Previous Paper (Solved)

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Class-VI, Entrance Exam, 2018*

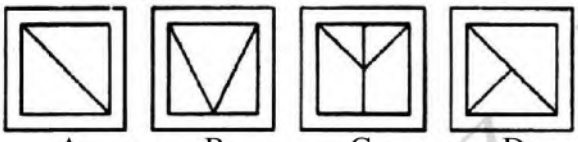
SECTION-I : MENTAL ABILITY TEST

PART-I

Directions (Qs. 1-5) : *In these questions, a question figure is given and four answer figures, marked A, B, C, D are given. Select the answer figure which can be formed from the cut-out pieces given in the question figure.*

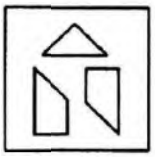
1. Question Figure

Answer Figures

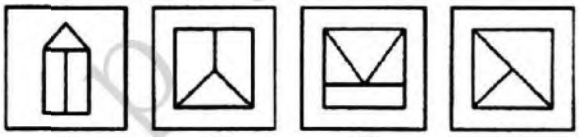


A. B. C. D.

2. Question Figure



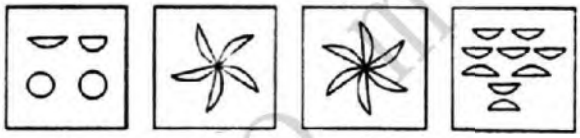
Answer Figures



A. B. C. D.

3. Question Figure

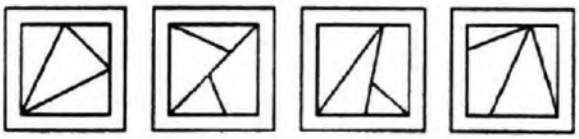
Answer Figures



A. B. C. D.

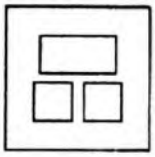
4. Question Figure

Answer Figures

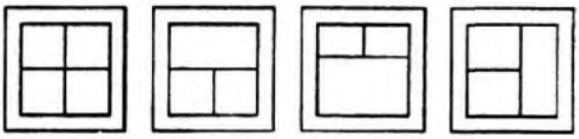


A. B. C. D.

5. Question Figure



Answer Figures



A. B. C. D.

PART-II

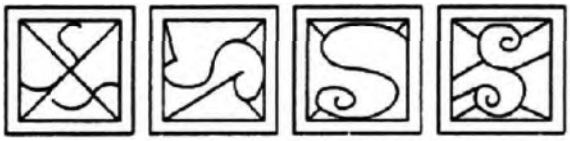
Directions (Qs. 6-10) : *In these questions, a question figure is given and four answer figures, marked A,*

* *Exam held on 22-04-2018.*

B, C, D are given. Select the answer figure which the question figure is hidden/embedded.

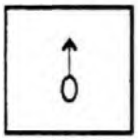
6. Question Figure

Answer Figures

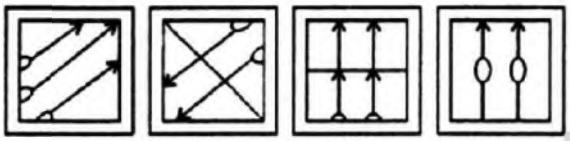


A. B. C. D.

7. Question Figure



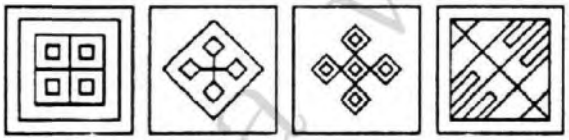
Answer Figures



A. B. C. D.

8. Question Figure

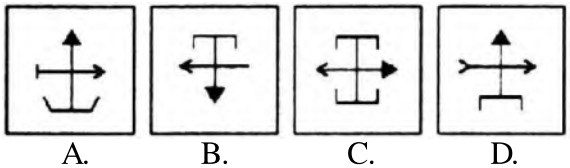
Answer Figures



A. B. C. D.

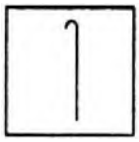
9. Question Figure

Answer Figures

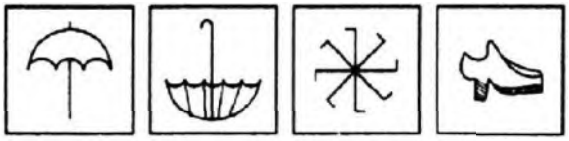


A. B. C. D.

10. Question Figure



Answer Figures

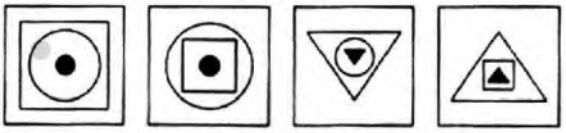


A. B. C. D.

PART-III

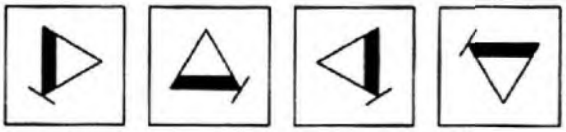
Directions (Qs. 11-15) : *In these questions, four figures A, B, C and D have been given in each question. Of these four figures, three figures are similar in some way and one figure is different. Select the figure which is different and answer to the question.*

11.



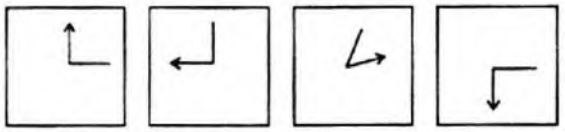
A. B. C. D.

12.



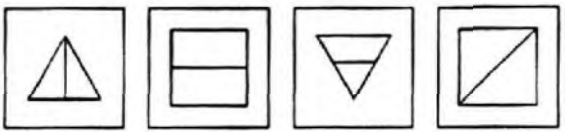
A. B. C. D.

13.



