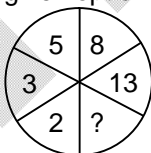


FIITJEE

**MUKHYAMANTRI VIGYAN PRATIBHA PARIKSHA
PART – I
MENTAL ABILITY TEST (MAT)
Held on: February 27, 2022
QUESTION PAPER**

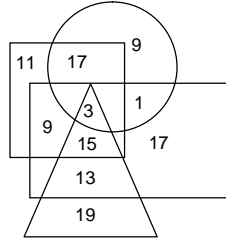
1. How many 7's are there in the given series which is immediately followed by 3 and immediately preceded by 8?
2 5 7 3 4 3 2 7 9 8 5 7 3 8 9 3 7 1 5 7 3 1
1. 5
2. 4
3. 3
4. 6
2. In a certain code language 'TEACHER' is coded as 'UGDCIGU', then which word will be coded for 'STUDENT'?
1. TWXDFPW
2. TVXEFQW
3. IWXDFDW
4. TWYXPFW
3. If 'Black' means 'White', 'White' means 'Red', 'Red' means 'Yellow', 'Yellow' means 'Blue', 'Blue' means 'Green', 'Green' means 'Purple', 'Purple' means 'Orange'. Then what is the colour of clean sky?
1. Black
2. Green
3. Orange
4. Blue
4. Find the missing number from the given options.



1. 6
2. 8
3. 1
4. 4

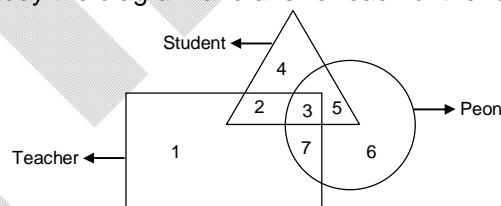
Direction (Q. 5 to 9): Study the diagram and answer each of the following.

The triangle represents students who scored 85% and above in science, the circle represents students who scored 85% and above in Maths, the rectangle represents students who scored 85% and above in social science and the square represents who scored 85% and above in English. The numbers given in the diagram represent the number of students in that particular category.



5. How many students scored 85% and above in all the subjects?
 1. 3
 2. 9
 3. 1
 4. 15
6. How many students scored 85% and above in English only?
 1. 17
 2. 11
 3. 9
 4. 15
7. How many students scored 85% and above in Maths only?
 1. 11
 2. 15
 3. 17
 4. 9
8. How many students scored 85% and above in Science only?
 1. 13
 2. 15
 3. 19
 4. 17
9. How many students scored 85% and above in Social Science only?
 1. 15
 2. 17
 3. 13
 4. 9

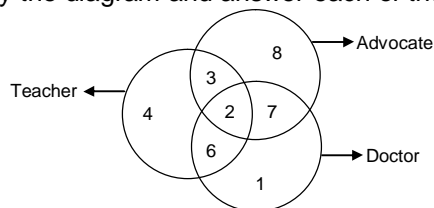
Direction (Q. 10 to 11): Study the diagram and answer each of the following.



10. Student, Teacher and Peon together are represented by which number?
 1. 3
 2. 2
 3. 4
 4. 7
11. Only student and peon are represented by which number?
 1. 3
 2. 7
 3. 5
 4. 6
12. A man walks 45 meter towards south then he turns to his right and walks 30 meter then he turns to his left and walks 25 meter, again he turns to his left and walks 30 meter. Find how far he is from his starting position at a distance?
 1. 20 mtr
 2. 80 mtr
 3. 75 mtr
 4. 70 mtr

13. Rahul is taller than Nitin but shorter than Sumit, John is taller than Urmila. Nitin is taller than John. Tell who is the shortest among them?
- | | |
|-----------|----------|
| 1. Urmila | 2. Nitin |
| 3. John | 4. Rahul |

Direction (Q. 14 to 17): Study the diagram and answer each of the following.



14. Teachers who are both Lawyers and doctors are represented by which number?
- | | |
|------|------|
| 1. 2 | 2. 6 |
| 3. 3 | 4. 7 |
15. Doctors who are Teachers but not Lawyers are represented by which number?
- | | |
|------|------|
| 1. 3 | 2. 7 |
| 3. 2 | 4. 6 |
16. Lawyers who are neither Doctors nor Teachers are represented by which number?
- | | |
|------|------|
| 1. 7 | 2. 3 |
| 3. 8 | 4. 2 |
17. Teachers who neither Doctors nor Lawyers are represented by which number?
- | | |
|------|------|
| 1. 4 | 2. 8 |
| 3. 1 | 4. 6 |

Direction (Q. 18 to 22): Study the following information carefully and answer the questions given below. Ashok's son Gaurav has two children, whose name is Rahul and Neelam. Their mother Meera told to Ajay that your wife Rakhi is the daughter of my husband's brother Nitin's maternal grandmother's son Raju's only single sister Shashi.

