

## Previous Years' Paper (Solved)

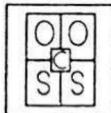
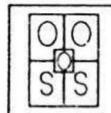
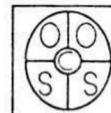
# Jawahar Navodaya Vidyalaya Entrance Exam, 2007

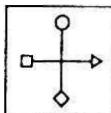
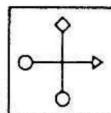
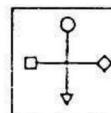
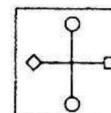
## Section-I

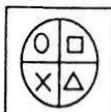
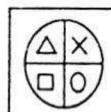
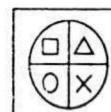
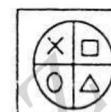
### MENTAL ABILITY

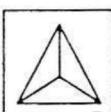
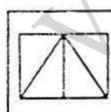
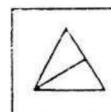
#### Part-I

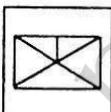
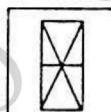
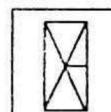
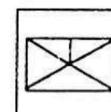
**Directions (Qs. No. 1 to 10):** The four figures (A), (B), (C) and (D) are given in each question below. The three figures out of these four figures are same upto some limit and after choosing separate a figure, indicate your correct answer.

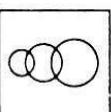
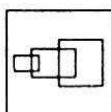
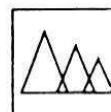
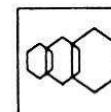
1.  (A)  (B)  (C)  (D)

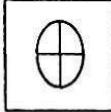
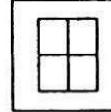
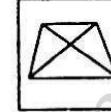
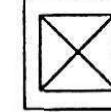
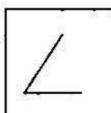
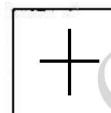
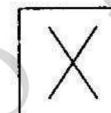
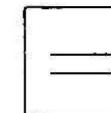
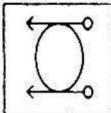
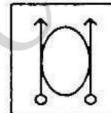
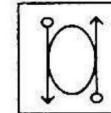
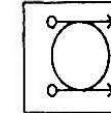
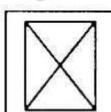
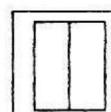
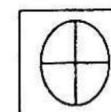
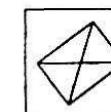
2.  (A)  (B)  (C)  (D)

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

4.  (A)  (B)  (C)  (D)

5.  (A)  (B)  (C)  (D)

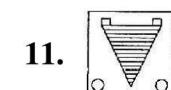
6.  (A)  (B)  (C)  (D)

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

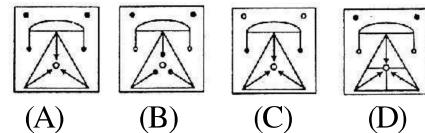
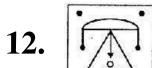
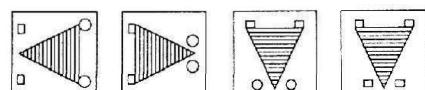
#### Part-II

**Directions (Qs. No. 11 to 20):** There are four answer figures (A), (B), (C), (D) given at the right side and one problem figure at the left side in each question below. Select that answer figure which is same with all respect of the problem figure and after selecting figure, indicate your correct sequence.

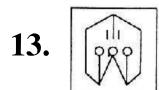
#### Problem Figure



#### Answer Figures

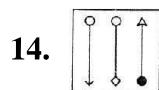
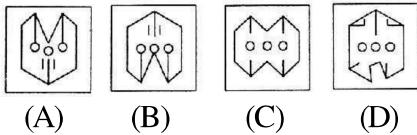


**Problem Figure**

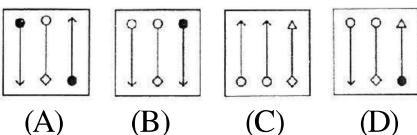


13.

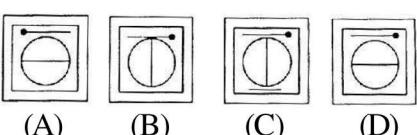
**Answer Figures**



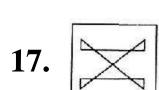
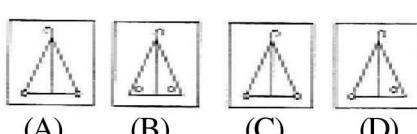
14.



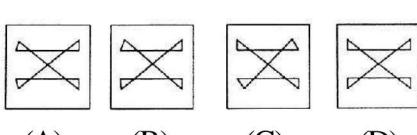
15.



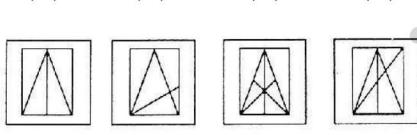
16.



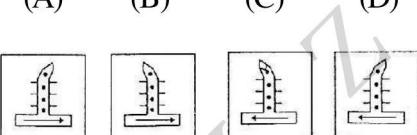
17.



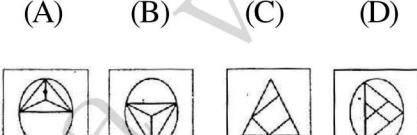
18.



