10}{100}\right)^n$$

$$\frac{1331}{1000} = \left(\frac{11}{10}\right)^n$$

$$\left(\frac{11}{10}\right)^3 = \left(\frac{11}{10}\right)^n$$

$\therefore \quad n = 3$ years

36. (A) Let, if $7x$ litre milk and $2x$ litre water in the mixtures, then

$$25x^2 - 9x^2 = 144$$

$$\Rightarrow \quad 16x^2 = 144$$

$$\Rightarrow \quad x^2 = 9$$

$$\therefore \quad x = 3$$

$\therefore$ Required numbers

$= 5 \times 3$ and 3×3

$= 15$ 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 $\quad 2x + 6 = 5y$

On solving,

$y = 2$ and $x = 2$

$\therefore$ Required quantity of water in the final mixture

$= (2 \times 2 + 6)$ litre

$= 10$ litre

38. (C) Let $(a + b)$, $(b + c)$ and $(c + a)$ are $6x$, $7x$ and $8x$ respectively, then

$$a + b + c = \frac{21x}{2}$$

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

$$\therefore \quad c = 14 - 6 \times \frac{4}{3}$$

$$= 14 - 8 = 6$$

39. (B) Let selling price is ₹ 100 then profit

$= ₹ 26.$

$\therefore$ Cost price $= ₹ (100 - 26)$

$= ₹ 74$

34% of cost price $= ₹ \frac{34}{100} \times 74 = ₹ 25{\cdot}16$

Which 25·16% of the selling price.

40. (B) Cost price of two mixers ₹ 1500, let one's cost price = ₹ x

$$\text{Profit} = ₹ x \times \frac{9}{100}$$

$$\text{Loss} = ₹ (1500 - x) \times \frac{6}{100}$$

$$\therefore \quad x \times \frac{9}{100} = (1500 - x) \times \frac{6}{100}$$

$$\Rightarrow \quad 15x = 9000$$

$$\therefore \quad x = 600$$

and the cost price of second only

$= ₹ 900$

$\therefore$ Required ratio

$$= \frac{600}{900} = \frac{2}{3} = 2 : 3$$

41. (A) Let the first successive discount is x% then as per question,

$$150 \times \frac{(100 - x)}{100} \times \frac{(100 - 12{\cdot}5)}{100} = 105$$

$$\Rightarrow \quad (15000 - 150x)\ 87{\cdot}5 = 1050000$$

$$\Rightarrow \quad 1312500 - 13125x = 1050000$$

$$\therefore \quad x = \frac{262500}{13125} = 20\%$$

42. (D) Let the cost price of an article is ₹ x. Then as per questions,

$$\therefore \quad \text{Cost price} = ₹ x \times \frac{90}{100}$$

$$\therefore \quad \frac{90x}{100} + 30 = \frac{95x}{100}$$

$$\Rightarrow \quad 90x + 3000 = 95x$$

$$\therefore \quad x = ₹ \frac{3000}{5} = ₹ 600$$

43. (B) Let the cost price of T.V. for X is ₹ x, there as per question,

$$x \times \left(\frac{110}{100}\right) \times \frac{90}{100} = 9900$$

$$\Rightarrow \quad x = \frac{9900 \times 100 \times 100}{9900}$$

$= ₹ 10000$

44. (A) Let, that amount is ₹ x, then as per question,

$$13380 = x\left(1+\frac{R}{100}\right)^3 \quad \ldots(i)$$

$$\text{and } 20070 = x\left(1+\frac{R}{100}\right)^6 \quad \ldots(ii)$$

$$\therefore \quad 1{\cdot}5 = \left(1+\frac{R}{100}\right)^3 \qquad \text{...(iii)}$$

From equation (i) and (ii),

$$x = \frac{13380}{1{\cdot}5}$$

$$= ₹\,8920$$

45. (C) Required amount after 3 years

$$= 7500\left(1+\frac{2}{100}\right)\left(1+\frac{4}{100}\right)\times\left(1+\frac{5}{100}\right)$$

$$= \frac{7500\times 102\times 104\times 105}{100\times 100\times 100}$$

$$= ₹\,8353{\cdot}80$$

46. (A) Required compound interest

$$= 2800\left[\left(1+\frac{10}{100}\right)^{3/2}-1\right]$$

$$= 2800\left[\left(\frac{11}{10}\right)^{3/2}-1\right]$$

$$= 2800\,[1{\cdot}154-1]$$

$$= 2800\times 0{\cdot}154$$

$$= ₹\,431{\cdot}20 \simeq ₹\,434$$

47. (C) Let that amount is ₹ x, then

$$65 = x\left(\frac{10}{100}\right)^2$$

$$\therefore \quad x = 65\times 100$$

$$= ₹\,6500$$

48. (B) Let the invested money in first bank is ₹ x and in second bank is ₹ $(1500-x)$.

Then as per question,

$$160 = \frac{x\times 5\times 2}{100}+\frac{(1500-x)\times 6\times 2}{100}$$

$$10x + 18000 - 12x = 16000$$

$$2x = 2000$$

$$\therefore \quad x = ₹\,1000$$

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

$$\therefore \quad r^2 = \frac{4}{121}\times 61$$

$$= \frac{244}{121}$$

$$\therefore \quad r = 1{\cdot}42\ \text{cm}$$

$$\therefore \quad \text{Diameter} = 2{\cdot}84\ \text{cm} \simeq 3\ \text{cm}$$

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

1. Who is the first economist to receive the Nobel Prize in Economics in single ?
   (A) Simon Kuznets
   (B) Wassily Leontief
   (C) Milton Friedman
   (D) Paul A. Samuelson

2. The supply of Money in a country means—
   (A) Cash balances held by the government
   (B) Aggregate Stock of money issued by the Central Bank
   (C) Cash reserves owned by the Commercial Banks
   (D) Total Stock of money in circulation at a given period of time

3. Corner shop is an example for—
   (A) Partnership
   (B) Sole trade
   (C) Limited company
   (D) 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

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_2O (B) CO_2
(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 with-stand 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, oxyaffecting 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 nonmetal is **not** a poor conductor of electricity ?
(A) Phosphorus (B) Bromide
(C) Selenium (D) Sulphur

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
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 wichin, 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 × 8000) energy.
25. (C) HIV is a viral disease. ELISA (Enzyme Linked Immune Sorvent Assay) is a test for HIV virus.
26. (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.
27. (A) Mercury is the closest planet to the sun. It is extremely hot planet. Mercury planet has no protective blanket like Ozone around it to prevent us from harmful radiations. It has no satellite.
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)