18. What is the relation between Ajay and Gaurav?
- | | |
|-------------------|-------------------|
| 1. Brother-in-law | 2. Brother |
| 3. Father / Son | 4. Uncle / Nephew |
19. Who is not the child of Shashi?
- | | |
|----------|-----------|
| 1. Rakhi | 2. Gaurav |
| 3. Nitin | 4. Ajay |
20. Who is Nitin's sister?
- | | |
|-----------|-----------|
| 1. Shashi | 2. Rakhi |
| 3. Meera | 4. Neelam |
21. How is Neelam related to Nitin?
- | | |
|-----------|----------|
| 1. Sister | 2. Wife |
| 3. Mother | 4. Niece |
22. What is the name of Shashi's Husband?
- | | |
|-----------|----------|
| 1. Gaurav | 2. Nitin |
| 3. Ashok | 4. Ajay |

Direction (Q. 23 to 28): Study the following information carefully and answer the questions given below. 'A' and 'D' have knowledge of English and Hindi languages. 'B' and 'F' have knowledge of Gujrati and Punjabi languages. 'A' and 'F' have knowledge of Malyalam and Tamil languages. 'B' and 'D' have knowledge of Maithali and Santhali languages. 'D' and 'F' have knowledge of English and Telgu languages.

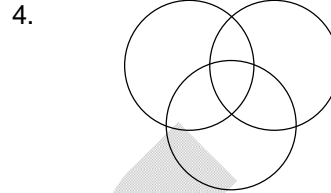
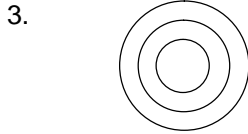
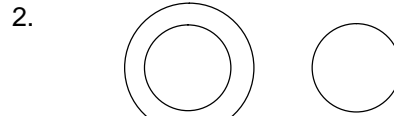
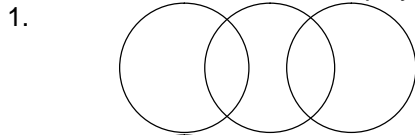
23. How many people know three or more languages?
 1. 1
 2. 3
 3. 2
 4. 4
24. Who knows the most languages?
 1. F
 2. A
 3. B
 4. D
25. Who has knowledge of five languages?
 1. A
 2. B
 3. D
 4. F
26. Who have knowledge of Gujrati, Punjabi, Maithali and Santhali languages?
 1. F
 2. D
 3. A
 4. B
27. How many people have knowledge of foreign language?
 1. 3
 2. 4
 3. 1
 4. 2
28. Who has the least knowledge of languages?
 1. D and F
 2. F and B
 3. A and B
 4. A and D

Direction (Q. 29 to 33): Select the option that will fill in the blanks and complete the given series.

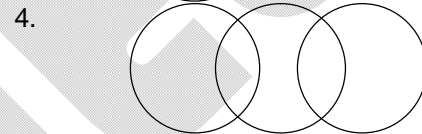
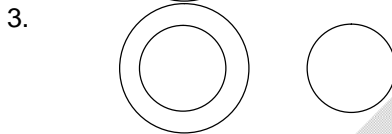
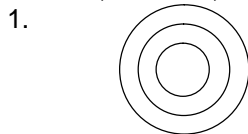
29. 9, 16, 30, 58, 114, ___
 1. 220
 2. 228
 3. 224
 4. 226
30. 27, 125, 343, 729, 1331, ___
 1. 2744
 2. 3375
 3. 2193
 4. 1728
31. 2, 3, 4, 5, 8, 7, 16, ___
 1. 32
 2. 9
 3. 11
 4. 14
32. L, I, G, F, ___
 1. F
 2. E
 3. D
 4. L
33. CK, FN, IQ, LT, ___
 1. WO
 2. PV
 3. OV
 4. OW

Direction (Q. 34 to 36): Identify the diagram that best represents the relationship among the cases given below.