19.



20.



**Part-III**

**Directions (Qs. No. 21 to 30):** One problem figure is given at the left side of line in each question below. One part is missing of that given problem figure. Find out that figure from given (A), (B), (C) and (D) answer figures at right side which fits exactly in this missing part of problem figure without changing their direction and complete the pattern of the problem figure. After selecting figure, indicate your correct response.

**Problem Figure**

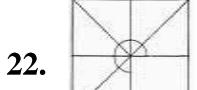


21.

**Answer Figures**



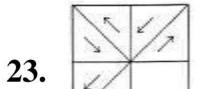
(A) (B) (C) (D)



22.



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



23.



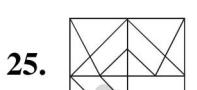
(A) (B) (C) (D)



24.



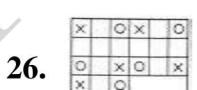
(A) (B) (C) (D)



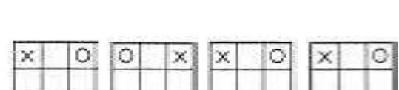
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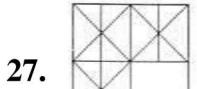
(A) (B) (C) (D)



26.



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



27.



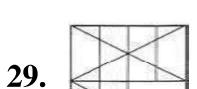
(A) (B) (C) (D)



28.



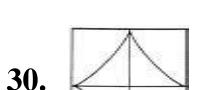
(A) (B) (C) (D)



29.



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



30.

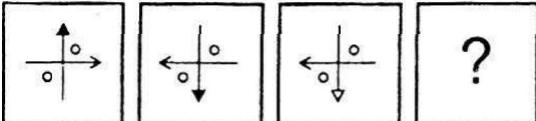
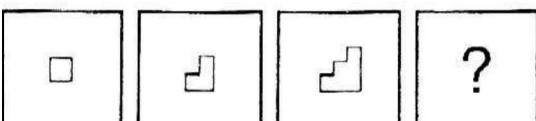
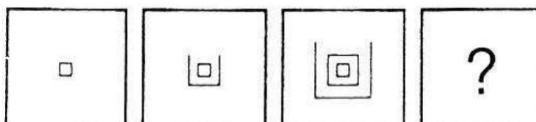
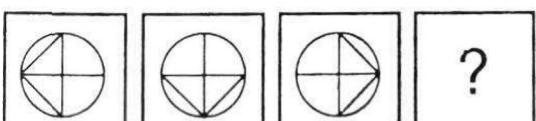
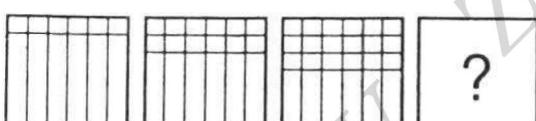
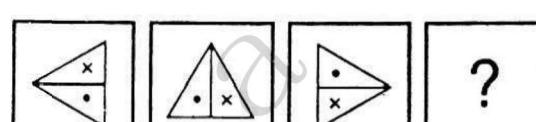
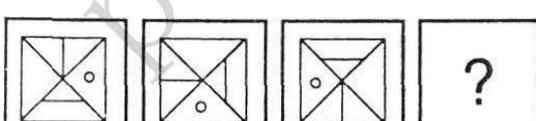
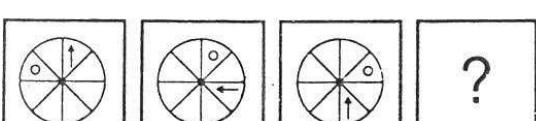


(A) (B) (C) (D)

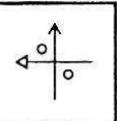
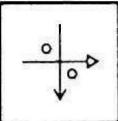
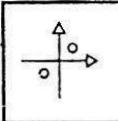
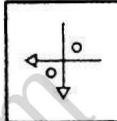
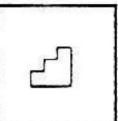
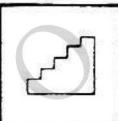
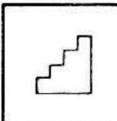
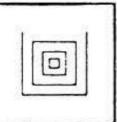
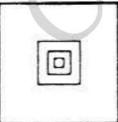
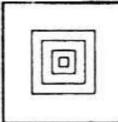
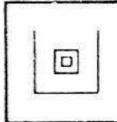
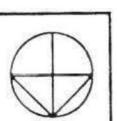
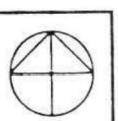
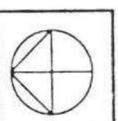
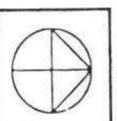
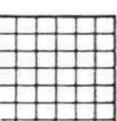
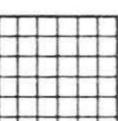
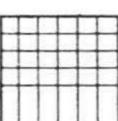
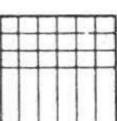
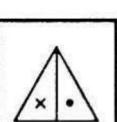
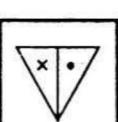
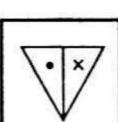
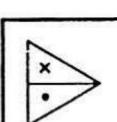
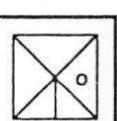
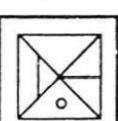
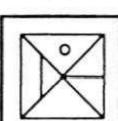
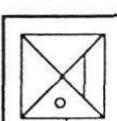
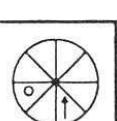
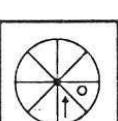
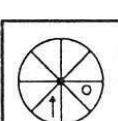
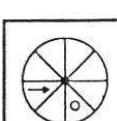
## Part-IV

**Directions (Qs. No. 31 to 40):** There are given three problem figures on the left side of the line in each question below and fourth one place is blanked. The problem figures are in the series. Find out that which does complete this figure of this series by given right side answer figures of the line. After selecting figure, indicate your correct response.

