
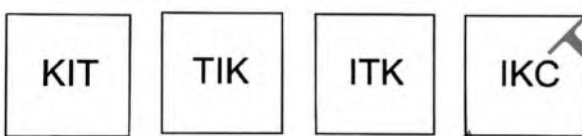
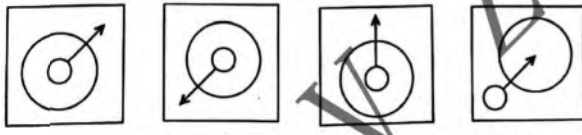
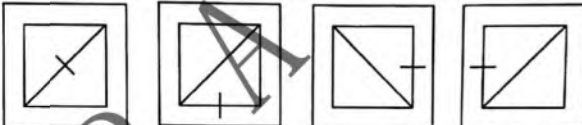


**Previous Paper (Solved)**  
**JAWAHAR NAVODAYA VIDYALAYA**  
**Class-VI, Entrance Exam, 2020\***

**SECTION-I : MENTAL ABILITY TEST**

**PART-I**

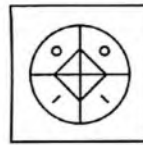
**Directions (Qs. No. 1 to 4):** In these questions, four figures (A), (B), (C) and (D) have been given in each question. Of these four figures, three figures are similar in some way and one figure is different. Select the figure which is different.

