## SECTION–1: MENTAL ABILITY TEST
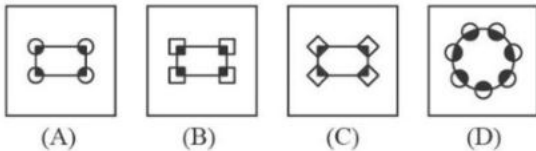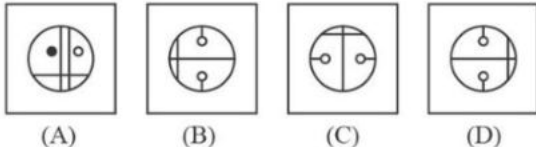
### PART–I

**DIRECTIONS:** In Question Nos. **1** to **4**, four figures (A), (B), (C) and (D) have been given in each question. Of these four figures, three figures are similar in some way and one figure is different. Select the figure which is different. Darken the circle for the answer in the OMR Answer Sheet against the number corresponding to the question.

1.

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

2.

(A)        (B)        (C)        (D)
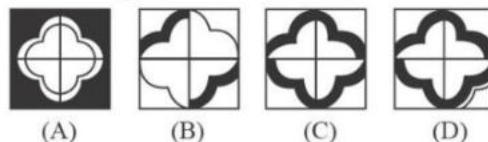
3.

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

4.

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

### PART–II

**DIRECTIONS:** In Question Nos. **5** to **8**, a question figure is given in question figure and four answer figures marked (A), (B), (C) and (D) are given. Select the answer figure which is exactly the same as the question figure and darken the circle in the OMR Answer Sheet against the number corresponding to the question.
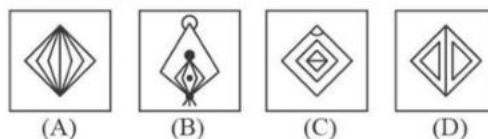
5. **Question Figure**

**Answer Figures**

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

6. **Question Figure**

**Answer Figures**

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

7. **Question Figure**

**Answer Figures**

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

8. **Question Figure**

**Answer Figures**

(A)        (B)        (C)        (D)
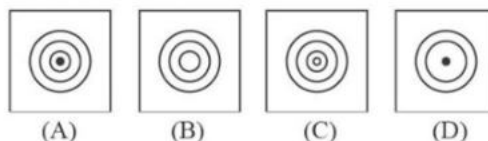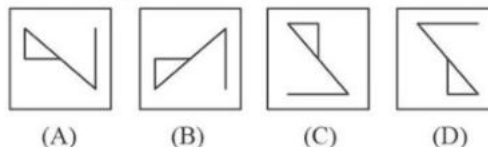
### PART–III

**DIRECTIONS:** In Question Nos. **9** to **12**, there is a question figure, a part of which is missing. Observe the answer figures (A), (B), (C)

and (D) and find out the answer figure which, without changing the direction, fits in the missing part of the question figure in order to complete the pattern in the question figure. Indicate your answer by darkening the circle in the OMR Answer Sheet against the number corresponding to the question.
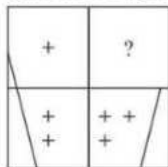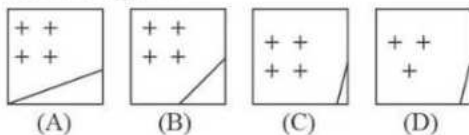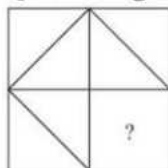
9. **Question Figure**



**Answer Figures**



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

10. **Question Figure**



**Answer Figures**



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

11. **Question Figure**



**Answer Figures**



(A)      (B)      (C)      (D)
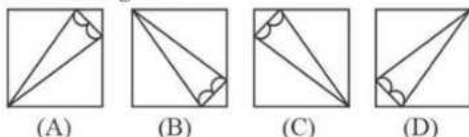
12. **Question Figure**



**Answer Figures**



(A)      (B)      (C)      (D)
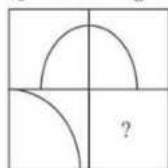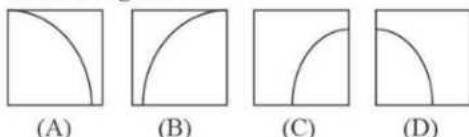
**DIRECTIONS:** In Question Nos. **13** to **16**, there are three question figures and the space for the fourth figure is left blank. The question figures are in a series. Find out one figure from among the given answer figures which occupies the blank space for the fourth figure and completes the series. Indicate your answer by darkening the circle in the OMR Answer Sheet against the number corresponding to the question.
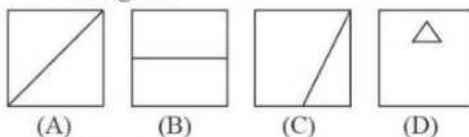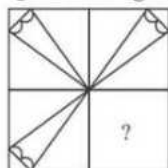
13. **Question Figures**