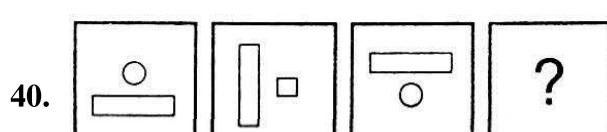
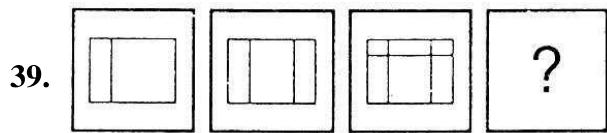
**Problem Figures**

31. 
32. 
33. 
34. 
35. 
36. 
37. 
38. 

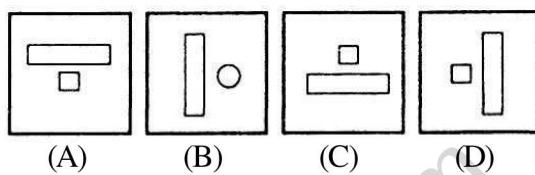
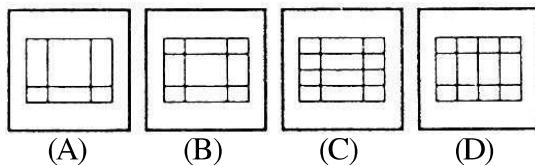
**Answer Figures**

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

**Problem Figures**



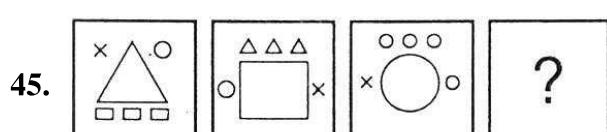
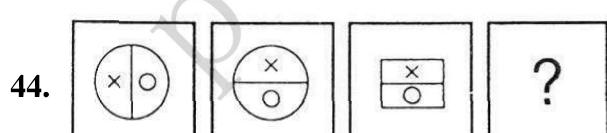
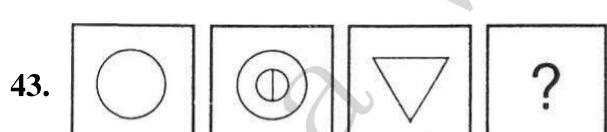
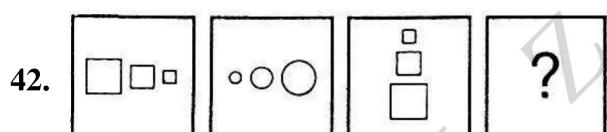
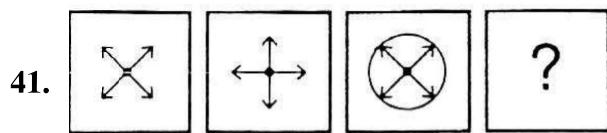
**Answer Figures**



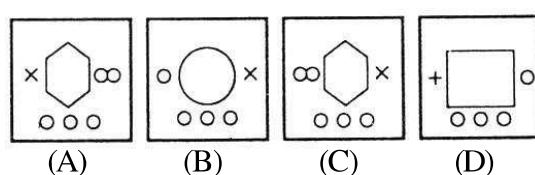
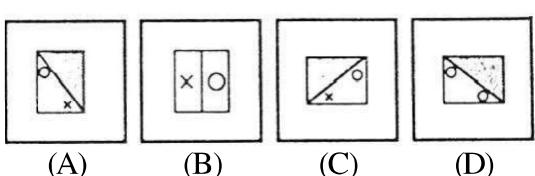
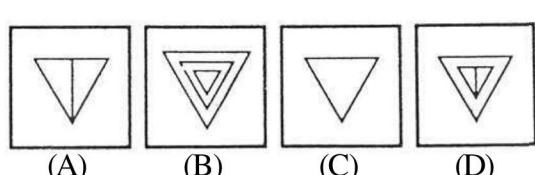
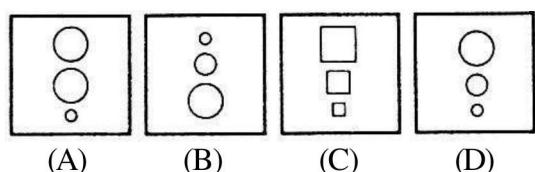
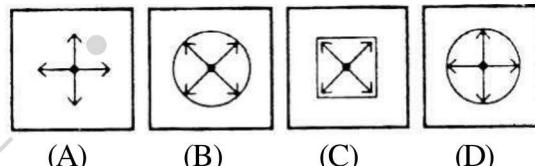
**Part-V**

**Directions (Qs. No. 41 to 50):** There is a question mark (?) printed at the fourth place after three problem figures in the each question below. There is a relationship between first two problem figures. Similarly, there should be a relationship between third and fourth problem figures also. Select that figure from the answer figures which is fit for the place of question-mark (?) of problem figure. After selecting figure, indicate your correct response.