1.   
A B C D
2.   
A B C D
3.   
A B C D
4.   
A B C D

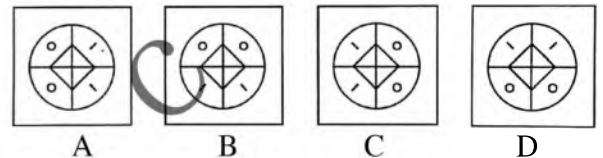
**PART-II**

**Directions (Qs. No. 5 to 8):** In these questions, a 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.

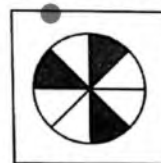
**5. Question Figure**



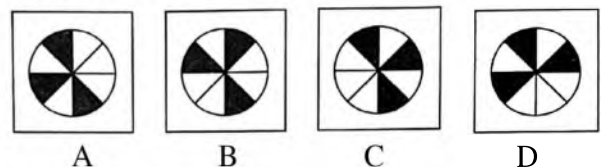
**Answer Figures**



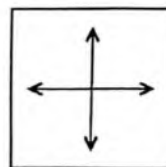
**6. Question Figure**



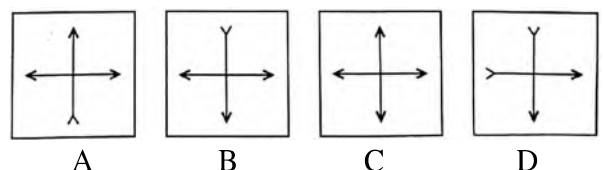
**Answer Figures**



**7. Question Figure**



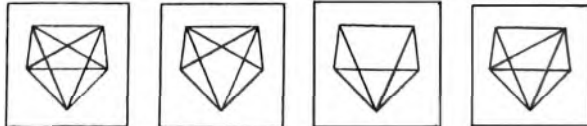
**Answer Figures**



### 8. Question Figure



#### Answer Figures



A

B

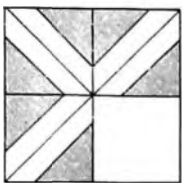
C

D

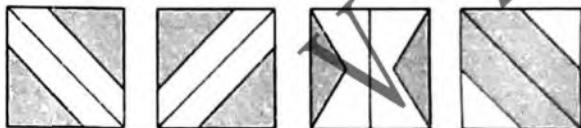
### PART-III

**Directions (Qs. No. 9 to 12):** In these questions, 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.

### 9. Question Figure



#### Answer Figures



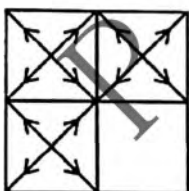
A

B

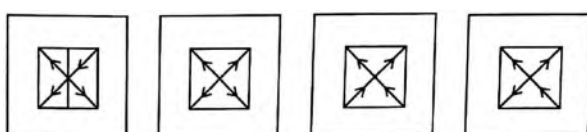
C

D

### 10. Question Figure



#### Answer Figures



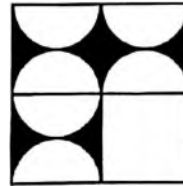
A

B

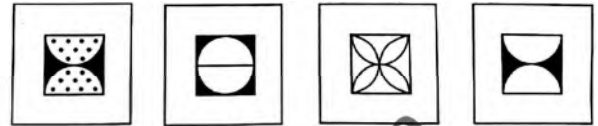
C

D

### 11. Question Figure



#### Answer Figures



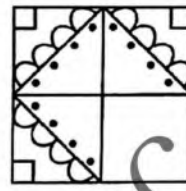
A

B

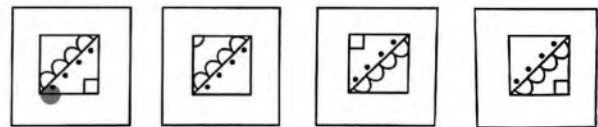
C

D

### 12. Question Figure



#### Answer Figures



A

B

C

D

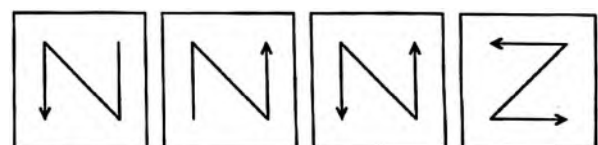
### PART-IV

**Directions (Qs. No. 13 to 16):** In these questions, 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 answer figures given which occupies the blank space for the fourth figure and completes the series.

### 13. Question Figures



#### Answer Figures



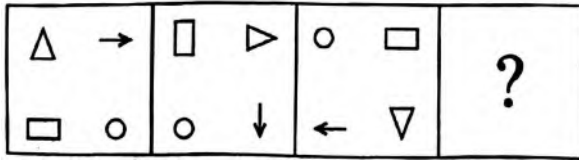
A

B

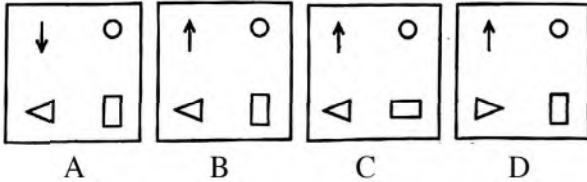
C

D

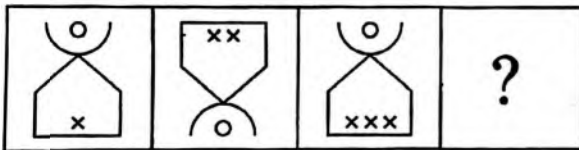
14. Question Figures



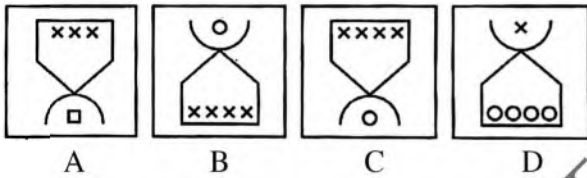
Answer Figures



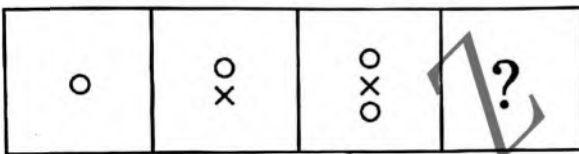
15. Question Figure



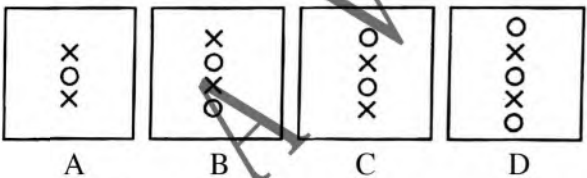
Answer Figures



16. Question Figures



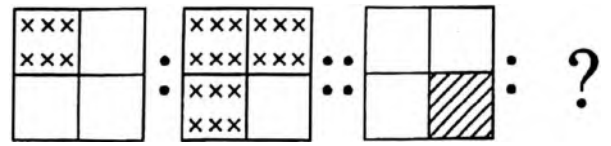
Answer Figures



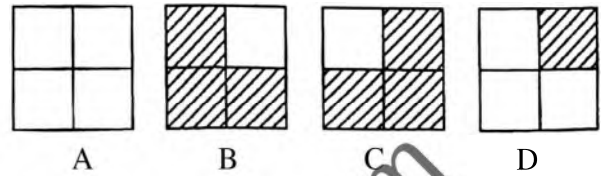
PART-V

**Directions (Qs. No. 17 to 20):** In these questions, 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 fourth question figure. Select one of the answer figures which replaces the mark of interrogation.