**Answer Figures**



(A)      (B)      (C)      (D)
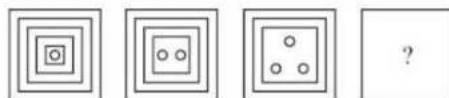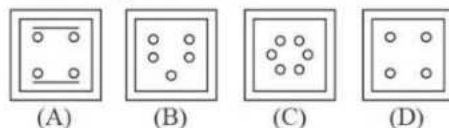
14. **Question Figures**



**Answer Figures**



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

15. **Question Figures**



**Answer Figures**



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

16. **Question Figures**



**Answer Figures**



(A)      (B)      (C)      (D)
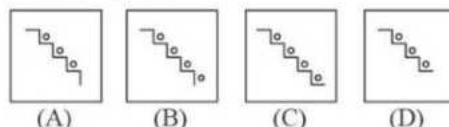
**DIRECTIONS:** In Question Nos. **17** to **20**, there are two sets of two question figures each. The second set has an interrogation

mark (?). There exists a relationship between the first two question figures. Similar relationship should exist between the third and the fourth question figure. Select one of the answer figures which replaces the mark of interrogation. Darken the circle in the OMR Answer Sheet against the number corresponding to the question.

17. **Question Figures**



**Answer Figures**



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

18. **Question Figures**



**Answer Figures**



(A)     (B)     (C)     (D)
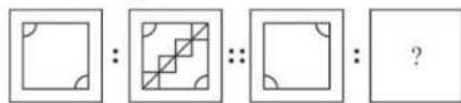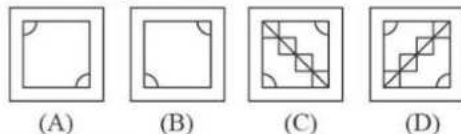
19. **Question Figures**



**Answer Figures**



(A)     (B)     (C)     (D)
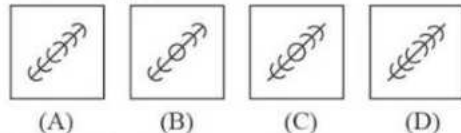
20. **Question Figures**



**Answer Figures**



(A)     (B)     (C)     (D)
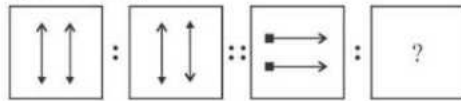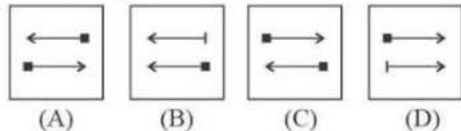
## PART–VI

**DIRECTIONS:** In Question Nos. **21** to **24**, one part of a geometrical figure (Triangle, Square, Circle) is given as question figure and the other one is among the four answer figures (A), (B), (C) and (D). Find the figure that completes the geometrical figure and darken the circle in the OMR Answer Sheet against the number corresponding to the question.

21. **Question Figure**



**Answer Figures**



(A)     (B)     (C)     (D)
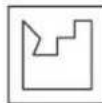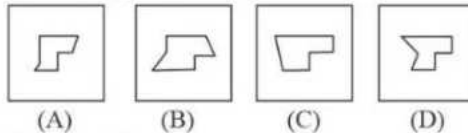
22. **Question Figure**



**Answer Figures**



(A)     (B)     (C)     (D)
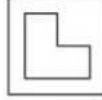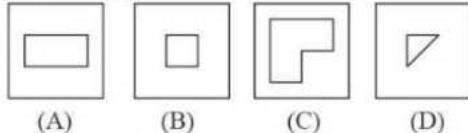
23. **Question Figure**



**Answer Figures**



(A)     (B)     (C)     (D)
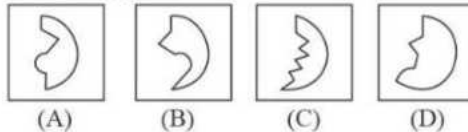
24. **Question Figure**



**Answer Figures**



(A)     (B)     (C)     (D)
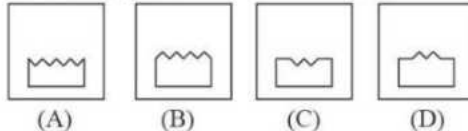
## PART–VII

**DIRECTIONS:** In Question Nos. **25** to **28**, there is a question figure is given and four answer figures marked (A), (B), (C) and (D) are given. Select the answer figure which is exactly the mirror image of the question figure when the mirror is held at XY. Indicate your answer by darkening the circle in the OMR Answer Sheet against the number corresponding to the question.