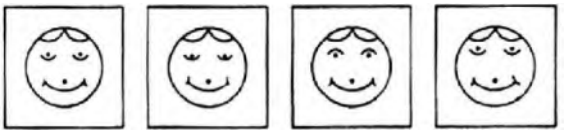
A. B. C. D.

14.



A. B. C. D.

15.

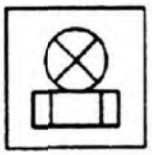


A. B. C. D.

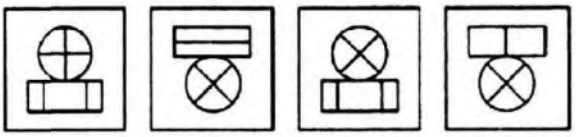
PART-IV

Directions (Qs. 16-20) : *In these questions, a question figure and four answer figures marked A, B, C, D are given. Select the answer figure which is exactly the same as the question figure and answer to the question.*

16. Question Figure



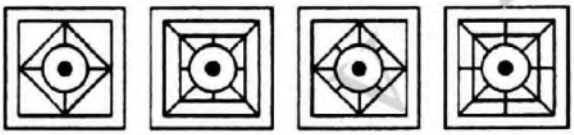
Answer Figures



A. B. C. D.

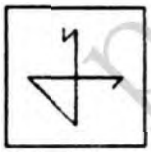
17. Question Figure

Answer Figures

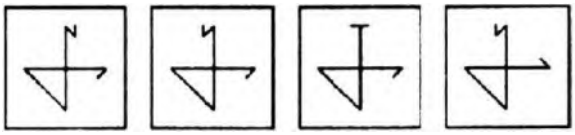


A. B. C. D.

18. Question Figure



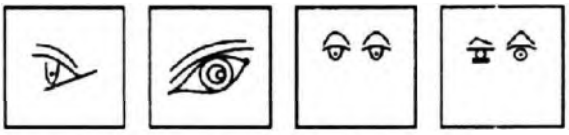
Answer Figures



A. B. C. D.

19. Question Figure

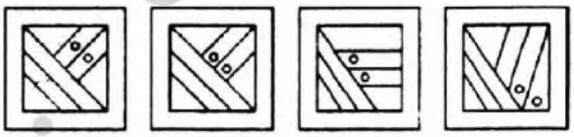
Answer Figures



A. B. C. D.

20. Question Figure

Answer Figures

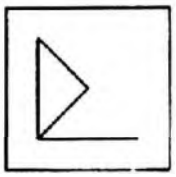


A. B. C. D.

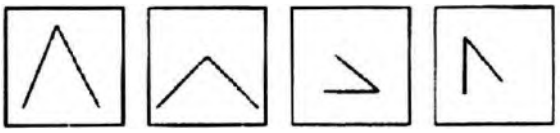
PART-V

Directions (Qs. 21-25) : *In these questions, there is a question figure, a part of which is missing. Observe the answer figures A, B, C, 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 to the question.*

21. Question Figure

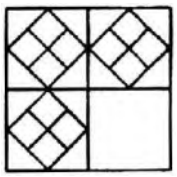


Answer Figures

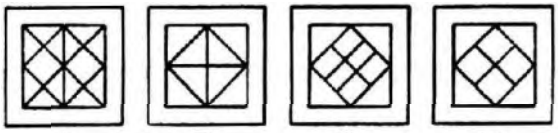


A. B. C. D.

22. Question Figure

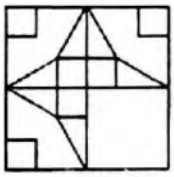


Answer Figures

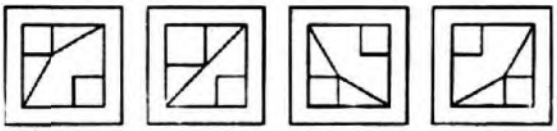


A. B. C. D.

23. Question Figure

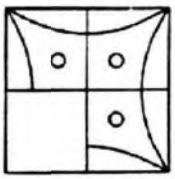


Answer Figures

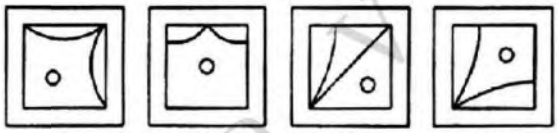


A. B. C. D.

24. Question Figure



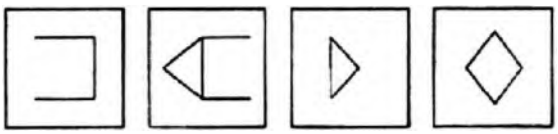
Answer Figures



A. B. C. D.

25. Question Figure

Answer Figures

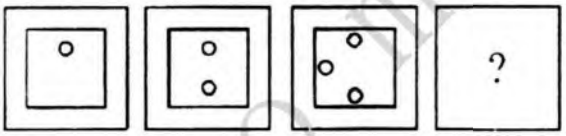


A. B. C. D.

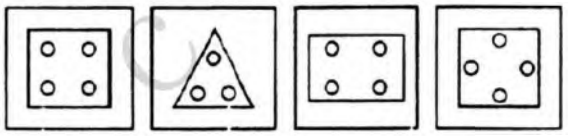
PART-VI

Directions (Qs. 26-30) : *In these questions, there are three question figures and the space for the fourth figure is blank. The question figures are in a series. Find out one figure from among the answer figures given which occupies the blank spaces for the fourth figure and completes the series. Indicate your answer to the question.*