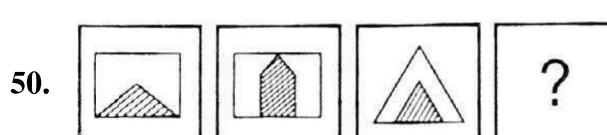
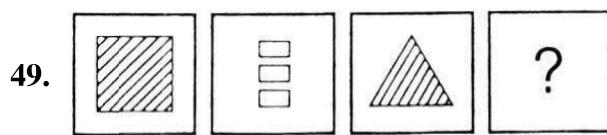
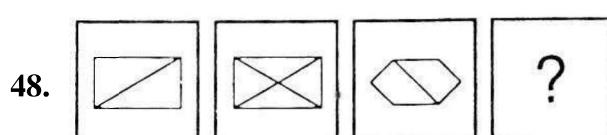
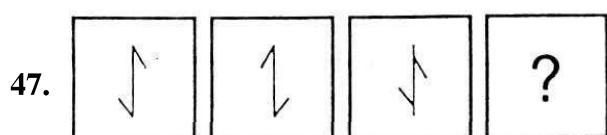
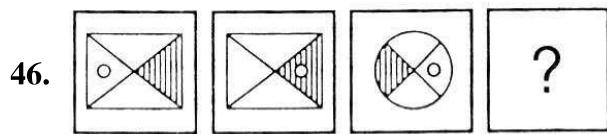
**Problem Figures**



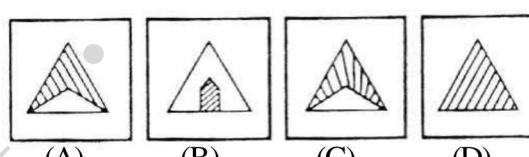
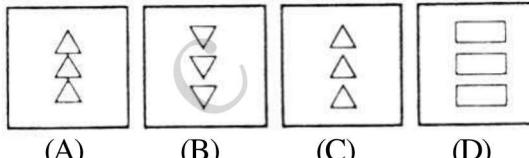
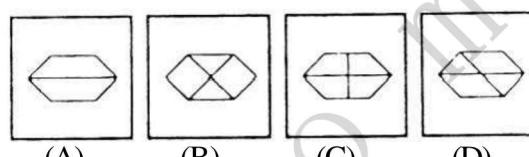
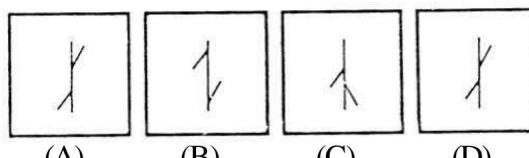
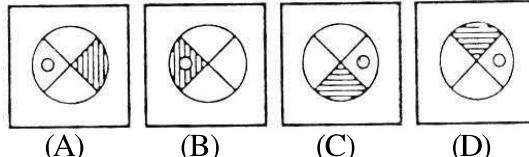
**Answer Figures**



**Problem Figures**



**Answer Figures**

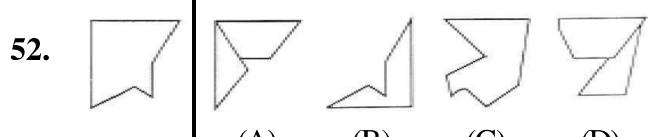
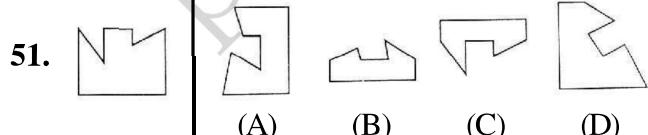


**Part-VI**

**Directions (Qs. No. 51 to 60):** The one part of square is left side of the line in each question given below and second part of that is any one out of four (A), (B), (C) and (D) given figures on the right side of the line. Find out that figure from given figures of right side which complete that square. After selecting figure, indicate your correct response.

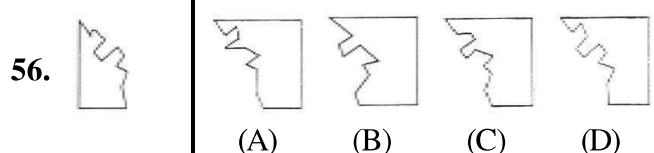
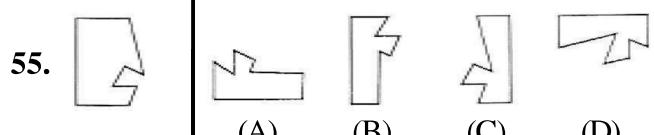
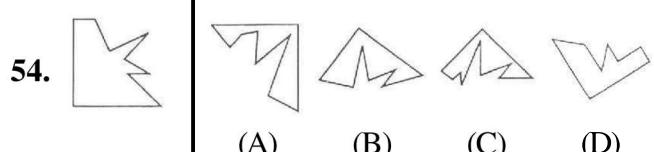
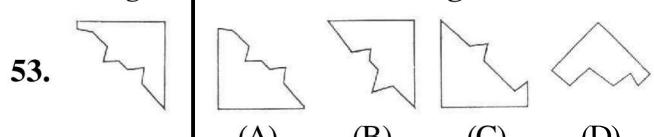
**Problem Figure**