25. **Question Figure**

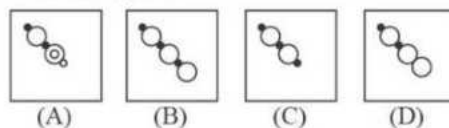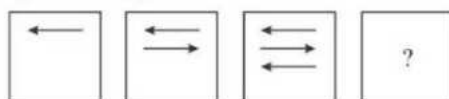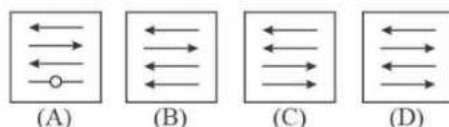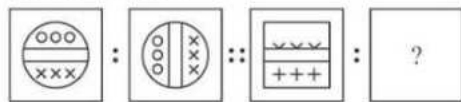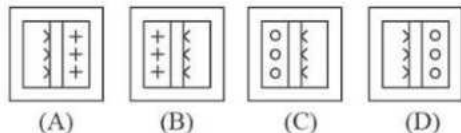**Answer Figures**



(A)    (B)    (C)    (D)
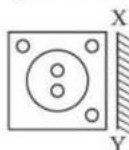
26. **Question Figure**



**Answer Figures**



(A)    (B)    (C)    (D)
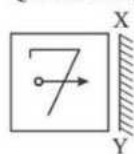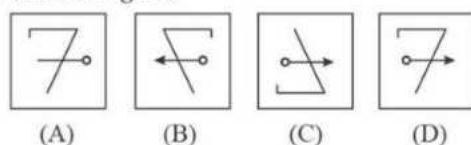
27. **Question Figure**



**Answer Figures**

| PVA | 9VA | 9Vᗡ | 9ᐱᗡ |

(A)    (B)    (C)    (D)
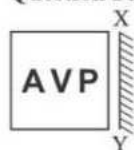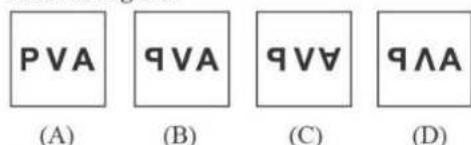
28. **Question Figure**



**Answer Figures**



(A)    (B)    (C)    (D)
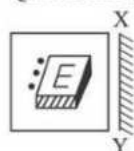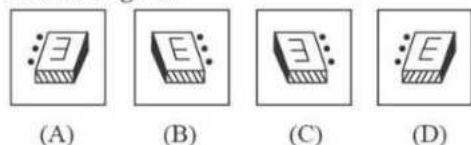
**DIRECTIONS:** In Question Nos. **29** to **32**, a piece of paper is folded and punched as shown in the question figures, and four answer figures marked (A), (B), (C) and (D) are given. Select the answer figure which indicates how the paper will appear when opened (unfolded). Indicate your answer by darkening the circle in the OMR Answer Sheet against the number corresponding to the question.

29. **Question Figures**



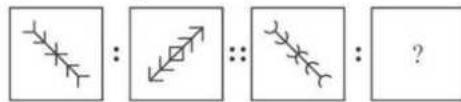**Answer Figures**



(A)    (B)    (C)    (D)
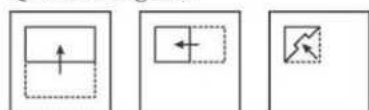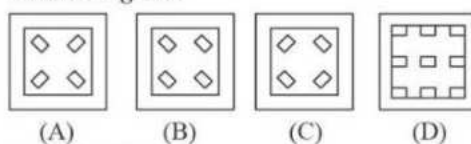
30. **Question Figures**



**Answer Figures**



(A)    (B)    (C)    (D)
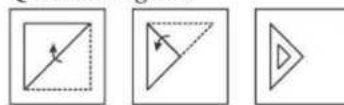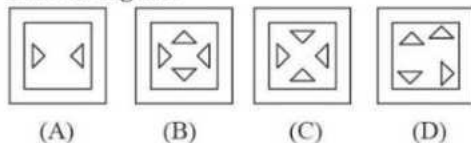
31. **Question Figures**