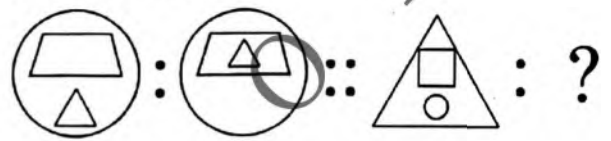
17. Question Figures



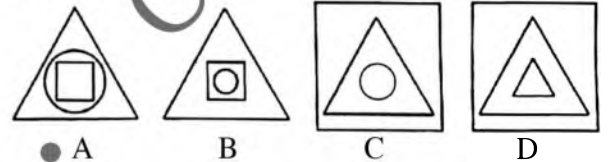
Answer Figures



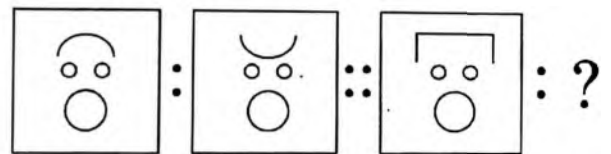
18. Question Figures



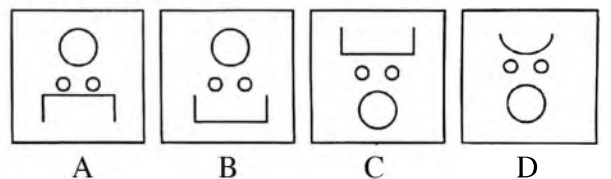
Answer Figures



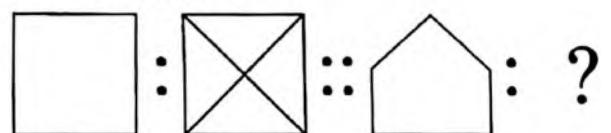
19. Question Figures



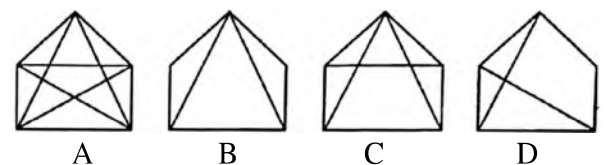
Answer Figures



20. Question Figures



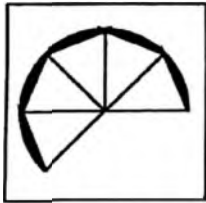
Answer Figures



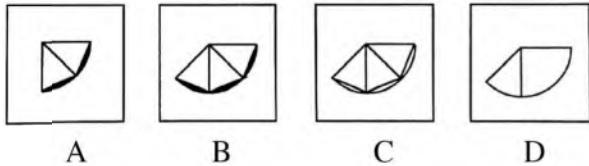
### PART-VI

**Directions (Qs. No. 21 to 24):** In these questions, one part of a geometrical figure (Triangle, Square, Circle) is given a question figure and the other one is among the four answer figures (A), (B), (C) and (D) are given. Find the figure that completes the geometrical figure.

