

JEE EXPERT

SAMPLE PAPER

MENTAL ABILITY

Going to IX

Time : 2 Hours

Maximum Marks : 270

Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.

INSTRUCTIONS

- (i) The question paper has 16 printed pages excluding Answer Sheet. Please ensure that the copy of the question paper you have received contains all pages.
- (ii) The question paper contains 90 questions. Each question carry 3 marks and all the questions are compulsory. **There is negative marking. One mark will be deducted for each wrong answer. No mark will be deducted for unattempted question.**
- (iii) Each question contains Four alternatives out of which only **ONE** is correct.
- (iv) Indicate the correct answer for each question by filling appropriate bubble in your answer sheet.
- (v) For rough work, use the space provided in question paper booklet. No extra sheet will be provided for rough work.
- (vi) Use of Calculator, Log Table, Slide Rule and Mobile is not allowed.
- (vii) The answer(s) of the questions must be marked by shading the circles against the question by dark pencil only. For example if only 'B' choice is correct then,

the correct method for filling the bubble is

A	B	C	D
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

the wrong method for filling the bubble are

- | | | | | |
|-----|-----------------------|----------------------------------|-----------------------|-----------------------|
| (a) | A | B | C | D |
| | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| (b) | A | B | C | D |
| | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| (c) | A | B | C | D |
| | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |

The answer of the questions in wrong or any other manner will be treated as wrong.

Name of the candidate

Regn. Number

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I have read all the instructions and shall abide by them.

.....
Signature of the Candidate

I have verified all the information filled in by the candidate.

.....
Signature of the invigilator

DO NOT BREAK THE SEAL WITHOUT BEING INSTRUCTED TO DO SO BY THE INVIGILATOR

Section – I

Directions (Question number 1-5) : Solve the questions if the symbols are as given below:

$$\times = -$$

$$+ = \div$$

$$\div = \times$$

$$- = +$$

$$* = \div$$

$$? = -$$

$$\# = +$$

1. $8 \div 2 + 2 - 7 = ?$
(a) 15 (b) 16 (c) 17 (d) 19
2. $27 \times 5 \div 9 - 7 = ?$
(a) 26 (b) 15 (c) - 20 (d) - 11
3. $9 + 3 \div 3 - 8 * 2 = ?$
(a) 27 (b) 17 (c) 13 (d) 26
4. $28 + 2 - 12 \div 10? 4 = ?$
(a) 140 (b) 130 (c) 135 (d) 201
5. $40 \div 20 + 10 \times 2 - 14 = ?$
(a) 92 (b) 8 (c) 18 (d) 20

Directions (Question no 6 -14) : are based on Coding and Decoding

6. If PRAYAG is coded for 654342, what could 5424 stand for ?
(a) YAGA (b) MAYA (c) GAYA (d) RAGA
7. If ABCD is coded for 1234, what would GHIF stand for ?
(a) 5678 (b) 7869 (c) 7896 (d) 6789
8. A is for 2, B is for 4, and E is for 10; then C x D is for?
(a) 42 (b) 38 (c) 48 (d) 14
9. If a MAT is coded for 789, what would CAT stand for?
(a) 893 (b) 689 (c) 987 (d) 895
10. If COT is coded for 567, what would TOP stand for?
(a) 768 (b) 689 (c) 987 (d) 895
11. WORLD is coded for 57689, what would 8769 stand for?
(a) DOLL (b) WOOL (c) DOOR (d) LORD
12. BREAD stands for 56789; SWEET stands for 23774; then, what would 98472 stand for?
(a) WHEAT (b) TEETH (c) METER (d) DATES
13. ELEVEN is for 121314; PHANTOM is for 5674890; then what would stand for ELEPHANT?
(a) 11567824 (b) 16546475 (c) 12156748 (d) 12517648
14. If 123 for APE; 412 for LAP; make something sweet from 12243
(a) PEAR (b) REAP (c) APPLE (d) PEEL

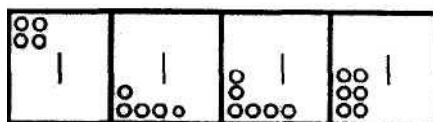
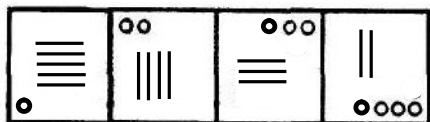
Space for rough work