**Answer Figures**



(A)    (B)    (C)    (D)
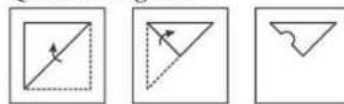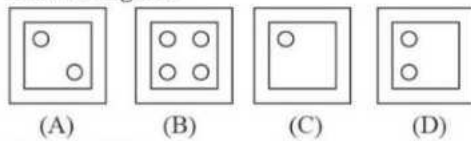
32. **Question Figures**



**Answer Figures**



(A)    (B)    (C)    (D)
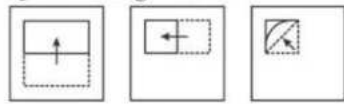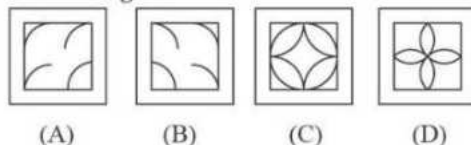
### PART–IX

**DIRECTIONS:** In Question Nos. **33** to **36**, a question figure is given and four answer figures marked (A), (B), (C) and (D) are given. Select the answer figure which can be formed from the cut-out pieces given in the question figure. Darken the circle in the OMR Answer Sheet against the number corresponding to the question.

33. **Question Figure**



**Answer Figures**



(A)    (B)    (C)    (D)
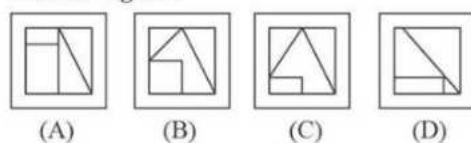
**34. Question Figure**



**Answer Figures**



(A)        (B)        (C)        (D)
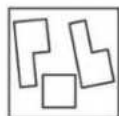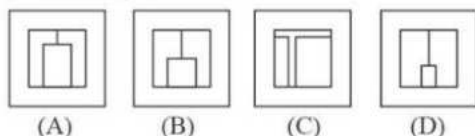
**35. Question Figure**



**Answer Figures**



(A)        (B)        (C)        (D)
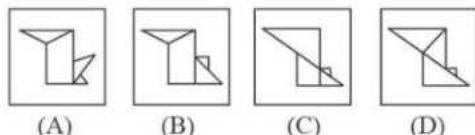
**36. Question Figure**



**Answer Figures**



(A)        (B)        (C)        (D)
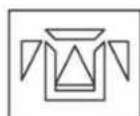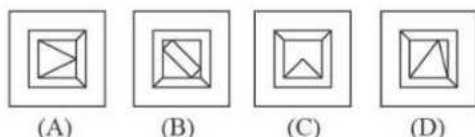
**DIRECTIONS:** In Question Nos. **37** to **40**, a question figure is given and four answer figures marked (A), (B), (C) and (D) are given. Select the answer figure in which the question figure is hidden/embedded. Darken the circle in the OMR Answer Sheet against the number corresponding to the question.

**37. Question Figure**
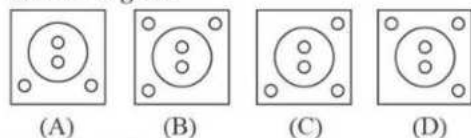


**Answer Figures**



(A)        (B)        (C)        (D)
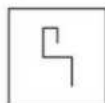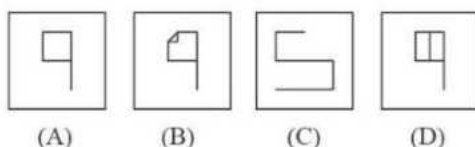
**38. Question Figure**



**Answer Figures**



(A)        (B)        (C)        (D)
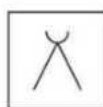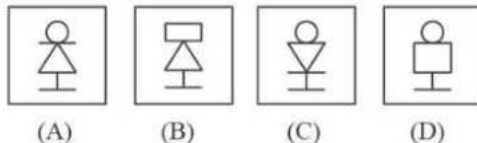
**39. Question Figure**



**Answer Figures**



(A)        (B)        (C)        (D)
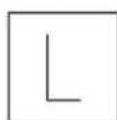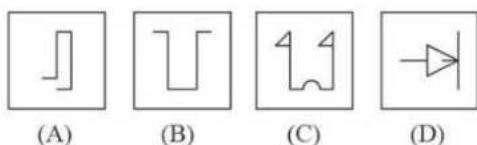
**40. Question Figure**