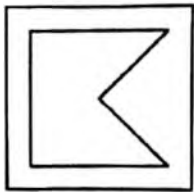
#### 21. Question Figure



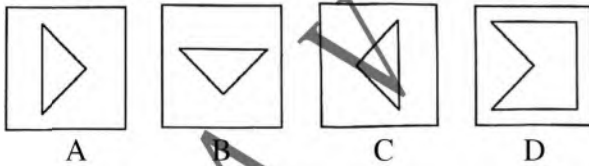
##### Answer Figures



#### 22. Question Figure



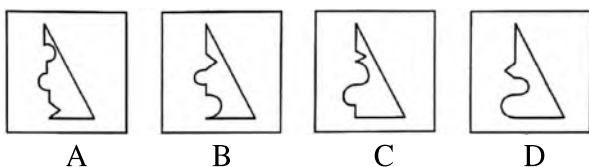
##### Answer Figures



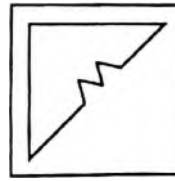
#### 23. Question Figure



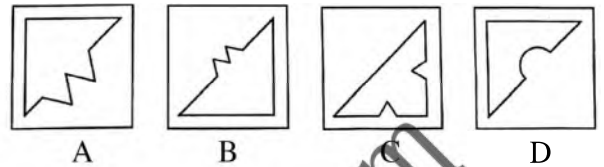
##### Answer Figures



#### 24. Question Figure



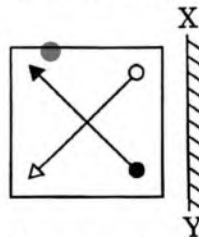
##### Answer Figures



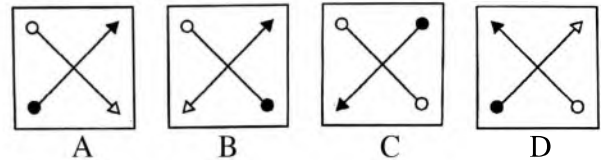
### PART-VII

**Directions (Qs. No. 25 to 28):** In these questions, 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.

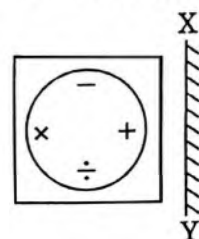
#### 25. Question Figure



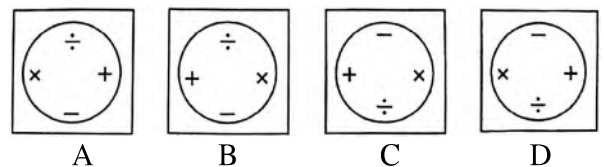
##### Answer Figures



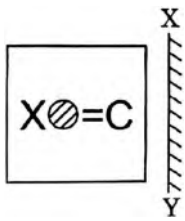
#### 26. Question Figure



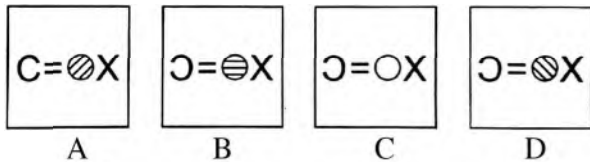
##### Answer Figures



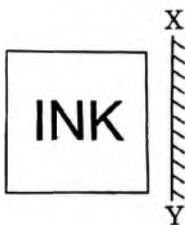
27. Question Figure



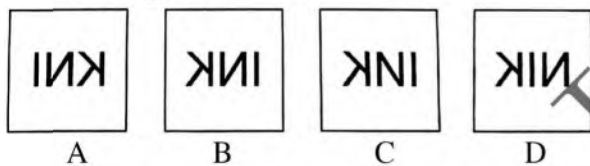
Answer Figures



28. Question Figure



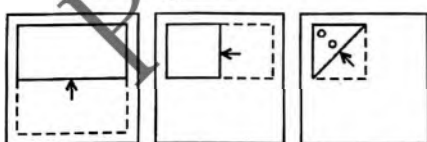
Answer Figures



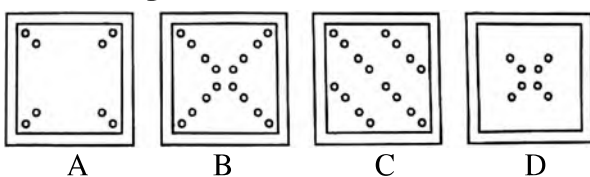
PART-VIII

**Directions (Qs. No. 29 to 32):** In these questions, a piece of paper is folded and punched as shown in 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 corresponding to the question.

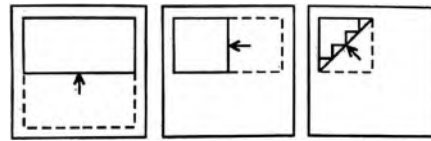
29. Question Figures



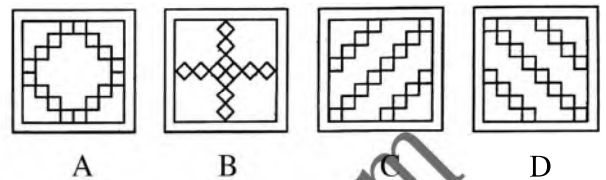
Answer Figures



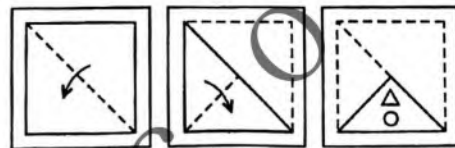
30. Question Figures



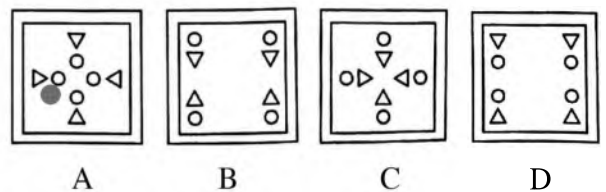
Answer Figures



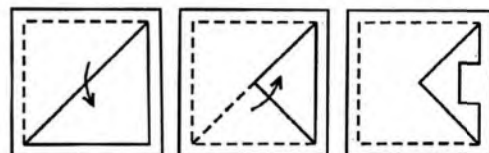
31. Question Figures



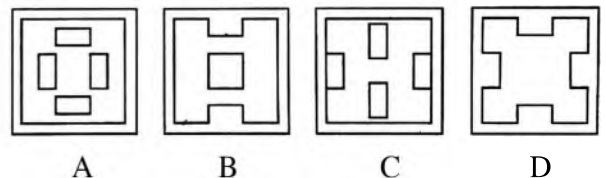
Answer Figures



32. Question Figures



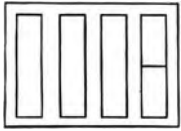
Answer Figures



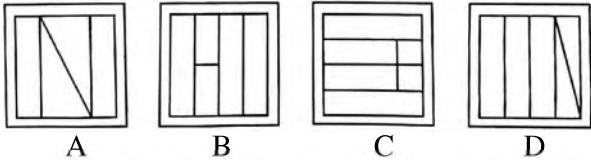
PART-IX

**Directions (Qs. No. 33 to 36):** In these questions, a question figure 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.