**Answer Figures**



**Problem Figure**

**Answer Figures**



| Problem Figure  | Answer Figures  | Problem Figure  | Answer Figures   |
|---|---|---|--|
| 57.  | (A)  (B)  (C)  (D)  | 59.  | (A)  (B)  (C)  (D)  |
| 58.  | (A)  (B)  (C)  (D)  | 60.  | (A)  (B)  (C)  (D)  |

## **Section-II : ARITHMETIC**

**Directions (Question No. 61 to 80):** There are four possible answers for each question which are represented by (A), (B), (C) and (D). Out of these, only one answer is correct. After selecting correct answer, indicate your correct response.



- (C) 200 (D) 215

66. A person bought eggs with the price of Rs. 20 per dozen and sold them at the rate of Rs. 2 per egg. What is his per cent profit in the transaction?

(A) 4% (B)  $16\frac{2}{3}\%$   
(C) 18% (D) 20%

67. A boy sold his old text book at Rs. 64 on 20% loss. What is the purchase price of that text book?

(A) Rs. 78.80 (B) Rs. 80  
(C) Rs. 100 (D) Rs. 120

68. Joseph travels the distance 150 m in 60 sec. What is his speed in Km. per hour?

(A) 9 (B) 90  
(C) 900 (D) 9000

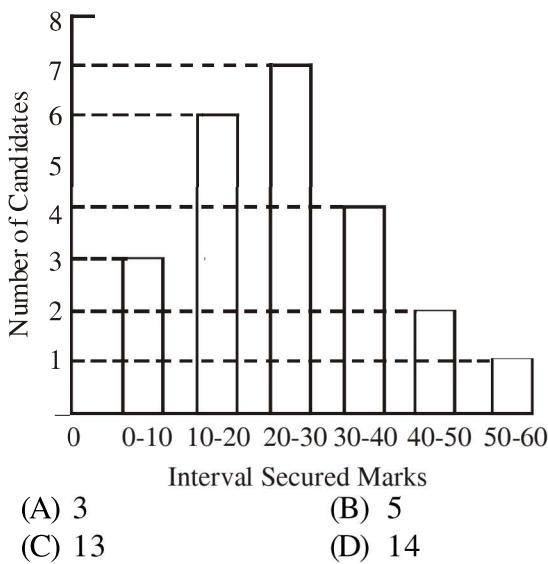
69. A bank returns Rs. 3000 after 5 years on the deposit amount of Rs. 2000. What is per cent rate of simple interest?

(A) 20% (B) 15%  
(C) 10% (D) 5%

70. Perimeter of a rectangle is 40 cm. What will be its dimensions (in cm) if its area is maximum?

(A) 1, 19 (B) 4, 10  
(C) 5, 10 (D) 8, 12

71. The volume of cuboid is 36000 cubic cm and its breadth and height is 30 cm and 40 cm respectively. What is its length?



73. What is smallest even number formed by 7, 0, 1, 2 and 3?

(A) 10372                      (B) 10237  
(C) 73210                      (D) 12370

74. Which is prime number in the following?

(A) 92                            (B) 93  
(C) 95                            (D) 97

75. A truck can take 175 bags of cement.

## **Section-III : Language**

**Direction:** There are four parts of this section. At the end of each part, five questions are asked. Read each part attentively and answer the questions. There are four probable answers to each question, which are **lettered** (A), (B), (C) and (D). Only one of these probable answers is correct. Choose the correct answers.

## **Passage-1**

Today, obesity is the most serious problem of the people. Obesity is the product of change in life-style, food, mobility, health and change in nutrition. Results of obesity are the diseases like blood pressure, diabetes, some type of cancer, heart diseases, low self-respect or weariness. Therefore,



we should change our life-style by taking balanced diet, full of proper quantity of carbohydrates, proteins, fats, vitamins and mineral salts and by keeping ourselves physically active. Keeping in mind the life-style, type and load of the work, taste of meal and irregularities, a dietician can also help.

81. According to the author, obesity is a :  
(A) Disease                   (B) Life-style  
(C) Allergy                   (D) Mental problem

82. In whom among the following, there is little probability of obesity?  
(A) Those who take meals in hotels and restaurants  
(B) Who work in the office for longer period

## **Passage-2**

Sunil's friends were passing their vacation at Sunil's home. Sunil's request pleased his father to take them to view the circus. They were six in number— Sunil, his parents, sister Veena, friends— Geeta and Raju. They came out and waited for the bus for sufficiently long time. Sunil's father decided to carry them on scooter. Veena sat between her father and the mother. Sunil along with Raju stood before his father and Geeta sat behind Sunil's mother. Due to heavy load, the tyre of the scooter got punctured and stopped on the road. They became sad and came back to home. Sunil's father realized his mistake.