26. Question Figures

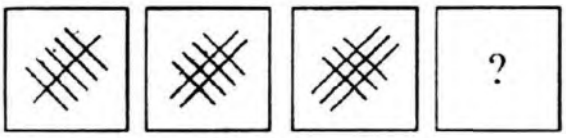


Answer Figures

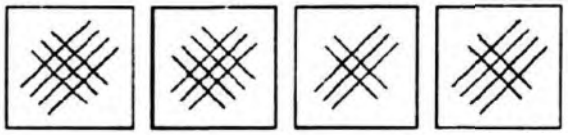


A. B. C. D.

27. Question Figures

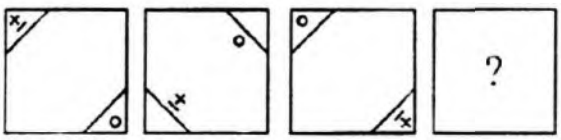


Answer Figures

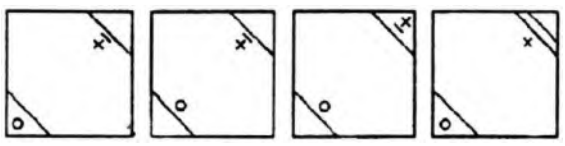


A. B. C. D.

28. Question Figures

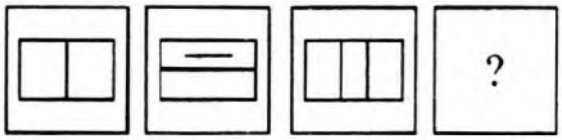


Answer Figures

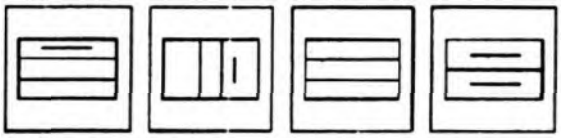


A. B. C. D.

29. Question Figures

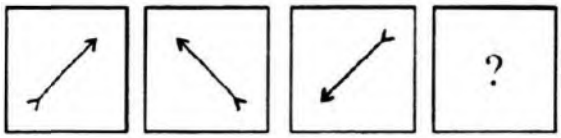


Answer Figures

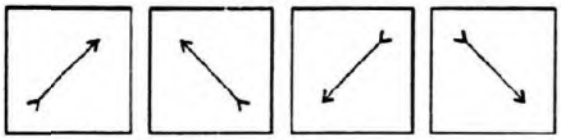


A. B. C. D.

30. Question Figures



Answer Figures

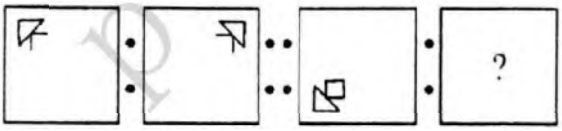


A. B. C. D.

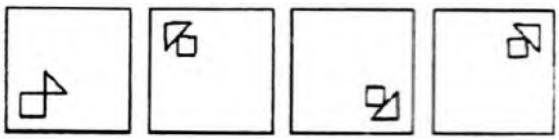
PART-VII

Directions (Qs. 31-35) : *In these questions, there are two sets of two question figures each. The second set has an interrogation '?'. There exists a relationship between the first two question figures. Similar relationship should exist between the third and fourth question figures. Select one of the answer figures which replaces the mark of interrogation.*

31. Question Figures

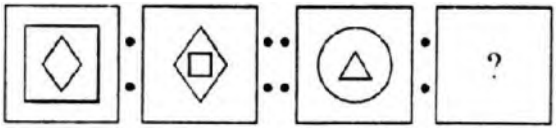


Answer Figures

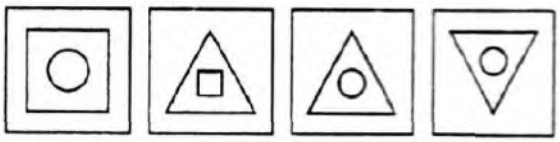


A. B. C. D.

32. Question Figures

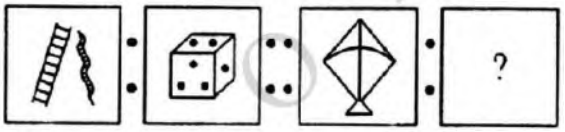


Answer Figures



A. B. C. D.

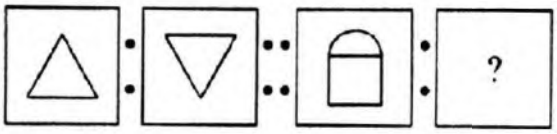
33. Question Figures



Answer Figures

A. B. C. D.

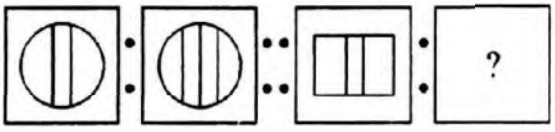
34. Question Figures



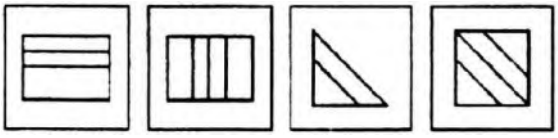
Answer Figures

A. B. C. D.

35. Question Figures



Answer Figures



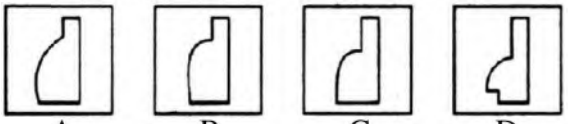
A. B. C. D.