**Answer Figures**



(A)        (B)        (C)        (D)
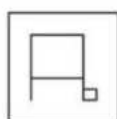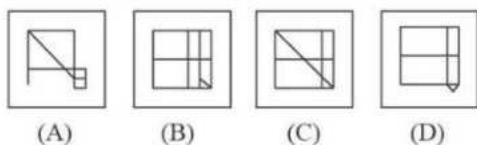
## SECTION–2: ARITHMETIC TEST

**DIRECTIONS:** For every question, **four** probable answers as (A), (B), (C) and (D) are given. Only **one** out of these is **correct.** Choose the correct answer and darken the circle in the OMR Answer Sheet against the number corresponding to the question.

**41.** A group of 80 students went on a picnic. 20% of the students are girls and rest are boys. How many girls should replace the boys so as to make the boys as 70%?

(A) 16        (B) 24        (C) 12        (D) 8

**42.** A 1250 m long train covers a distance of 1 km in 2 minutes. It crosses another stationary train in 4 minutes. The length of the stationary train is:

(A) 1250 m   (B) 500 m    (C) 750 m    (D) 1000 m

**43.** Rahim got 10 marks more than Dinesh. George got 25 marks less than Rahim. The total marks of all the three are 235. The marks of George are:

(A) 80        (B) 65        (C) 90        (D) 75

44. On simplification of
$10 \times 10 + [400 \div \{100 - (50 - \overline{3 \times 10})\}]$, we get:

(A) 265    (B) 65    (C) 310    (D) 105

45. 360 g is what percent of 3 kg?

(A) 12%    (B) 15%    (C) 18%    (D) 21%

46. The difference between the cost price and the selling price of a commodity is ₹ 240. If the profit is 20%, then the selling price is:

(A) ₹ 1200   (B) ₹ 1440   (C) ₹ 1800   (D) ₹ 2440

47. The length, width and height of a water tank are 11 m, 10 m and 9 m respectively. The tank is filled with water up to 6 m height. The empty portion of the water tank is:

(A) $\frac{1}{4}$    (B) $\frac{1}{3}$    (C) $\frac{1}{6}$    (D) $\frac{2}{3}$

48. How many rectangular tiles of dimensions 10 cm × 8 cm are required to cover the floor of a hall having dimensions 12 m × 10 m?

(A) 12000   (B) 15000   (C) 10000   (D) 18000

49. A dealer gets ₹ 56 less if instead of selling a chair at a gain of 15%, he sells it at a gain of 8%. The cost price of the chair is:

(A) ₹ 700    (B) ₹ 800    (C) ₹ 900    (D) ₹ 950

50. A 1 km long goods train is running at a speed of 45 km/h. The time taken by this goods train to pass through a 2 km long tunnel is:

(A) 1 minute    (B) 2 minutes
(C) 3 minutes    (D) 4 minutes

51. Five thousand five hundred fifty-five is written as:

(A) 5055    (B) 5505    (C) 5550    (D) 5555

52. The difference between the greatest and smallest 4-digit number using all the digits 9, 7, 0 and 4 is:

(A) 8991    (B) 5391    (C) 9261    (D) 5661

53. The sum of two numbers is 8 and their product is 15. What is the sum of their reciprocals?

(A) $\frac{8}{15}$    (B) $\frac{15}{8}$    (C) 23    (D) 7

54. The H.C.F. of $2^2 \times 3^3 \times 5^5$, $2^3 \times 3^2 \times 5^2 \times 7$ and $2^4 \times 3^4 \times 5 \times 7^2 \times 13$ is:

(A) $2^2 \times 3^2 \times 5 \times 7 \times 13$   (B) $2^4 \times 3^4 \times 5^5$
(C) $2^4 \times 3^4 \times 5^2 \times 7 \times 11$ (D) $2^2 \times 3^2 \times 5$

55. If 15 is the sum of three consecutive numbers, then the square of the middle number is:

(A) 16    (B) 25    (C) 36    (D) 49

56. A number with 4 or more digits is divisible by 8, if the:

(A) number is even
(B) last digit is divisible by 8
(C) last two digits are divisible by 8
(D) last three digits are divisible by 8

57. 5 cm is expressed in kilometres as:

(A) 0.005 km    (B) 0.0005 km
(C) 0.00005 km    (D) 0.000005 km

58. Which of the following numbers is divisible by 3, 4, 5 and 6?

(A) 36    (B) 60    (C) 80    (D) 90

59. On dividing 4.239 by 0.9 we get:

(A) 0.471   (B) 4.71   (C) 47.1   (D) 471

60. My watch shows 7:05 a.m. It is 25 minutes fast. The correct time is:

(A) 7:30 a.m.      (B) 7:50 a.m.
(C) 6:40 a.m.      (D) 5:40 a.m.