### **Passage-3**

In human life, horse is a dynamic animal and has served human being. Man has used the horse at each step. Man has made the horse domestic over the last 5000 years. The horse has contributed significantly to make man progressive. With the help of horses, the frontiers of knowledge and learning can be extended to far-remote cities and trade of goods can also be conducted. The horse is strong enough and suitable for agriculture works. The farmer can also use the horse in cultivation of foodgrains. The horse is so mighty that the power of the vehicle is measured in terms of horse power. The horse runs very fast and can carry the soldiers of high altitude. Cavaliers have always defeated those who did not have horses. The horses are beautiful, walk swiftly and many people ride them for pleasure. With the rider also, the horse can cross the obstructions and walk.

## **Passage-4**

It is an embarrassing scene to see Indian players committing errors in olympic. It creates restlessness in the heart to return with olympic gold medal from this largest sports ceremony of the world. Lack of acquaintance with the foreign environment and situations, want of sufficient training and lack of appropriate planning are the main reasons behind the average performance by Indian squad. So far brilliance is concerned, there is no lack in Indian participants. It is not necessary to search ingenuity out of a population of over 100 crore. The most important question (the question of hundred rupees) is this that what happens to this ingenuity at the stage of olympic? The only possible explanation is this that what happens to this ingenuity at the stage of olympic? The only possible explanation is this that shortage or abundance of money is the main reason behind India's pain.

## ANSWERS

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>1</b>  | <b>2</b>  | <b>3</b>  | <b>4</b>  | <b>5</b>  | <b>6</b>  | <b>7</b>  | <b>8</b>  | <b>9</b>  | <b>10</b> |
| C         | D         | D         | D         | B         | C         | C         | D         | C         | B         |
| <b>11</b> | <b>12</b> | <b>13</b> | <b>14</b> | <b>15</b> | <b>16</b> | <b>17</b> | <b>18</b> | <b>19</b> | <b>20</b> |
| C         | A         | B         | D         | D         | C         | D         | D         | B         | A         |
| <b>21</b> | <b>22</b> | <b>23</b> | <b>24</b> | <b>25</b> | <b>26</b> | <b>27</b> | <b>28</b> | <b>29</b> | <b>30</b> |
| D         | D         | D         | B         | A         | A         | D         | B         | C         | C         |
| <b>31</b> | <b>32</b> | <b>33</b> | <b>34</b> | <b>35</b> | <b>36</b> | <b>37</b> | <b>38</b> | <b>39</b> | <b>40</b> |
| C         | D         | A         | B         | C         | B         | C         | D         | B         | D         |

|           |           |           |           |           |           |           |           |           |            |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| <b>41</b> | <b>42</b> | <b>43</b> | <b>44</b> | <b>45</b> | <b>46</b> | <b>47</b> | <b>48</b> | <b>49</b> | <b>50</b>  |
| D         | D         | D         | B         | B         | B         | B         | C         | B         |            |
| <b>51</b> | <b>52</b> | <b>53</b> | <b>54</b> | <b>55</b> | <b>56</b> | <b>57</b> | <b>58</b> | <b>59</b> | <b>60</b>  |
| C         | B         | A         | B         | C         | D         | A         | C         | B         | C          |
| <b>61</b> | <b>62</b> | <b>63</b> | <b>64</b> | <b>65</b> | <b>66</b> | <b>67</b> | <b>68</b> | <b>69</b> | <b>70</b>  |
| C         | B         | D         | C         | B         | D         | B         | A         | C         | D          |
| <b>71</b> | <b>72</b> | <b>73</b> | <b>74</b> | <b>75</b> | <b>76</b> | <b>77</b> | <b>78</b> | <b>79</b> | <b>80</b>  |
| B         | D         | A         | D         | D         | B         | B         | C         | D         | C          |
| <b>81</b> | <b>82</b> | <b>83</b> | <b>84</b> | <b>85</b> | <b>86</b> | <b>87</b> | <b>88</b> | <b>89</b> | <b>90</b>  |
| B         | D         | C         | A         | D         | B         | C         | D         | A         | C          |
| <b>91</b> | <b>92</b> | <b>93</b> | <b>94</b> | <b>95</b> | <b>96</b> | <b>97</b> | <b>98</b> | <b>99</b> | <b>100</b> |
| C         | B         | B         | C         | C         | D         | C         | A         | B         | C          |