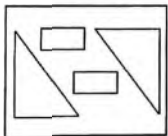
33. Question Figure



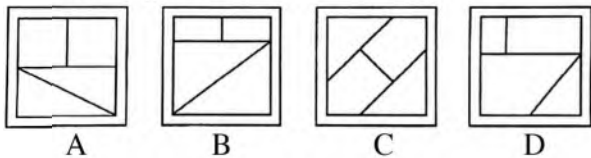
Answer Figures



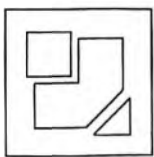
34. Question Figure



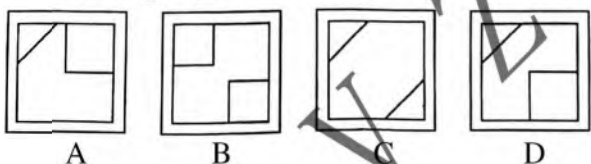
Answer Figures



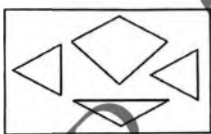
35. Question Figure



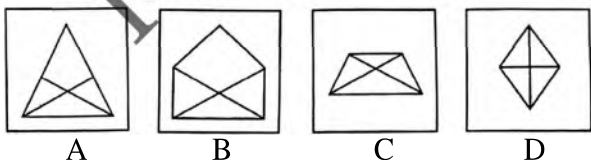
Answer Figures



36. Question Figure



Answer Figures

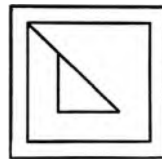


**PART-X**

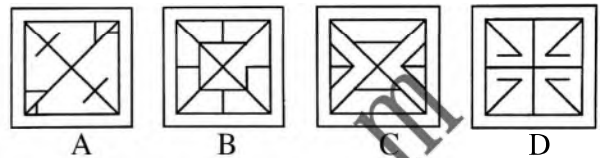
Directions (Qs. No. 37 to 40): In these questions, a question figure and four answer figures, marked

(A), (B), (C) and (D) are given. Select the answer figure in which the question figure is hidden/embedded.

37. Question Figure



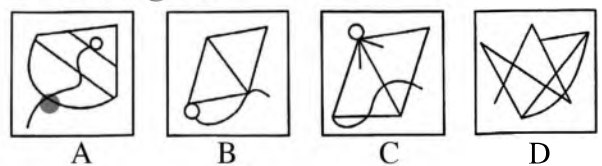
Answer Figures



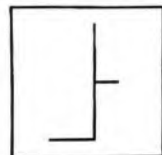
38. Question Figure



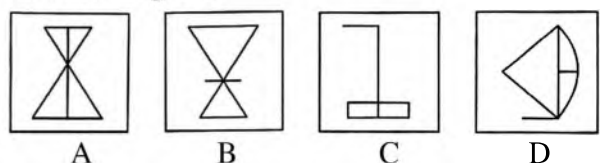
Answer Figures



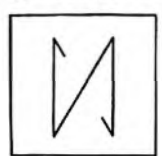
39. Question Figure



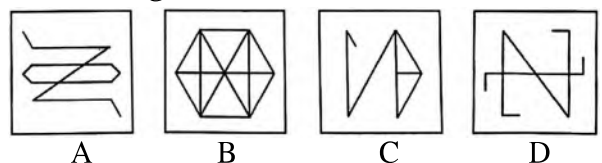
Answer Figures



40. Question Figure



Answer Figures



## SECTION-II : 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.

41. In how many years does the sum of ₹ 1,200 become ₹ 1,800 at the rate of simple interest of 5% per annum?  
A. 10 B. 20  
C. 15 D. 25
42. The prime factorisation of 640 is:  
A.  $2 \times 2 \times 2 \times 2 \times 2 \times 5$   
B.  $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5$   
C.  $2 \times 2 \times 2 \times 2 \times 2 \times 5 \times 5$   
D.  $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5$
43. If the number B is 10% less than another number C and C is 5% more than 150, then B is equal to:  
A. 157.85 B. 153.85  
C. 151.75 D. 141.75
44. A square and a rectangle have the same perimeter. If the side of the square is 16 m and the length of the rectangle is 18 m, the breadth of the rectangle is:  
A. 14 m B. 15 m  
C. 16 m D. 17 m
45. We reached our destination at 2:45 pm after travelling for  $4\frac{1}{2}$  hours. When did we start?  
A. 9 : 00 am B. 10 : 00 am  
C. 10 : 15 am D. 8 : 15 am
46. One-fourth of birds of a flock are at a river bank and one-fifth of that flock are in their nest. Remaining 22 birds are wandering in search of food. What is the number of birds which are in their nest?  
A. 40 B. 18  
C. 10 D. 8
47. What will be the difference between the greatest 6-digit number and the greatest 5-digit number?  
A. 100000 B. 100001  
C. 99999 D. 900000
48. A park is 1500 metres long and 750 metre wide. A cyclist has to take four rounds this park. How much time he will take at the speed of 4.5 km/h?  
A. 40 hours B. 20 hours  
C. 10 hours D. 4 hours
49. If  $15 - 15 \div 15 \times 6 = x$ , then x is:  
A. 6 B. 0  
C. 9 D. 84
50.  $\frac{3}{8} \div \left(\frac{5}{3} - \frac{1}{6}\right) + \frac{5}{8}$  equals:  
A.  $\frac{3}{8}$  B.  $2\frac{5}{8}$   
C.  $\frac{7}{8}$  D.  $1\frac{1}{8}$
51.  $140.75 \times 0.01$  is:  
A. 140.75 B. 14000.75  
C. 1.4075 D. 0.14075
52. The sum of H.C.F. and L.C.M of 45, 60 and 75 is:  
A. 330 B. 960  
C. 915 D. 630
53. How many bricks will be required for a wall 8 m long, 6 m high and 22.5 cm thick, if each brick measures 25 cm  $\times$  11.25 cm  $\times$  6 cm?  
A. 640 B. 1380  
C. 6400 D. 7600
54. The value of  $0.9 \div (0.3 \times 0.3)$  is:  
A. 0.01 B. 0.1  
C. 1 D. 10
55. Which of the following is not equal to 25?  
A.  $50 - (100 \div 4)$   
B.  $20 + (20 \div 4)$   
C.  $10 + (5 \times 2) + (10 - 5)$   
D.  $24 + (2 \times 1)$
56. 5% of 10% of 175 grams is equal to:  
A. 8.75 gm B. 0.5 gm  
C. 0.875 gm D. 17.5 gm