## SECTION–3: LANGUAGE TEST

**DIRECTIONS:** There are **four** passages in this section. Each passage is followed by **five** questions. Read each passage carefully and answer the questions that follow. For each question, **four** probable answers as (A), (B), (C) and (D) are given. Only **one** out of these is **correct.** Choose the correct answer and darken the circle in the OMR Answer Sheet against the number corresponding to the question.

### PASSAGE–1

A volcano is a burning mountain with a great hole running deep into the earth. The mouth of the opening is called the 'crater' of the volcano. Sometimes a volcano may remain quiet for centuries and then suddenly become active. This is called a 'volcanic eruption', and great clouds of ash, dust, gas and steam rise from the crater accompanied by a loud noise. After sometime, hot molten rock, called lava, begins to flow down the mountain. This may continue for many days or weeks. Then the volcano will 'go to sleep' again, or remain 'dormant' for many years. Most volcanoes are found near the sea, leading to formation of islands.

61. What is not true about a volcano?
(A) It is like big forest fires.
(B) It gives out ash, dust and lava.
(C) It is found mostly near the sea.
(D) It creates a great hole deep into the earth.

62. When a volcano erupts, it is said to be _____.
(A) dormant (B) sleeping (C) active    (D) quiet

63. The lava that flows down the mountain is in _____ state.
(A) solid    (B) liquid    (C) vapour    (D) gaseous

64. The antonym of 'quiet' here is _____.
(A) calm    (B) serene   (C) still    (D) active

65. 'Accompanied' as used in the passage, means _____.
(A) alongwith      (B) followed by
(C) happened      (D) continued

### PASSAGE–2

Sometimes we get bored doing the same kind of job. It reduces our efficiency, so we should have some entertainment to refresh ourselves. Then we can resume our work with the same efficiency and enthusiasm. Tension or worries are the enemies of our health. Laughter is the best medicine to get rid of unwanted tension or worries. We can also visit parks, museums, sanctuaries, etc. to

remove our tension. Physical exercise is also as important as playing games.

66. We get bored doing the _____ kind of job.
   (A) different          (B) separate
   (C) similar            (D) apart

67. After some entertainment, we can _____ our work.
   (A) end   (B) finish   (C) close   (D) resume

68. Laughter helps us in getting rid of _____.
   (A) hereditary diseases only
   (B) unwanted tension
   (C) unforeseeable problems only
   (D) viral diseases

69. 'Resume' means the same was _____.
   (A) take back          (B) start again
   (C) finish             (D) discontinue

70. 'Efficiency' is the antonym of _____.
   (A) edge               (B) effectiveness
   (C) inefficiency       (D) effusiveness

## PASSAGE–3

We cannot judge a person merely through his outward appearance. Appearances are often deceptive. It is difficult to know one's virtues or qualities at a glance. Sometimes we are drawn towards a person by his outward appearance. But later we realise that we judged him wrong. Many things appear attractive superficially. But very often things are not what they seem to be. We should find out the true nature of a person or a thing.

71. Outward appearances are often _____.
   (A) deceptive          (B) strong
   (C) clear              (D) true

72. What is difficult to know at a glance?
   (A) One's name         (B) One's address
   (C) One's virtues      (D) One's ambition

73. Mostly we are attracted towards a person by his/her _____.
   (A) inner show         (B) attractive personality
   (C) outward appearance (D) mental power

74. 'Attractive' is not the synonym of _____.
   (A) beautiful          (B) pretty
   (C) lovely             (D) ugly

75. 'Deceptive' is a/an _____.
   (A) Adverb             (B) Verb
   (C) Adjective          (D) Noun

## PASSAGE–4

Lal Bahadur Shastri was the second Prime Minister of India. He is said to be one of the best leaders India has ever produced. But only a few people know about his early life. He battled against all odds in his life to complete his studies. After completing his studies he did not opt for any job. He was eager to join the freedom movement. Soon he became a mass leader. He became the Prime Minister of India in 1964. He was a laborious person and worked at least eighteen hours a day.