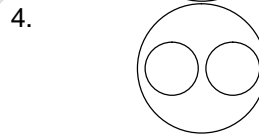
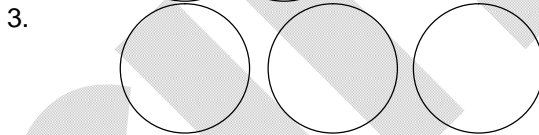
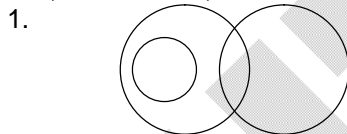
34. Teacher, Man, Permanent Employee



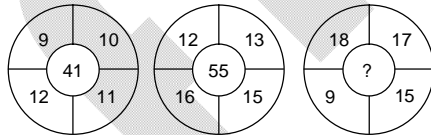
35. Student, Teacher, School



36. Car, E-Rickshaw, Electronic vehicle.



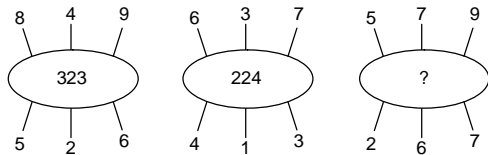
37.



1. 59
3. 57

2. 56
4. 58

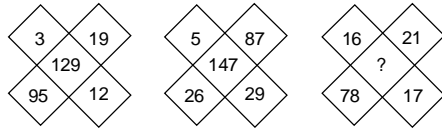
38.



1. 212
3. 312

2. 311
4. 313

39.



1. 132
3. 133

2. 131
4. 134

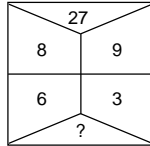
40.

8	9	7
5	7	6
4	6	8
9	10	?

1. 9
3. 15

2. 5
4. 25

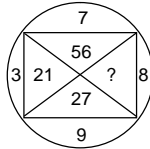
41.



1. 81
3. 29

2. 98
4. 72

42.



1. 70
3. 71

2. 72
4. 73

43.

If '+' means 'x', '-' means '÷', '÷' means '+' and 'x' means '-', then

$$27 - 3 + 6 \div 7 \times 9 = ?$$

1. 59
3. 57

2. 54
4. 52

Direction (Q. 44 to 48): Read the information given in the table carefully and answer the given questions.

Subject Year	Hindi	English	Maths	Science	S.Sc.
2017	956	719	540	817	915
2018	870	620	719	879	896
2019	891	796	827	789	687
2020	769	814	766	766	798
2021	679	793	753	859	823

44. Students studying English in the year 2019, is approximately what percent of the total students of this year?

1. 20%
3. 18%

2. 21%
4. 29%

45. What is the difference between the number of students studying Mathematics in the year 2017, 2019, 2021 and the number of students studying science in the year 2018, 2019 and 2020?
- | | |
|--------|--------|
| 1. 411 | 2. 410 |
| 3. 314 | 4. 214 |
46. What is the sum of the number of students in the subject studied by the maximum number of students in the year 2021 and the total number of students in the year 2021?
- | | |
|---------|---------|
| 1. 4666 | 2. 4761 |
| 3. 4769 | 4. 4766 |
47. What is the difference between the subject studied by the highest and least number of student in the year 2019?
- | | |
|--------|--------|
| 1. 304 | 2. 204 |
| 3. 314 | 4. 214 |
48. What is the sum of the total number of students of all the years together and the total number of students of Maths, Science and Social Science?
- | | |
|----------|----------|
| 1. 30575 | 2. 30577 |
| 3. 31575 | 4. 31545 |
49. Which of the following word cannot be formed from the word 'GOVERNMENT'?
- | | |
|-----------|---------|
| 1. MENTOR | 2. TORN |
| 3. TEMPO | 4. VOTE |
50. How many A's are there in the given series which is immediately followed by X and immediately preceded by D?
- B D A X C A B D A X C F D A X E A F D A X B Y C D A X B C Y D A X
- | | |
|------|------|
| 1. 6 | 2. 5 |
| 3. 8 | 4. 4 |
51. Anil walked 10km towards North. From there he turned back and walked 6km towards South. Then he walked 3km towards East. How far was he from the starting point ?
- | | |
|--------|---------|
| 1. 8km | 2. 5km |
| 3. 7km | 4. 6 km |
52. Mohan is 13th from the left end in a row of children. Praveen is 12th from the right end and 18th from the left end. How many children are towards the right of Mohan in that row ?
- | | |
|-------|------------------------|
| 1. 16 | 2. 18 |
| 3. 17 | 4. Can't be determined |
53. Pointing to a woman a man says. "She is the sister-in-law of the only child of my mother-in-law". How is the woman related to the man?
- | | |
|-------------|------------------|
| 1. Daughter | 2. Mother |
| 3. Sister | 4. Sister-in-law |