PART-VIII

Directions (Qs. 36-40) : *In these questions, one part of a geometrical figure is (Triangle, Square, Circle) as question figure and the other one is among the four answer figures A, B, C, D. Find the figure to complete the geometrical figure and write the answer to the question.*

36. Question Figure

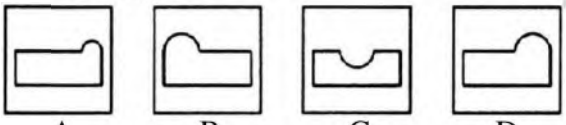
Answer Figures



A. B. C. D.

37. Question Figure

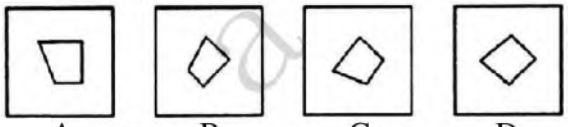
Answer Figures



A. B. C. D.

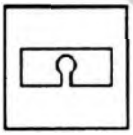
38. Question Figure

Answer Figures

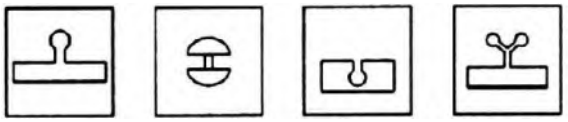


A. B. C. D.

39. Question Figure



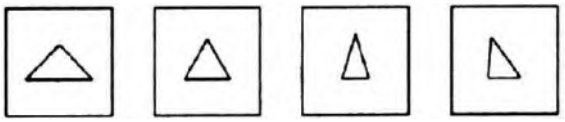
Answer Figures



A. B. C. D.

40. Question Figure

Answer Figures

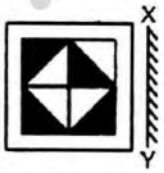


A. B. C. D.

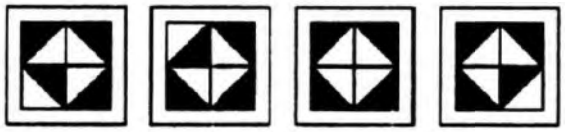
PART-IX

Directions (Qs. 41-45) : *In these questions, there is a question figure and four answer figures marked A, B, C, 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 to the question.*

41. Question Figure

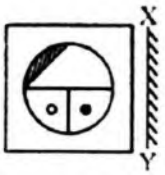


Answer Figures

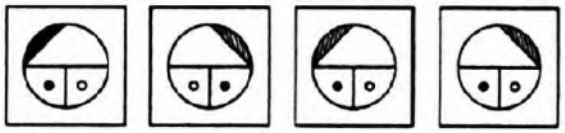


A. B. C. D.

42. Question Figure

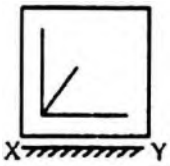


Answer Figures

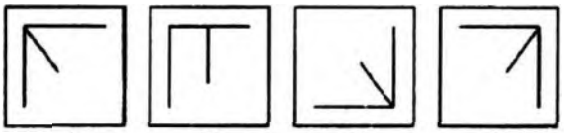


A. B. C. D.

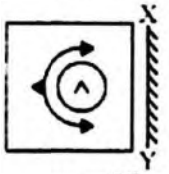
43. Question Figure



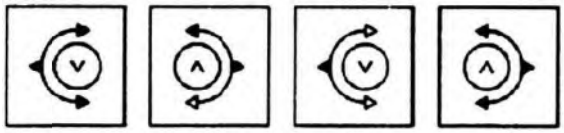
Answer Figures



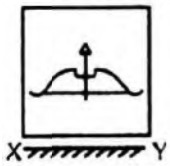
44. Question Figure



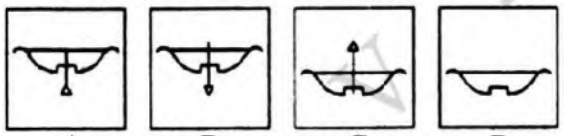
Answer Figures



45. Question Figure



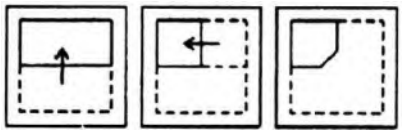
Answer Figures



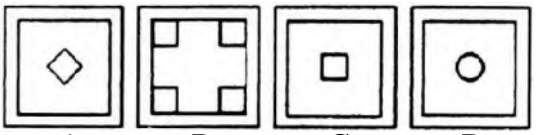
PART-X

Directions (Qs. 46-50) : *In these questions, a piece of paper is folded and punched as shown in question figures and four answer figures marked A, B, C, D are given. Select the answer figure which indicates how the paper will appear when opened (unfolded). Indicate your answer to the question.*

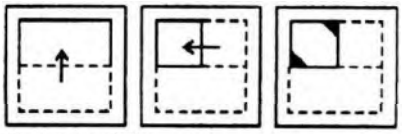
46. Question Figures



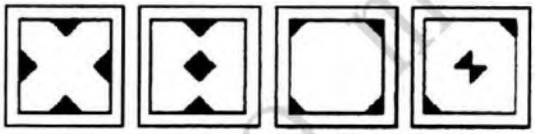
Answer Figures



47. Question Figures

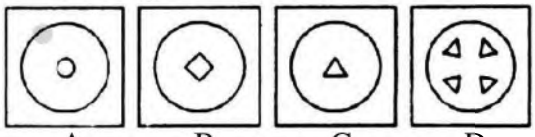


Answer Figures



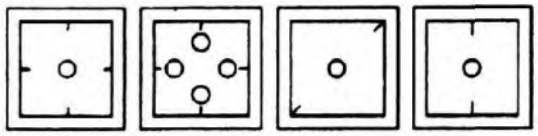
48. Question Figures

Answer Figures

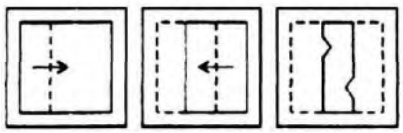


49. Question Figures

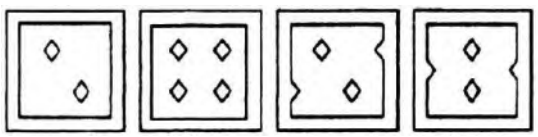
Answer Figures



50. Question Figures



Answer Figures



SECTION-II : ARITHMETIC

Directions : *For every question, four probable answers bearing A, B, C and D are given. Only one out of these is correct. You have to give the correct answer.*

51. The sum of two numbers is 345678. If one number is sixteen thousand sixteen greater than the other number, what is the greatest number?
A. 164831 B. 170847
C. 180847 D. 329662