### **SOME SELECTED EXPLANATORY ANSWERS**

1. In the design of (C), the central part consists “O”, on the other hand, in rest of the designs, central part consist “C”.
2. A circle is attached at the both ends of vertical lines while horizontal line contains a rhombus at one end and a square at the other. In rest of the figures, designs are the same with a little positional difference.
3. Except (D), both diagonal designs ‘Δ – O’ and ‘□ – x’ are same.
4. Except (D), three simple lines can be seen inside the all figures.
5. Except (B), a line other than the diagonals joins the point of intersection to the side of the rectangle.
6. Except (C), the size of each diagram is increasing from left to right.
7. Except (C), the four divided parts of an individual figure are equal.
8. Except (D), the two lines touch or intersect at some part.
9. Except (C), the direction of both arrows is the same.
10. Except (B), there are two lines inside the diagram.
11. Except (C), all the answer figures are different.
12. Except (A), all the answer figures are different.
13. Except (B), all the answer figures are different.
14. Except (D), all the answer figures are different.
15. Except (D), all the answer figures are different.
16. Except (C), all others are different.
17. Only (D) matches the problem figure.
18. Only (D) matches the problem figure.
19. Only (B) matches the problem figure.
20. Only (A) matches the problem figure.
21. Answer figure (D) fits exactly in the missing part of problem figure.
22. Answer figure (D) fits exactly in the missing part of problem figure.
23. Answer figure (D) fits exactly in the missing part of problem figure.
24. Answer figure (B) fits exactly in the missing part of problem figure.
25. Answer figure (A) fits exactly in the missing part of problem figure.
26. Answer figure (A) fits exactly in the missing part of problem figure.
27. Answer figure (D) fits exactly in the missing part of problem figure.
28. Answer figure (B) fits exactly in the missing part of problem figure.
29. Answer figure (C) fits exactly in the missing part of problem figure.
30. Answer figure (D) fits exactly in the missing part of problem figure.

31. Horizontal and Vertical arrows reverse its direction in second step of problem figure. Similarly in fourth step the problem figure will take the shape of (C).
32. Answer figure (D) will satisfy the problem figure.
33. In the subsequent figure of each, an incomplete quadrilateral adds the previous one from outside and a complete quadrilateral from inside.
34. The triangle inside the circle is moving in anti-clockwise direction with an angle of  $90^\circ$  each. So the problem figure will take the shape of (B).
35. One vertical line is adding in each step of the problem figure moving ahead in the series. So, answer figure (C) will be the right choice.
36. The triangle is moving in clockwise direction with an angle of  $90^\circ$  without disturbing the interior figures. So, answer figure (B) will be the required answer.
37. The circle within the square moves in clockwise direction while vertical and horizontal lines move in anti-clockwise direction. So, answer figure (C) is the correct choice.
38. In subsequent figures, both the arrow and the circle move in clockwise direction.
39. One line is increasing in each step of the problem figures. So, (B) is the correct answer.
40. The figures moves in clockwise direction with an angle of  $90^\circ$ . Also, the circle changes into a square in second steps and again changes into a circle in third step. So, answer figure (D) will be the correct choice.
41. The intersecting arrows move in clockwise direction with an angle of  $45^\circ$ . So, answer figure (D) will fit for the place of question mark (?).
42. The figures in the 3rd step is obtained by rotating the problem figure in anti-clockwise direction with an angle of  $90^\circ$  and so the figure at the place of question mark (?) will be obtained by rotating the figure in 2nd step with an angle of  $90^\circ$ . The answer figure (B) is the correct choice.
43. In second step of problem figure one circle and one line is added to the first. So in the fourth step, one triangle and one line will be added to the third problem figure. Thus, answer figure (D) will be the correct choice.
44. Second figure is obtained by moving the first figure in clockwise direction while the answer figure (B) which seems to be the correct choice is obtained by rotating the problem figure in anti-clockwise direction with an angle of  $90^\circ$ .
45. At the top of the second figure, three triangles is added from the central part of the first problem figure. Central part of the second figure takes the shape of a rectangle as at the bottom of the first. So, answer figure (B) is the correct choice.
46. The circle jumps into the shaded part which is vertically opposite in direction. So, answer figure (B) is the correct choice.
47. Second part is the mirror image of the first part. So, answer figure (B) is the correct choice.
48. One diagonal is added to the rectangle in second step and in the same way one line will be added diagonally to the hexagon which is same as in the answer figure (B).
49. The square is divided into three smaller rectangle. So, the triangle will be broken into three smaller triangles as in answer figure (C).
50. The shaded triangle within the rectangle takes the shape of a pentagon. So, the shaded triangle will take the shape of a shaded pentagon within the rectangle as in answer figure (B).
61.  $7.5\% \text{ of Rs. } 2000 = \frac{7.5}{100} \times 2000$   
 $= \frac{75}{1000} \times 2000$   
 $= \text{Rs. } 150$

$$\begin{aligned}
 62. & \left( \frac{3}{5} + \frac{1}{5} \div \frac{3}{10} \right) \times \left( \frac{36}{45} + \frac{16}{5} \right) \\
 &= \left( \frac{3}{5} + \frac{1}{5} \times \frac{10}{3} \right) \times \left( \frac{36+144}{45} \right) \\
 &= \left( \frac{3}{5} + \frac{2}{3} \right) \times \frac{180}{45} \\
 &= \left( \frac{9+10}{15} \right) \times \frac{180}{45} \\
 &= \frac{19}{15} \times \frac{180}{45} \\
 &= \frac{76}{15}
 \end{aligned}$$

$$\begin{aligned}
 63. \text{ Nearest multiple} &= 25 \times 9.93 \\
 &= 248.25 \\
 &\approx 250 \text{ (app.)}.
 \end{aligned}$$