76. Lal Bahadur Shastri was the _____ Prime Minister of India.
   (A) second             (B) first
   (C) third              (D) fourth

77. He battled _____ all odds in his life.
   (A) for                (B) against
   (C) in                 (D) into

78. He became a _____ leader.
   (A) one man            (B) few men
   (C) mob                (D) mass

79. 'Became' is the _____ tense of the verb.
   (A) present            (B) past
   (C) future             (D) indefinite

80. 'Complete' is the synonym of _____.
   (A) begin              (B) commence
   (C) finish             (D) open

## SOLUTIONS

1. **(C)** In all the figures except (C), one of the ends of the line is attached to an arrowhead.

2. **(D)** In all the figures except (D), the rectangle lies between two parallel lines.

3. **(D)** All the figures except (D) contains a rectangle.

4. **(A)** All the figures except (A) can be rotated into each other.

5. **(C)**   6. **(B)**   7. **(B)**   8. **(A)**   9. **(C)**   10. **(A)**
11. **(B)**   12. **(B)**

13. **(D)** In each step, the innermost square is removed and the number of circles are increased by 1.

14. **(C)** A dot and a circle are added alternatively along the diagonals of the outer square.

15. **(D)** A right pointing arrow and a left pointing arrow are added alternatively.

16. **(B)** In each step, the elements of the first figure are added so as to obtain a staircase like pattern.

17. **(A)** In each pair, the first figure is rotated by 90° in an anticlockwise direction to obtain the second figure.

18. **(C)** In order to obtain the second figure, the diagonally opposite vertices of the square, which are not attached to an arc are connected by a line and four small squares are added along that diagonal.

19. **(B)** In order to obtain the second figure, all the elements attached to the line segment are reversed.

20. **(C)** In order to obtain the second figure, one of the two similar looking elements is reversed while the other one remains unchanged.

21. **(D)**   22. **(B)**   23. **(B)**   24. **(A)**   25. **(B)**   26. **(B)**
27. **(B)**   28. **(C)**   29. **(C)**   30. **(C)**   31. **(A)**   32. **(C)**
33. **(B)**   34. **(B)**   35. **(B)**   36. **(A)**   37. **(D)**   38. **(A)**
39. **(B)**   40. **(A)**

41. **(D)** Let $x$ girls should replace the boys. Then,

Number of girls $= 80 \times \dfrac{20}{100} = 16$

Now, $\dfrac{16+x}{80} = \dfrac{30}{100}$

$\Rightarrow 1600 + 100x = 2400 \Rightarrow 100x = 800 \Rightarrow x = 8.$

**42. (C)** Speed of 1st train $= \dfrac{\text{Distance}}{\text{Time}} = \dfrac{1 \times 1000}{2 \times 60} = \dfrac{25}{3}$ m/s

Let the length of stationary train be $x$ m. Then,

$$= \dfrac{1250 + x}{\dfrac{25}{3}} = 4 \times 60 \qquad [\because 4 \text{ min} = 4 \times 60 \text{ sec}]$$

$$\Rightarrow \dfrac{3(1250 + x)}{25} = 240 \quad \Rightarrow 3750 + 3x = 6000 \quad \Rightarrow 3x = 2250$$

$$\Rightarrow x = 750 \text{ m}.$$

**43. (B)** Let the marks obtained by Dinesh $= x$. Then,
Marks obtained by Rahim $= x + 10$
Marks obtained by George $= x + 10 - 25 = x - 15$
Now, $x + x + 10 + x - 15 = 235$
$\Rightarrow 3x - 5 = 235 \Rightarrow 3x = 240 \Rightarrow x = 80$
Hence, marks obtained by Geroge $= x - 15 = 80 - 15 = 65$.

**44. (D)** $10 \times 10 + [400 \div \{100 - (50 - \overline{3 \times 10})\}]$
$= 10 \times 10 + [400 \div \{100 - (50 - 30)\}]$
$= 10 \times 10 + [400 \div \{100 - 20\}] = 10 \times 10 + [400 \div 80]$
$= 10 \times 10 + 5 = 100 + 5 = 105$.