52. Which of the following number is divisible by 18?
A. 444444 B. 555555
C. 666660 D. 666666

53. 128 boxes are packed with 36 toffees in each box. If 4 toffees are packed less in a box, then the new number of boxes which can be filled with the same number of toffees is:
A. 108 B. 144
C. 216 D. 360

54. What is the length of the longest tape which can be used to measure exactly 1 m 75 cm, 4 m 50 cm and 6 m 50 cm?
A. 25 cm B. 50 cm
C. 55 cm D. 75 cm

55. The product of H.C.F. and L.C.M. of two numbers is 384. If one of them is 24, then other number is:
A. 18 B. 6
C. 32 D. 16

56. When 48.480 is divided by 8, quotient obtained is:
A. 6.060 B. 60.60
C. 6.006 D. 6.60

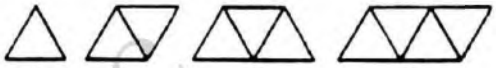
57. If 4137 ÷ 1.75 = 2364, then 41.37 ÷ 17.5 is equal to:
A. 0.2364 B. 2.364
C. 23.64 D. 236.4

58. The decimal equivalent to $\frac{1}{10}+\frac{11}{100}+\frac{111}{1000}$ is:
A. 11.11 B. 0.123
C. 0.321 D. 0.1111

59. Rahul purchased old TV for ₹ 3,000. He spends ₹ 300 on its repair. He sold TV for ₹ 3,500. What is his profit?
A. ₹ 500 B. ₹ 250
C. ₹ 200 D. ₹ 300

60. Amar borrowed ₹ 800 at a rate of interest of 5% per annum. The amount he will pay after 3½ years is:
A. ₹ 920 B. ₹ 940
C. ₹ 960 D. ₹ 980

61. Observe the following pattern of triangles made of match-sticks:



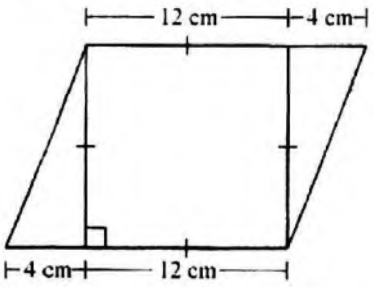
Number of triangles	1	2	3	4
Number of match-sticks	3	5	7	9

How many match-sticks do you think are required to make 10 triangles?
A. 15 B. 19
C. 21 D. 25

62. The sum of the digits of a number is subtracted from the number. The resulting number is always divisible by:
A. 2 B. 5
C. 8 D. 9

63. The sum of first four multiples of 8 is:
A. 60 B. 70
C. 80 D. 100

64. The area of adjacent figure is:



A. 144 cm^2 B. 168 cm^2
C. 192 cm^2 D. 236 cm^2

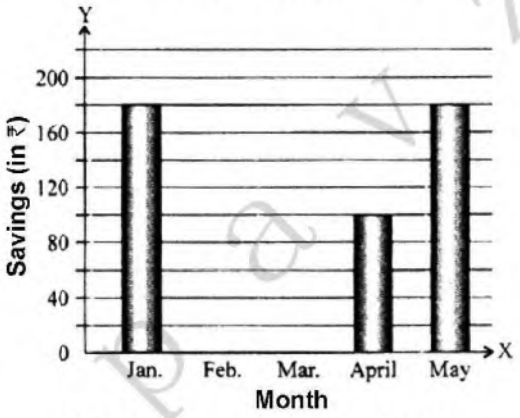
65. A train starts at 1:45 PM from a station at a speed of 60 km/hr. At what time will it reach a station 165 km away?
A. 3.45 PM B. 4.15 PM
C. 4.30 PM D. 6.00 PM

66. What should be side of square (in cm.) if its perimeter is equal to area?
A. 6 cm B. 2 cm
C. 4 cm D. 8 cm

67. Jammu express starts from Jammu at 8.20 A.M. It takes 8 hours 35 minutes to reach Delhi. If it is late by 25 minutes then at what time will it reach Delhi?
A. 5.15 PM B. 4.55 PM
C. 5.20 PM D. 4.40 PM

68. 12 men or 15 women can finish a work in 24 days. In how many days the same work can be finished by 8 men and 8 women?
A. 16 days B. 20 days
C. 24 days D. 28 days

69. The incomplete bar graph shows Samyukta's savings during the first five months of a particular year. She saved a total of ₹ 950 during five months. The amount of money saved in February was as much as that saved in March. How much did she save in February?



A. ₹ 245 B. ₹ 275
C. ₹ 250 D. ₹ 225

70. A fish tank can hold 45 litres of water when filled to the brim. It is $\frac{4}{9}$ filled, if $\frac{2}{5}$ of the water is removed, how much more water must be added in order to fill the tank to the brim?
A. 12 litres B. 20 litres
C. 33 litres D. 35 litres

71. A fruit shop sells bananas at ₹ 40 per dozen or a banana for ₹ 5. How much will it cost to buy 99 bananas?
A. ₹ 335 B. ₹ 320
C. ₹ 300 D. ₹ 495

72. Joseph scored 8 marks fewer than Amit in an examination. Kumar scored 12 marks more than Amit. In total, they scored 205 marks. What was the score of Joseph?
A. 67 B. 79
C. 59 D. 75

73. Sharda bought a note book for ₹ 25.50, a pen for ₹ 7.50 and 6 pencils each costing ₹ 1.25. She gave a 50 rupee not to the shopkeeper. The amount returned by the shopkeeper is:
A. ₹ 9.50 B. ₹ 15.75
C. ₹ 40.50 D. ₹ 18.50