68. Visiting the ..... centres was considered holy in ancient India.  
A. training B. pilgrim  
C. city D. business
69. People have a feeling of oneness with others if they ..... a lot.  
A. travel B. talk  
C. play D. question
70. A sage is a person who is .....  
A. learned B. smart  
C. free D. wicked

### PASSAGE-3

Fire is to blame for the loss of countless lives and billions of rupees each and every year. Firefighters help protect people and their property from injury and damage. They put their lives on the line every time they respond to a call.

While on duty, firefighters must be ready to respond in a matter of minutes to just about any disaster that may occur. At every fire scene, a superior fire officer takes command and directs the jobs of all the people at the scene. Some firemen connect the hose lines to hydrants. Others manually operate the pumps to send water to the hoses. Teams of firefighters also operate ladders used to reach distances high in the air.

71. Which is not true about the firefighters?  
A. They are brave.  
B. They often put their lives in danger.  
C. They never put their lives in danger.  
D. They are highly trained.
72. A firefighter has to prepare to extinguish a fire in:  
A. minutes B. hours  
C. days D. weeks
73. Firefighters put their lives on the line means:  
A. They stand in a line.  
B. They fight fire.  
C. They put their lives in danger.  
D. They connect the hose line to hydrant.
74. To 'operate manually' means to:  
A. make a man work.  
B. work with their hands.  
C. use a machine.  
D. use one's body.

75. The word 'occur' means the same as:  
A. come B. happen  
C. call D. fire

### PASSAGE-4

To be fit and healthy, you need to be physically active. Regular physical activity protects you from serious diseases such as obesity, heart disease, cancer, mental illness, diabetes and arthritis. Riding a bicycle regularly is one of the best ways to reduce your risk of health problems associated with a sedentary lifestyle. Cycling is a healthy, low-impact exercise that can be enjoyed by people of all ages, from young children to older adults. It is also fun, cheap and good for the environment. Riding to work or the shop is one of the most time-efficient ways to combine regular exercise with everyday routine. An estimated one billion people ride bicycles everyday - for transport, recreation and sport. Cycling is a good way to reduce weight as it builds muscle and burns body fat. Research suggests that by cycling for half an hour everyday we can shed at least five kilos of weight in a year.

76. The main focus of the passage is to tell us the advantages of:  
A. keeping fit B. cycling  
C. exercising D. reducing weight
77. When the writer says : 'Cycling is good for the environment', which of the following is not correct?  
A. It does not emit any unhealthy gas.  
B. It can be run without petrol or diesel.  
C. It does not pollute air.  
D. It can be ridden by all age groups.
78. The word which means opposite of the word, 'sedentary' is:  
A. active B. lazy  
C. inactive D. deskbound
79. A low-impact exercise is one which is:  
A. not tiring B. not costly  
C. not efficient D. not boring
80. Regular cycling helps us in all of the following EXCEPT to:  
A. reduce fat and strengthen muscles  
B. combine fun with work  
C. prevent serious accidents  
D. remain healthy

## ANSWERS

1	2	3	4	5	6	7	8	9	10
B	D	D	A	B	B	C	B	A	B
11	12	13	14	15	16	17	18	19	20
D	D	B	B	C	C	C	B	C	D
21	22	23	24	25	26	27	28	29	30
B	C	D	B	A	C	D	B	B	A
31	32	33	34	35	36	37	38	39	40
C	D	B	B	D	B	B	C	D	B
41	42	43	44	45	46	47	48	49	50
A	D	D	A	C	D	D	D	C	C
51	52	53	54	55	56	57	58	59	60
C	C	C	D	D	C	B	D	D	D
61	62	63	64	65	66	67	68	69	70
C	D	A	B	B	C	B	B	A	A
71	72	73	74	75	76	77	78	79	80
C	A	C	B	B	C	D	A	B	C

## EXPLANATORY ANSWERS

41. Here,  $P = ₹ 1200$ ,  $A = ₹ 1800$ ,  $r = 5\%$

∴ Simple interest =  $A - P$

$$= ₹ 1800 - ₹ 1200$$

$$= ₹ 600$$

$$t = \frac{\text{S.I.} \times 100}{P \times r}$$

$$= \frac{600 \times 100}{1200 \times 5} = \frac{6 \times 20}{12}$$

$$= \frac{20}{2} = 10$$

∴ Time = 10 years.