Direction (Q. 54 to 58): Read the following information carefully and answer the questions given below:

If 'A × B' means 'A is the mother of B'

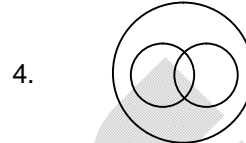
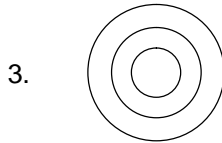
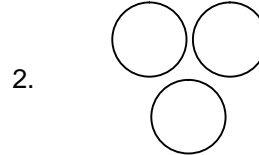
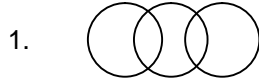
If 'A ÷ B' means 'A is the brother of B'

If 'A + B' means 'A is the son of B'

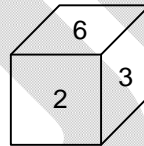
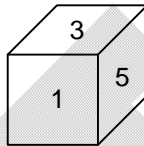
If 'A – B' means 'A is the wife of B'

54. In expression, $J - T \div K + F$. How is F related to J?
- | | |
|--------------------|------------------|
| 1. Daughter-in-law | 2. Daughter |
| 3. Mother-in-law | 4. None of these |

55. In expression, $R \times H + D$. How is R related to D?
 1. Mother
 2. Wife
 3. Uncle
 4. Can't be determined
56. Which of the following diagram best depicts the relationship between Book, Pencil and Pen?



57. In a certain code 'pale' is coded as 2134. 'earth' is coded as 41590, then how is 'pearl' coded?
 1. 29530
 2. 24153
 3. 25413
 4. 25430
58. Two positions of a dice of are shown below. Which number will appear on the face opposite to the face with the number 5?



1. 4
 2. 6
 3. 2 or 6
 4. 2

Direction (Q. 59 to 63): Two opposite surfaces of a cube are pointed red and all other remaining surfaces are pointed green. Now it is cut in such a way that 125 small and equal cubes are formed. Based on this information answer the questions given below.

59. How man cubes will have only one surface painted and it is red?
 1. 12
 2. 18
 3. 24
 4. 27
60. How man cubes will have only one surface painted and it is green?
 1. 24
 2. 27
 3. 36
 4. 48
61. How man cubes will have their two surfaces painted, one red and other green?
 1. 24
 2. 27
 3. 36
 4. 48
62. How man cubes will have their two surfaces painted, both green in colour?
 1. 8
 2. 12
 3. 16
 4. 20
63. How many pairs of letters are there in the word 'NURSING' which have as many letters between them as in the alphabet?
 1. One
 2. Two
 3. Three
 4. Four

64. In the question given below on the left of sign (: :) two words are given which are related to each other in some way, similar relation exists between the word on the right of the sign (: :) and one of the options given below. Find the correct option.

Zoology : Creatures : : Psychology : ?

- | | |
|------------|-----------------------|
| 1. Animals | 2. Humans |
| 3. Herbs | 4. Animals and Humans |

65. As RT related to NP, similarly HJ is related to "

- | | |
|-------|-------|
| 1. DE | 2. DG |
| 3. EG | 4. DF |

66. Three of the following four are similar in some manner, hence form a group. Find the one which does not belong to the group ?

- | | |
|--------|--------|
| 1. 196 | 2. 256 |
| 3. 529 | 4. 576 |

Direction (Q. 67 to 71): Find the missing number which will come on replacement of (?)

67. 256, 81, 64, 27, 16, 9 ?

- | | |
|------|------|
| 1. 3 | 2. 4 |
| 3. 5 | 4. 6 |

68. 2, 5, 4, 8, 6, 11, 8, 14, 10 ?

- | | |
|-------|-------|
| 1. 16 | 2. 7 |
| 3. 9 | 4. 17 |

69. 2, 6, 14, 26, 42, 62 ?

- | | |
|-------|-------|
| 1. 86 | 2. 84 |
| 3. 74 | 4. 72 |

70. Complete the series :

aba_baca_ba_bacaabac_aca

- | | |
|---------|---------|
| 1. cacb | 2. babc |
| 2. ccab | 4. cabc |

71. 1ZA, 3YB, 6XC, 10WD, _____

- | | |
|---------|---------|
| 1. 14VE | 2. 15UE |
| 3. 12VE | 4. 15VE |

Direction (Q. 72 to 73): In given questions one character is missing. Find the same on the basis of common characteristics from the given options.