74. The pictograph shows the number of baskets of mangoes sold by a trader in five days.

Monday	○ ○ ○ ○ ○
Tuesday	○ ○ ○ ○ ○ ○ ○ ○
Wednesday	○ ○ ○ ○
Thursday	○ ○ ○ ○ ○ ○ ○ ○ ○ ○
Friday	○ ○ ○ ○

(○ represent 20 baskets)

If the trader still had 200 baskets left after 5 days, how many baskets did he have in the beginning?
A. 620 B. 720
C. 820 D. 931

75. If a is the predecessor of b, then the value of $(a - b)$ and $(b - a)$ are:
A. –1 and 1
B. 1 and –1
C. 0 and 1
D. 1 and 0

SECTION-III : LANGUAGE

Directions (Qs. 76-100) : *In this section five passeges are given. Each passage has five questions. Read every passage carefully and give answer of the questions.*

Passage-1

A robot is a machine. It is a machine that moves. It follows instructions. The instructions come from a computer. Because it is a machine, it does not make mistakes. It does not get tired. And it never complains.

Some robots are used to make things. Robots can help making cars. Some robots are used to explore dangerous places like exploring volcanoes. Some robots are used to clean things. These robots can help to clean your house. Some robots can even recognize words. They can be used to help answer telephone calls. Some robots look like humans. But most robots just look like machines.

The first robot was built by George Devol in 1954 and was named Unimate. It was used to make cars. In the future, we will have even more robots that can fight fires, fight wars and fight sickness. They will help to make life better.

76. The word opposite in meaning to the word 'dangerous' is:
A. free B. beautiful
C. ugly D. safe

77. When was the 1st robot made?
A. 1954 B. 1900
C. 2003 D. 2000

78. What was the name of the first real robot?
A. Giant arm B. Unimate
C. Robot D. Special

79. The first robot was used to:
A. answer telephone calls
B. explore volcanoes
C. clean things
D. make cars

80. Find a word from the passage which means 'discover'.
A. explore B. recognize
C. instruct D. complain

Passage-2

I stood in the bathroom as Mama scrubbed me with soap. It was as if she was waging a war against germs. Mama wanted me to be very clean so that I would not dirty the clean sheets that she had washed, by rubbing them on a stone. Once my bath was over, I lay alone on my bed. I talked to my pillow, then to an imaginary friend, and finally to the dragon under my bed, who was actually very friendly. My mother was obsessed with cleanliness and she did not allow even the smallest bit of dirt to remain in the house. Her fight against dirt was equal to her passion for cooking. Our house always smelt of food that she cooked with great care and of her baking. Her cakes, biscuits and cupcakes were the talk of our neighbourhood. I was very fond of her cakes and chocolate cookies that melted in my mouth. She was very generous and our neighbours always received a batch of freshly baked biscuits.

81. How do we know that the mother liked cooking?
A. Her house always smelt of food.
B. She cooked regular meals.
C. She kept her house clean.
D. She gave generously to the neighbours.

82. Mama wanted the child to be very clean, because:
A. she was always dirty.
B. she did not want her to dirty her sheets.
C. she wanted her to sleep well.
D. she wanted her to go clean to the school.

83. What would the child <u>not</u> do after her bath?
A. talk to an imaginary friend
B. talk to her mother
C. talk to the pillow
D. talk to a dragon

84. What did the neighbours talk about?
A. mother's cleanliness
B. the child's cleanliness
C. mother's baking
D. child's imagination

85. The word 'obsessed' means to:
A. be angry all the time.
B. be constantly worrying.
C. hate everybody.
D. like everybody.

Passage-3

Market day in a village is enjoyed by children and women and men. It is a good place for farmers to sell their vegetables and grain and all the things they grow in their fields. Early in the morning, the farmers load their bullock carts and tractors with sacks full of grain and baskets full of fruits and vegetables. They also carry their sheep and goats, cows and buffaloes and chickens that they want to sell at the market. They need to buy things also at the market. They need clothes and spices, and also several household goods. These things are not easily available near their farms.

The women buy colourful glass bangles from the bangle sellers. Fires are lit. Pakoras, puris and sabzi are cooked. Samosas and sugarcane juice are also very popular. Children run around happily with their friends. They take rides on swings and merry-go-rounds. Everyone loves a market day.

86. What do the children do at the market?
A. sell vegetables and grain
B. buy chickens and goats
C. play around with their friends
D. sell pakoras and samosas

87. Why is the market day in the village a good day for farmers?
A. Farmers meet their friends in the market.
B. It is a good place to sell the things farmers grow.
C. The farmers have a lot of fun at the market.
D. The farmers get a chance to sit and eat samosas.

88. How do the farmers carry their vegetables and grains to the market?
A. in their trucks and cars
B. in their bullock carts and tractors
C. The farmers themselves carry them on their heads.
D. They are carried by helpers and friends.

89. What else do the farmers carry to the market?
A. their cattle and chickens
B. furniture
C. clothes
D. toys

90. Which of the following words means the same as the word, 'sacks'?
A. boxes B. bags
C. cartons D. packets

Passage-4

In April, just two weeks before the examinations, Swami realized that his father was changing–for the worse. He was becoming fussy and difficult. When Swami was seen chatting with his granny, he was told, "Remember boy, there is an examination. Your granny can wait, not your examination." If he was seen moving behind his mother, he was caught and sent to his desk. If his voice was heard anywhere after the Taluk Office gong had struck nine, a command would come from his father's room. "Swami, why haven't you gone to bed yet? You must get up early and study a bit." One day, he asked his father, "Why are you so nervous about my examinations?"