42.

2	640
2	320
2	160
2	80
2	40
2	20
2	10
	5

∴ The prime factorisation of 640

$$= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5$$

43.  $C = 150 \times \frac{105}{100} = \frac{3}{2} \times 105 = \frac{315}{2}$

Then,  $B = \frac{315}{2} \times \frac{90}{100} = \frac{315}{2} \times \frac{9}{10}$

$$= \frac{63 \times 9}{2 \times 2} = \frac{567}{4}$$

$$= 141.75$$

44. The side of the square = 16 cm

∴ The perimeter of the square =  $4 \times \text{side}$

$$= 4 \times 16 \text{ m}$$

$$= 64 \text{ m}$$

And length of the rectangle = 18 m

Breadth =  $x$  m

∴ Perimeter =  $2(l + b) = 2(18 + x)$  m

As, A square and a rectangle have the same perimeter

So,  $2(18 + x) = 64$

$\Rightarrow 18 + x = 32$

$\Rightarrow x = 32 - 18 = 14 \text{ m}$

∴ Breadth of the rectangle = 14 m.

45. As, destination at 2:45 PM after travelling for  $4\frac{1}{2}$  hours.

$$\begin{aligned}\text{So, we start travelling} &= 2:45 \text{ PM} - 4\frac{1}{2} \text{ hours} \\ &= 2:45 - 4:30 \text{ hours} \\ &= 10:15 \text{ AM}\end{aligned}$$

46. Let the number of bird =  $x$

$$\text{Then, birds of a flock are at a river} = \frac{x}{4}$$

$$\text{and birds of a flock are in the nest} = \frac{x}{5}$$

$$\text{Therefore, } x - \left( \frac{x}{4} + \frac{x}{5} \right) = 22$$

$$\Rightarrow x - \left( \frac{5x + 4x}{20} \right) = 22$$

$$\Rightarrow x - \frac{9x}{20} = 22$$

$$\Rightarrow \frac{20x - 9x}{20} = 22$$

$$\Rightarrow \frac{11x}{20} = 22$$

$$\Rightarrow 11x = 22 \times 20$$

$$\Rightarrow x = \frac{22 \times 20}{11} = 40$$

$\therefore$  The number of birds are in their nest

$$= \frac{x}{5} = \frac{40}{5} = 8.$$

47. The greatest 6-digit number = 999999  
and the greatest 5-digit number = 99999  
 $\therefore$  Difference between = 999999 - 99999  
= 900000

48. Given, A park,

$$\text{Length} = l = 1500 \text{ m}$$

$$\text{and breadth} = 750 \text{ m}$$

As, this a rectangular park

$$\begin{aligned}\text{So, Perimeter} &= 2(l + b) = 2(1500 + 750) \text{ m} \\ &= 2 \times 2250 \text{ m} = 4500 \text{ m}\end{aligned}$$

$$= \frac{4500}{1000} \text{ km}$$

$$= 4.5 \text{ km}$$

A cyclist has to take four rounds this park

$$\begin{aligned}\therefore \text{Distance} &= 4 \times \text{perimeter} = 4 \times 4.5 \text{ km} \\ &= 18 \text{ km}\end{aligned}$$

$$\text{Speed} = 4.5 \text{ km/h}$$

$$\begin{aligned}\therefore \text{time} &= \frac{\text{Distance}}{\text{Speed}} = \frac{18 \text{ km}}{4.5 \text{ km/h}} \\ &= 4 \text{ hours.}\end{aligned}$$

49. Given,  $15 - 15 \div 15 \times 6 = x$

$$\therefore x = 15 - 15 \times \frac{1}{15} \times 6$$

$$= 15 - 1 \times 6$$

$$= 15 - 6$$

$$= 9$$

$$\therefore x = 9$$

50.  $\frac{3}{8} \div \left( \frac{5}{3} - \frac{1}{6} \right) + \frac{5}{8}$

$$= \frac{3}{8} \div \left( \frac{10-1}{6} \right) + \frac{5}{8}$$

$$= \frac{3}{8} \div \frac{9}{6} + \frac{5}{8}$$

$$= \frac{3}{8} \times \frac{6}{9} + \frac{5}{8}$$

$$= \frac{3}{2 \times 4} \times \frac{2 \times 3}{9} + \frac{5}{8}$$

$$= \frac{1}{4} + \frac{5}{8}$$

$$= \frac{7}{8}$$

51.  $140.75 \times 0.01 = 1.4075$

52. HCF of 45, 60 and 75

$$\begin{array}{r} 45 \overline{) 60} 1 \\ -45 \\ \hline 15 \overline{) 75} 5 \\ -75 \\ \hline \times \times \end{array}$$

$$\therefore \text{HCF} = 15$$

LCM of 45, 60 and 75

$$\begin{array}{r|l} 3 & 45, 60, 75 \\ 5 & 15, 20, 25 \\ \hline & 3, 4, 5 \end{array}$$

$$= 3 \times 5 \times 3 \times 4 \times 5 = 900$$

$$\therefore \text{LCM} = 900$$

$$\begin{aligned} \therefore \text{The sum of HCF and LCM} \\ = 15 + 900 = 915. \end{aligned}$$