72.

7	4	5	8
8	7	6	2
3	3	?	5
29	19	31	42

- | | |
|------|------|
| 1. 4 | 2. 3 |
| 3. 5 | 4. 6 |

73.

24	144	384	192
6	36	?	48
2	12	32	16
1	6	16	8

1. 84
3. 91

2. 85
4. 96

74. Some equations are solved on the basis of a certain system. Find out the correct answer for the unsolved equation on that basis

$$9 * 8 = 63, 7 * 8 = 49$$

$$11 * 11 = 110, 12 * 13 = ?$$

1. 121
3. 144

2. 132
4. 156

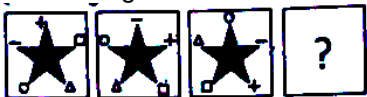
75. On arranging the letters of the word SIGNATURE alphabetically, position of how many letters will remain unchanged?

1. Three
3. One

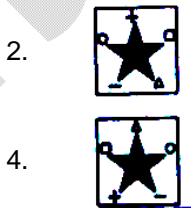
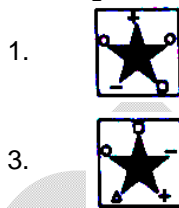
2. More than three
4. Two

Direction (Q. 76 to 77): Each of the following questions consists of a set of four figures in which one figure is missing. Select a figure from the answer figure which will fulfil the series.

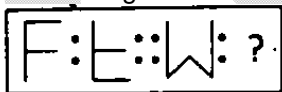
76. Question figure



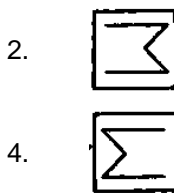
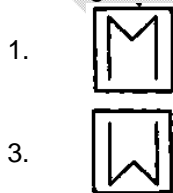
Answer figure



77. Question figure

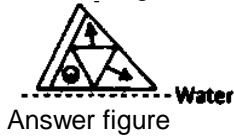


Answer figure



Direction (Q. 78 to 79): Which of the following four alternatives given below is the correct water image of the question figure?

78. Question figure



Answer figure



79. Question figure



Answer figure



Direction (Q. 80 to 81): Study the following information carefully and answer the questions given below:
 In a certain code 'very well earned respect' is written as 'fo mi la gu', 'respect is always earned' is written as 'de gu mi bm', 'well being is essential' is written as 'bm hr la xf', 'earned money being best' is written as 'zf qs mi xf'.

80. Which of the following is the code for 'money'?

- | | |
|-------------|-------|
| 1. zt | 2. qs |
| 3. zt or qs | 4. Mi |

81. In the given code language 'very essential' can be written as?

- | | |
|----------|----------|
| 1. fo la | 2. hr fo |
| 3. hr bm | 4. gu la |

Direction (Q. 82 to 85): Find the missing number which will replace (?)

82. 9, 19, 30, 42, 55, 69 ?

- | | |
|-------|-------|
| 1. 83 | 2. 84 |
| 3. 85 | 4. 86 |

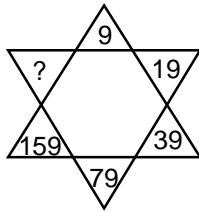
83. 0, 6, 24, 60, ?

- | | |
|--------|--------|
| 1. 90 | 2. 100 |
| 3. 110 | 4. 120 |

84. 3, 8, 11, 19, 30, 49 ?

- | | |
|-------|-------|
| 1. 77 | 2. 87 |
| 3. 79 | 4. 73 |

85.



- | | | | |
|----|-----|----|-----|
| 1. | 219 | 2. | 319 |
| 3. | 159 | 4. | 200 |

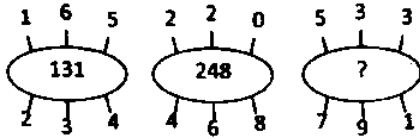
Direction (Q. 86 to 88): Select the missing number from the given responses.

86.

25	49	16
36	81	64
11	16	?

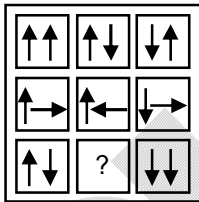
- | | | | |
|----|----|----|----|
| 1. | 12 | 2. | 20 |
| 3. | 18 | 4. | 13 |

87.



- | | | | |
|----|-----|----|-----|
| 1. | 320 | 2. | 274 |
| 3. | 262 | 4. | 132 |

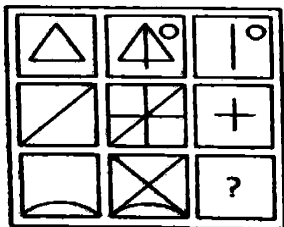
88.