$$\begin{array}{lll}
 64. & 2 & (2)^2 & 2^3 \\
 & 3 & (3)^2 & 3^3 \\
 & 4 & (4)^2 & 4^3 \\
 & 5 & (5)^2 & 5^3 \\
 \text{i.e.,} & 2 & 4 & 8 \\
 & 3 & 9 & 27 \\
 & 4 & 16 & 64 \\
 & \boxed{5} & \boxed{25} & \boxed{125}
 \end{array}$$

$$\begin{aligned}
 65. \text{ No. of required bottles} &= \frac{7000}{300} \\
 &= 23.33 \\
 &= 23
 \end{aligned}$$

$$\begin{aligned}
 66. \text{ Cost price of 12 eggs} &= \text{Rs. 20} \\
 \text{Selling price of 12 eggs} &= 2 \times 12 = \text{Rs. 24} \\
 \text{Profit} &= \text{Rs. 24} - \text{Rs. 20} \\
 &= \text{Rs. 4} \\
 \text{So, profit per cent} &= \frac{4}{20} \times 100 \\
 &= 20\%
 \end{aligned}$$

$$\begin{aligned}
 67. \text{ Suppose the purchase price} &= \text{Rs. } x \\
 \text{Now, } x - 20\% \text{ of } x &= 64
 \end{aligned}$$

$$\begin{aligned}
 &\Rightarrow x - \frac{20}{100} \times x = 64 \\
 &\Rightarrow x - \frac{x}{5} = 64 \\
 &\Rightarrow \frac{5x-x}{5} = 64 \\
 &\Rightarrow \frac{4x}{5} = 64 \\
 &\therefore x = \frac{64 \times 5}{4} \\
 &= \text{Rs. 80.}
 \end{aligned}$$

$$\begin{aligned}
 68. \text{ Speed} &= \frac{\text{Distance}}{\text{Time}} \\
 &= \frac{150 \text{ m}}{60 \text{ sec}} \\
 &= \frac{150}{60} \text{ km} \\
 &= \frac{1000}{60 \times 60} \\
 &= \frac{150}{1000} \times \frac{60 \times 60}{60} \\
 &= 9 \text{ km/hr.}
 \end{aligned}$$

$$\begin{aligned}
 69. \text{ Simple Interest (SI)} &= \text{Rs. } 3000 - \text{Rs. } 2000 \\
 &= \text{Rs. } 1000. \\
 \text{Principal} &= \text{Rs. } 2000 \\
 \text{Time} &= 5 \text{ years.} \\
 \text{Rate of interest} &= ?
 \end{aligned}$$

$$\begin{aligned}
 \text{Now, rate of interest} &= \frac{\text{SI} \times 100}{p \times t} \\
 &= \frac{1000 \times 100}{2000 \times 5} \\
 &= 10\%
 \end{aligned}$$

$$\begin{aligned}
 70. \text{ Perimeter of a rectangle} &= 2(l+b) \\
 &\Rightarrow 2(l+b) = 40 \\
 &\therefore l+b = 20 \quad \dots(i) \\
 \text{Again, area of rectangle} &= l \times b \\
 \therefore 1+19 &= 20 \text{ and } 8+12 = 20 \\
 \text{But } 1 \times 19 &= 19 \text{ (minimum)} \\
 \text{and } 8 \times 12 &= 96 \text{ (maximum)}
 \end{aligned}$$

71. The volume of a cuboid =  $l \times b \times h$

$$\therefore l \times 30 \times 40 = 36000$$

$$\therefore l = \frac{36000}{30 \times 40} \\ = 30 \text{ cm.}$$

72. No. of candidates get more than 20 marks

$$= 7 + 4 + 2 + 1$$

$$= 14$$

73. The smallest even number formed by 7, 0, 1, 2 and 3

$$= 10372$$

74. Prime number = 97

75. No. of required trucks =  $\frac{58275}{175} \\ = 333$

76. To find the smallest number of three digits which is completely divisible by 4, 8 and 12, we must find out first LCM of 4, 8 and 12.

So, LCM of 4, 8 and 12 =  $2 \times 2 \times 2 \times 3 = 24$

$$\begin{array}{r} 2 | 4, 8, 12 \\ 2 | 2, 4, 6 \\ \quad \quad \quad 1, 2, 3 \end{array}$$

So, the required number =  $24 \times 4 \\ = 96$

77. LCM of 10, 12 and 15 =  $2 \times 3 \times 5 \times 2$

$$= 60$$

= 1 hour after

$$\begin{array}{r} 2 | 10, 12, 15 \\ 3 | 5, 6, 15 \\ 5 | 5, 2, 5 \\ \hline 1, 2, 1 \end{array}$$

Thus, the three bells will ring together after one hour i.e., at 9 : 30 AM.

78.  $15) 52792 (3519$

$$\begin{array}{r} 45 \\ \hline 77 \\ 75 \\ \hline 29 \\ 15 \\ \hline 142 \\ 135 \\ \hline 7 \end{array}$$

Thus, the required number =  $15 - 7 = 8$ .

79. The sum of 13.3, 1.33, 1.0033 and 1.0333

$$= 13.3 + 1.33 + 1.0033 + 1.0333$$

$$= 16.6666$$

80. On putting 5 at the place of  $\star$ , the number obtained is 565890 which is divisible by 13.