53. For a wall,

$$l = 8 \text{ m}, b = 6 \text{ m}, h = 22.5 \text{ cm}$$

$$\therefore l = 8 \times 100 \text{ cm}, b = 6 \times 100 \text{ cm}, \\ h = 22.5 \text{ cm}$$

$$\therefore l = 800 \text{ cm}, b = 600 \text{ cm}$$

$$\begin{aligned} \text{Volume of a wall} &= l \times b \times h \\ &= 800 \times 600 \times 22.5 \text{ cm}^3 \\ &= 480000 \times 22.5 \text{ cm}^3 \\ &= 108000000 \\ &= 10800000 \text{ cm}^3 \end{aligned}$$

For a brick,

$$25 \text{ cm} \times 11.25 \text{ cm} \times 6 \text{ cm}$$

$$\begin{aligned} \therefore \text{Volume of brick} &= 25 \text{ cm} \times 11.25 \text{ cm} \times 6 \text{ cm} \\ &= 150 \times 11.25 \text{ cm}^3 \\ &= 1687.50 \end{aligned}$$

$\therefore$  The number of bricks will be required for a wall

$$\begin{aligned} &= \frac{\text{Volume of wall}}{\text{Volume of brick}} \\ &= \frac{10800000}{1687.50} = \frac{10800000.00}{1687.50} \\ &= \frac{108000000}{16875} = \frac{1080000 \times 100}{16875} \\ &= 64 \times 100 = 6400 \end{aligned}$$

$$54. 0.9 \div (0.3 \times 0.3) = 0.9 \div (.09)$$

$$= \frac{0.9}{.09} = \frac{0.90}{.09} = \frac{90}{9} = 10$$

The value of  $0.9 \div (0.3 \times 0.3)$  is 10

$$55. (A) 50 - (100 \div 4) = 50 - 25 = 25$$

$$(B) 20 + (20 \div 4) = 20 + 5 = 25$$

$$\begin{aligned} (C) 10 + (5 \times 2) + (10 - 5) \\ = 10 + 10 + 5 = 25 \end{aligned}$$

$$(D) 24 + (2 \times 1) = 24 + 2 = 26$$

56. 5% of 10% of 175 grams

$$= 175 \times \frac{5}{100} \times \frac{10}{100} \text{ gm}$$

$$= 175 \times \frac{1}{20} \times \frac{1}{10} \text{ gm}$$

$$= 35 \times \frac{1}{4} \times \frac{1}{10} \text{ gm}$$

$$= 7 \times \frac{1}{4} \times \frac{1}{2} \text{ gm}$$

$$= \frac{7}{8} \text{ gm} = 0.875 \text{ gm.}$$

$$57. \left(3\frac{7}{11} \times \frac{11}{5}\right) \div \left(\frac{3}{7} \times x\right) = \frac{4}{3}$$

$$\Rightarrow \frac{40}{11} \times \frac{11}{5} \times \frac{7}{3 \times x} = \frac{4}{3}$$

$$\Rightarrow 8 \times \frac{7}{3x} = \frac{4}{3}$$

$$\Rightarrow 8 \times 7 \times 3 = 3x \times 4$$

$$\Rightarrow 8 \times 7 = 4x$$

$$\Rightarrow x = \frac{8 \times 7}{4} = 2 \times 7 = 14$$

$$\therefore x = 14$$

58. Cost price of a table = ₹ 1200 + ₹ 200 = ₹ 14000 and selling price of a table = ₹ 1680

Here, S.P. > C.P.

$$\begin{aligned} \therefore \text{Profit} &= \text{S.P.} - \text{C.P.} \\ &= ₹ 1680 - ₹ 1400 \\ &= ₹ 280 \end{aligned}$$

$$\begin{aligned} \therefore \text{Profit per cent} &= \frac{\text{Profit} \times 100}{\text{C.P.}} \\ &= \frac{280 \times 100}{1400} = 20\% . \end{aligned}$$

59. The greatest 7-digit number = 9999999

and the smallest 4-digit number = 1000

$$\begin{aligned} \therefore \text{Difference between} &= 9999999 - 1000 \\ &= 9998999 \end{aligned}$$

$$60. 49.6 \times 10.2 - 7.1 \times 29.7 - 5.1 \times 20.1$$

$$= 505.92 - 210.87 - 102.51$$

$$= 505.92 - 313.38$$

$$= 192.54 = 190 \text{ (in whole numbers)}$$