91. When the Taluk Office gong struck nine, Swami had to ..... .
A. study B. get up from bed
C. go to bed D. go to school

92. When did Swami realize that his father was changing?
A. in April B. in May
C. in June D. in July

93. What had his father become?
A. happy and simple B. sad and angry
C. angry and fussy D. fussy and difficult

94. Where was Swami sent to, when he was seen walking behind his mother?
A. to the kitchen
B. to his desk
C. to his father's room
D. to the bedroom

95. The word 'command' in the passage means:
A. to respect B. to punish
C. to catch D. to order

Passage-5

Long ago our rivers were fresh and clean; so clean that people drank the river water. Those rivers were full of fish. People caught and cooked them. In time people built factories and towns that used the river water. Boats are used to carry goods and coal and oil, which sometimes falls into the water. People throw their garbage and dirty water into the rivers. They say, "Our garbage cannot make much difference".

But now the rivers have become too dirty to drink from and the fish have died. The rivers are now full of garbage that floats on the water.

96. The word opposite in meaning to the word 'clean' is _____.
A. dirty
B. nice
C. rich
D. different

97. Why did the rivers get dirty?
A. Factories have been built in the towns.
B. Fish died in the rivers.
C. Boats are used to cross the rivers.
D. People threw garbage into the river.

98. People ate fish from the rivers because _____.
A. they could catch them from the boats.
B. the factories helped the people.
C. the fish were dying in the river.
D. the fish are found in the clean water of the rivers.

99. Which is the correct statement?
A. The rivers were dirty from the beginning.
B. The people could not drink river water earlier.
C. The rivers became dirty because of the oil and garbage thrown in.
D. There were no fish in the rivers because people cooked and ate them all.

100. What happened first?
A. Fish were gone from the rivers.
B. Factory boats came down the rivers.
C. The rivers were clean and beautiful.
D. Towns built more and more factories.

ANSWERS

1	2	3	4	5	6	7	8	9	10
B	B	B	D	B	D	D	C	B	B
11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
A	C	C	C	C	C	A	B	B	A
21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
B	D	A	D	C	D	D	B	A	D
31	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
C	C	B	B	B	D	D	B	A	B
41	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**
B	D	A	D	B	A	A	B	A	A
51	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
C	D	B	A	D	A	B	C	C	B
61	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**	**70**
C	D	C	C	C	C	C	B	A	C
71	**72**	**73**	**74**	**75**	**76**	**77**	**78**	**79**	**80**
A	C	A	C	B	D	A	B	D	A
81	**82**	**83**	**84**	**85**	**86**	**87**	**88**	**89**	**90**
A	B	B	C	B	C	B	B	A	B
91	**92**	**93**	**94**	**95**	**96**	**97**	**98**	**99**	**100**
C	A	D	B	D	A	D	D	C	C

EXPLANATORY ANSWERS

51. Let the numbers are x and y

$$x + y = 345678 \quad ...(i)$$

$$x - y = 16016 \quad ...(ii)$$

Add equation (i) and equation (ii)

$$2x = 345678 + 16016$$

$$2x = 361694$$

$$x = 180847$$

Put x value on equation (i)

$$180847 + y = 345678$$

$$y = 345678 - 180847$$

$$y = 164831$$

$\because x > y$

So greatest number is $x = 180847$.

52. A number is divisible by 18. When the number is divisible by its prime factor *i.e.*, 2, 9

(i) A number is divisible by 2 of its unit digit is even

i.e., 0, 2, 4, 6, 8...

(ii) A number is divisible by 9 only when the sum of its digit divisibly by 9.

Now, check the option,

(A) 444444 (×)

unit digit = 4 (divisible by 2)

sum of digit = 24 (not divisible by 9)

(B) 555555 (×)

unit digit = 5 (Odd digit)

Not divisible by 2

(C) 666660 (×)

unit digit = 0 (divisible by 2)

sum of digit = 30 (not divisible by 9)

(D) 666666 (√)

unit digit = 6 (divisible by 2)

sum of digit = 36 (divisible by 9)

53. Total toffees on boxes

$= 128 \times 36$

$= 4608$ toffees

Now, in each box toffees packed

$= 36 - 4 = 32$ [4 less]

$$\text{Total number boxes} = \frac{\text{Total Toffees}}{\text{Toffee in each box}}$$

$$= \frac{4608}{32} = 144$$

54. $\because$ 1 m = 100 cm

convert all the measure into cm

1 m 75 cm = 175 cm

4 m 50 cm = 450 cm

6 m 50 cm = 650 cm

Longest tape used to measure

= HCF (175, 450, 650)

$175 = \boxed{5} \times \boxed{5} \times 7$

$450 = \boxed{5} \times \boxed{5} \times 2 \times 9$

$650 = \boxed{5} \times \boxed{5} \times 2 \times 13$

HCF (175, 450, 650)

$= 5 \times 5 = 25$ cm.

55. We know,

Product of two numbers = HCF × LCM

i.e., $a \times b = \text{HCF}(a, b) \times \text{LCM}(a, b)$

$24 \times b = 384$

[Given HCF × LCM = 384]

$b = 16$.

56.

$$\begin{array}{r} 8\overline{)48.480(}\ 6.060 \\ \underline{48} \\ 48 \\ \underline{48} \\ 0 \end{array}$$

So, quotient = 6.060.

57. Given,

$4137 \div 1.75 = 2364$

$41.37 \div 17.5 = ?$

divided by 1000 in both sides,

$$\frac{4137}{1.75}\times\frac{1}{1000}=\frac{2364}{1000}$$

$$\frac{\frac{4137}{100}}{1.75\times10}=2.364$$

$$\frac{41.37}{17.5}=2.364.$$

58. $\frac{1}{10}+\frac{11}{100}+\frac{111}{1000}=?$

$= 0.1 + 0.11 + 0.111$

$= 0.321.$

59. Total cost price = ₹ 3000 + ₹ 300

= ₹ 3300

Selling price = ₹ 3500

Profit = SP – CP

= 3500 – 3300

= ₹ 200.