**45. (A)** Required percentage $= \left(\dfrac{360}{3 \times 1000} \times 100\right)\% = 12\%$.

**46. (B)** Let C.P. be $\overline{\mathrm{₹}}\, x$. Then,

$$\text{S.P.} = \overline{\mathrm{₹}}\left(\dfrac{100 + 20}{100} \times x\right) = \overline{\mathrm{₹}}\, \dfrac{120x}{100} = \overline{\mathrm{₹}}\, \dfrac{6x}{5}$$

Now, $\dfrac{6x}{5} - x = 240 \Rightarrow \dfrac{x}{5} = 240 \Rightarrow x = 1200$.

$$\therefore \text{S.P.} = \overline{\mathrm{₹}}\, \dfrac{6x}{5} = \overline{\mathrm{₹}}\left(\dfrac{6 \times 1200}{5}\right) = \overline{\mathrm{₹}}\, 1440.$$

**47. (B)** Filled Part $= \dfrac{11 \times 10 \times 6}{11 \times 10 \times 9} = \dfrac{2}{3}$.

$\therefore$ Empty Part $= 1 - \dfrac{2}{3} = \dfrac{1}{3}$.

**48. (B)** Required number of tiles

$$= \dfrac{\text{Area of floor}}{\text{Area of 1 tile}}$$

$$= \dfrac{12 \times 100 \times 10 \times 100}{10 \times 8} = 15000.$$

**49. (B)** Let C.P. be $\overline{\mathrm{₹}}\, x$. Then,

$\dfrac{115x}{100} - \dfrac{108x}{100} = 56 \Rightarrow \dfrac{7x}{100} = 56$

$\Rightarrow x = \dfrac{56 \times 100}{7} \Rightarrow x = 800$.

Hence, C.P. of the chair $= \overline{\mathrm{₹}}\, 800$.

**50. (D)** Speed $= 45$ km/hr
Total distance $= (1 + 2)$ km $= 3$ km

$\therefore$ Time $= \dfrac{\text{Distance}}{\text{Speed}} = \left(\dfrac{3}{45} \times 60\right)$ minutes $= 4$ minutes.

**51. (D)** Five thousand five hundred fifty five $= 5555$

**52. (D)** Largest 4-digit number by using the digits 9, 7, 0, 4 $= 9740$
Smallest 4-digit number by using the digits 9, 7, 0, 4 $= 4079$
$\therefore$ Required difference $= 9740 - 4079 = 5661$.

**53. (A)** Let two numbers be $x$ any $y$. Then,
$x + y = 8$
$xy = 15$
$\therefore \dfrac{1}{x} + \dfrac{1}{y} = \dfrac{x + y}{xy} = \dfrac{8}{15}$.

**54. (D)** Given numbers are:
$2^2 \times 3^3 \times 5^5;\ 2^3 \times 3^2 \times 5^2 \times 7;\ 2^4 \times 3^4 \times 5 \times 7^2 \times 13$
$\therefore$ Required H.C.F. $= 2^2 \times 3^2 \times 5$

**55. (B)** Let three consecutive numbers be $x, x + 1$ and $x + 2$. Then,
$x + x + 1 + x + 2 = 15 \Rightarrow 3x + 3 = 15 \Rightarrow 3x = 12$
$\Rightarrow x = 4$.
$\therefore$ Required number $= (x + 1)^2 = (4 + 1)^2 = 5^2 = 25$.

**56. (D)** Divisibility rule by 8— last three digit number of given number is divisible by 8.

**57. (C)** 1 cm $= 0.00001$ km
$\Rightarrow 5$ cm $= (5 \times 0.00001)$ km $= 0.00005$ km.

**58. (B)** Required number
$= $ L.C.M. of (3, 4, 5 and 6)
$= 2 \times 3 \times 2 \times 5 = 60$.

$$\begin{array}{c|cccc} 2 & 3, & 4, & 5, & 6 \\ \hline 3 & 3, & 2, & 5, & 3 \\ \hline & 1, & 2, & 5, & 1 \end{array}$$

**59. (B)** $\dfrac{4.239}{0.9} = \dfrac{4239 \times 10}{9 \times 1000} = \dfrac{471}{100} = 4.71$

**60. (C)** Correct time $= 7:05$ a.m. $- 25$ minutes $= 6:40$ a.m.

Hours minute

$$\begin{array}{cc} & \overset{\textcircled{65}}{} \\ 7 & \cancel{05} \\ - & 25 \\ \hline 6 & 40 \end{array}$$

Hence, correct time $= 6:40$ a.m.

| | | | | | |
|---|---|---|---|---|---|
| **61. (A)** | **62. (C)** | **63. (A)** | **64. (D)** | **65. (A)** | **66. (C)** |
| **67. (D)** | **68. (B)** | **69. (B)** | **70. (C)** | **71. (A)** | **72. (C)** |
| **73. (C)** | **74. (D)** | **75. (C)** | **76. (A)** | **77. (B)** | **78. (D)** |
| **79. (B)** | **80. (A)** | | | | |

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