- | | | | |
|----|--|----|--|
| 1. | | 2. | |
| 3. | | 4. | |

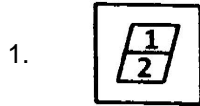
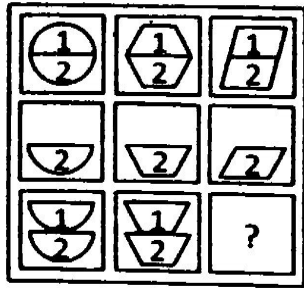
Direction (Q. 89 to 90): Select a suitable figure from the four alternatives that would complete the following matrix.

89.



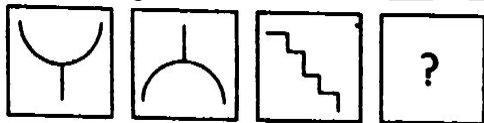
- | | | | |
|----|--|----|--|
| 1. | | 2. | |
| 3. | | 4. | |

90.



Direction (Q. 91 to 92): Select a suitable figure from the answer figures that would replace the question?

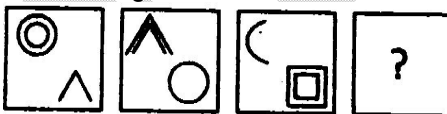
91. Question figure



Answer figure



92. Question figure

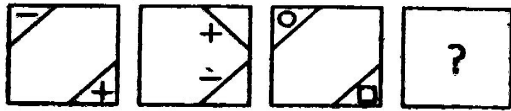


Answer figure



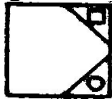
Direction (Q. 93 to 97): Identify the figure that complete the pattern.

93. Question figure



Answer figure

1.



2.



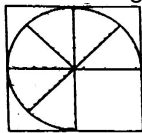
3.



4.



94. Question figure



Answer figure

1.



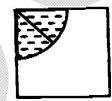
2.



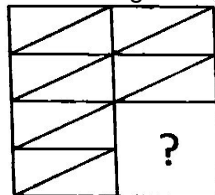
3.



4.

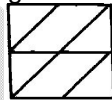


95. Question figure

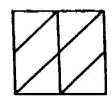


Answer figure

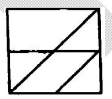
1.



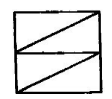
2.



3.



4.

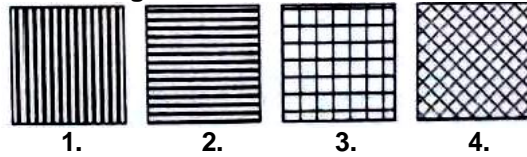


96.

Question Figure



Answer Figure



1.

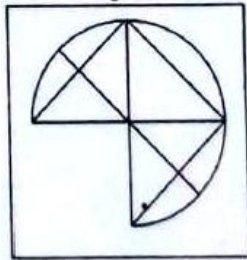
2.

3.

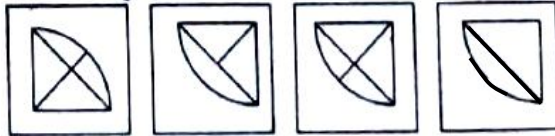
4.

97.

Question Figure



Answer Figure



1.

2.

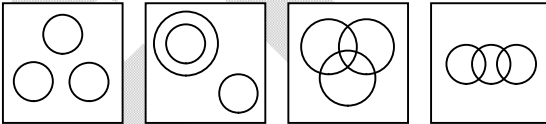
3.

4.

Direction (Q. 98 to 100): Identify the diagram that best represents the relationship among the class given below.

98.

DOG, CAT and PET



1.

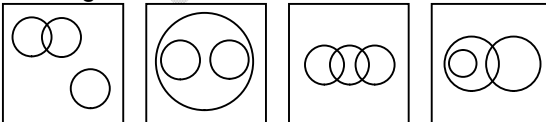
2.

3.

4.

99.

Building material, Cement and Wood



1.

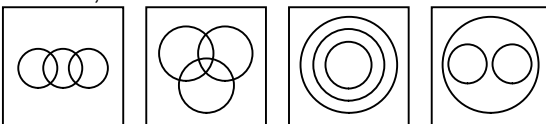
2.

3.

4.

100.

Women, Teacher and Student



1.

2.

3.

4.