60. Given,

Principal (P) = ₹ 800

Rate (r) = 5%

Time (t) = $3\frac{1}{2}$ years

$=\frac{7}{2}$

We know, S.I. $=\frac{P\times r\times t}{100}$

S.I. $=\frac{800\times5\times\frac{7}{2}}{100}$

S.I. = ₹ 140

Amount = Principal + S.I.

= 800 + 140

= ₹ 940.

61. As, we can see from table then table,

Match-sticks require

= 2 × Number of triangle + 1

i.e., For 1 triangle = 2 × 1 + 1 = 3

For 2 triangle = 2 × 2 + 1 = 5

For 3 triangle = 2 × 3 + 1 = 7

For 4 triangle = 2 × 4 + 1 = 9

.... = ...

For 10 triangle = 2 × 10 + 1 = 21.

62. Let the number = $10y + x$

Sum of its digit = $x + y$

According to question,

$= (10y + x) - (x + y)$

$= 9y$

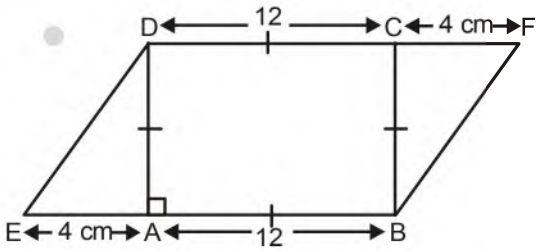
which is divisible by '9'.

63. First 4 multiple of 8, will be 8, 16, 24, 32

Sum = 8 + 16 + 24 + 32

= 80.

64. We can see ABCD is a square and triangle EAD and BCF are right angle triangle



Area of figure

= Ar [□ ABCD] + Ar [Δ EAD] + Ar [Δ BCF]

$=$ (side × side) $+\frac{1}{2}\times$ Base × Height

$+\frac{1}{2}\times$ Base × Height

∵ Square all four side are equal

∴ AB = BC = CD = DA

= 12

Hence,

Area of figure

$=12\times12+\frac{1}{2}\times4\times12+\frac{1}{2}\times4\times12$

= 144 + 24 + 24 = 192 cm^2.

65. Speed of Train 'S' = 60 km/h
Distance Travelled by train 'd' = 165 km
Hence, Time taken to cover the distance

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

i.e., $$t = \frac{165}{60}$$

$$= \frac{33}{12} = \frac{11}{4}$$

$$t = 2\frac{3}{4}$$

t = 2 hour 45 minute
starting time = 1.45 PM
The time at which train reach 165 km away
= 1.45 PM + 2 h 45 min
= 4.30 PM.

66. We know,
Area of square = a^2 (side = a)
Parameter of square = $4a$
Given, Perimeter = Area

$$4 \times a = a^2$$

$$a = 4 \text{ cm.}$$

67. Actual time when train reach at Delhi station
= 8.20 AM + 8 hour 35 minutes
= 4.55 PM
$\because$ Given train is 25 minutes late
So, the time at which train reach at Delhi station
= 4.55 PM + 25 minute
= 5.20 PM.

68. Let 1 man's 1 day work = x and
1 woman's 1 day work = y

Then, $$12x = \frac{1}{24}$$

$$\Rightarrow \quad x = \frac{1}{288}$$

$$15y = \frac{1}{24}$$

$$\Rightarrow \quad y = \frac{1}{360}$$

(8 men + 8 women) 1 day works

$$= 8 \times \frac{1}{288} + 8 \times \frac{1}{360}$$

$$= \frac{1}{36} + \frac{1}{45}$$

$$= \frac{5+4}{180}$$

$$= \frac{9}{180}$$

$$= \frac{1}{20}$$

So, $\frac{1}{20}$ work completed by
(8 men + 8 women) = 1 day
1 work completed by (8 men + 8 women)
= 20 days.

69. From the Bar graph
Save in January = ₹ 180
Save in April = ₹ 100
Save in May = ₹ 180
Total save in January, April and May
= 180 + 100 + 180
= ₹ 460
Given, total savings (in five months)
= ₹ 950
Let Money saved in February
= Money saved in March
Suppose ₹ x
Then, $x + x + 460 = 950$

$$2x = 490$$

Money saved in February,

$$x = ₹ 245.$$

70. Tank capacity = 45 litres

$$\text{Water filled in Tank} = 45 \times \frac{4}{9}$$

= 20 litres

$$\text{Water removed} = 20 \times \frac{2}{5}$$

= 8 litres

Water left in tank = 20 – 8 = 12

So, water required to fill the tank

= 45 – 12

= 33 litres.

71. Cost of 1 dozen Banana = ₹ 40

Cost of 1 Banana = ₹ 5

Cost of 99 Banana = 8 dozen + 3 Banana

= 8 × 40 + 3 × 5

= 320 + 15

= ₹ 335.

72. Let the score of Amit = x mark

Then, Joseph Score = $x - 8$

Kumar score = $x + 12$

Total marks scored by them = 205

$x + x - 8 + x + 12 = 205$

$3x + 4 = 205$

$3x = 201$

$x = 67$

So, Joseph score = 67 – 8

= 59.

73. One Notebook price = ₹ 25.5

One pen price = ₹ 7.5

One pencil price = ₹ 1.25

He purchased 6 pencil

6 pencil price = 1.25 × 6

= 7.50

Total price = 25.5 + 7.5 + 7.5

= ₹ 30.5

The amount returned

= 50 – 30.5

= ₹ 9.5.

74. Total Baskets in Monday = 5 × 20

= 100

Total Baskets in Tuesday = 8 × 20

= 160

Total Baskets in Wednesday = 4 × 20

= 80

Total Baskets in Thursday = 10 × 20

= 200

Total Baskets in Friday = 4 × 20 = 80

Left Baskets = 200

Total Baskets

= 100 + 160 + 80 + 200 + 80 + 200

= 820 Baskets

75. Let, $a = x$ then a predecessor of b

$b = x - 1$

then, $a - b = 1$

$b - a = -1$.