15. By Arranging the following words in the order they appear in a dictionary which word will come second?
(a) Proclamation (b) Procrastination (c) Proletarian (d) Pronunciation
16. Complete the following: 2, 7, 12, 17, 22, __, 32, __
(a) 25, 35 (b) 27, 37 (c) 47, 57 (d) 67, 77
17. Rearrange the following letters to make the name of a great writer: KILADANAS
(a) SANDAKALI (b) KALIDASAN (c) DASAKALI (d) KALKIDAS
18. 'Captain' is related to 'Team' in the same way as 'Director' is related to
(a) Supervisor (b) Employee (c) Organization (d) Union
19. Find the odd one out of the following options
(a) Aunt (b) Child (c) Father (d) Relation
20. Pointing to a photograph of Mahesh, Ram said "The father of his sister is the husband of my wife's mother". How is Ram related to Mahesh?
(a) Brother (b) Brother-in-law (c) Father-in-law (d) None of these
21. If 'fork' is called 'plate', 'plate' is called 'knife', 'knife' is called 'jug', 'jug' is called 'glass', 'glass' is called 'cup' and 'cup' is called 'fork', by what do we cut fruit?
(a) Spoon (b) jug (c) Glass (d) saucer
22. If 'A' is substituted by 26, 'B' by 25 and so on up to 'Z' which is substituted by 1, what will be the sum of the numbers substituted for the word 'XRAY'?
(a) 33 (b) 40 (c) 37 (d) 73
23. Geeta is elder to Seeta but not to Deepa. Gayatri is younger than Deepa. No one is elder to Fatima. Who is youngest of them all?
(a) Seeta (b) Geeta (c) Gayatri (d) None of these

Space for rough work

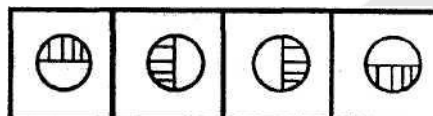
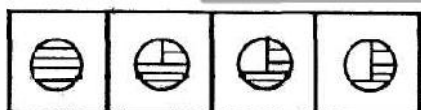
Directions (Question Number 24 – 28): All the four figures in the set of problem figures bear a definite sequence discover that sequence and pickup one figure from the answer figures that completes the series. Mark your answers as (a), (b), (c) or (d).

24.



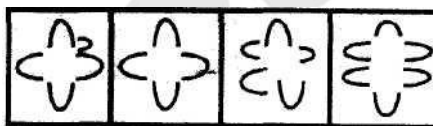
(a) (b) (c) (d)

25.



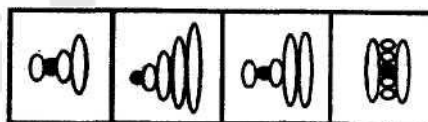
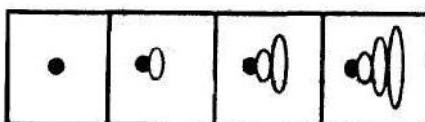
(a) (b) (c) (d)

26.



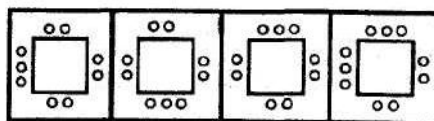
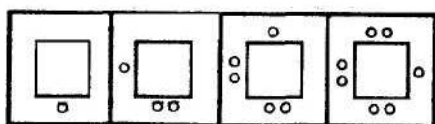
(a) (b) (c) (d)

27.



(a) (b) (c) (d)

28.



(a) (b) (c) (d)

Space for rough work

Directions (Question Number 29 – 33) : Read the following statements carefully and answers the following questions .

- (i) Dinesh has two sons A and B and a daughter C.
- (ii) Shyam has two sons P and Q and a daughter R.
- (iii) P and C are married and M and N are their sons.
- (iv) Rohan has a son S and a daughter T.
- (v) T is married to B and they have two daughters D and E and a son G.

29. How Q is related to N?
 (a) Father (b) Grand Father (c) Maternal Uncle (d) Uncle
30. How is Dinesh related to E?
 (a) Grand Father (b) Uncle (c) Brother (d) Father
31. How is M related to R?
 (a) Niece (b) Cousin Brother (c) Daughter (d) None of these
32. How is Dinesh related to T?
 (a) Father (b) Father-in-law (c) Uncle (d) Maternal Uncle
33. How is E related to S?
 (a) Grand Son (b) Uncle (c) Sister's Daughter (d) Nephew

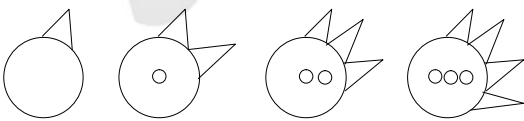
Directions: (Question number 34-38) : Complete the figure series

34. Which is the next figure in the pattern,  _____.

- (a)  (b)  (c)  (d) 

35.  _____.

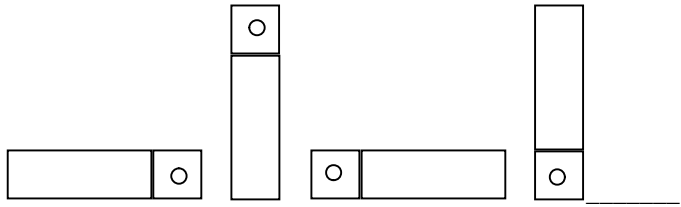
- (a)  (b)  (c)  (d) 

36.  _____.

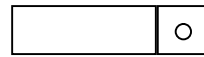
- (a)  (b)  (c)  (d) 

Space for rough work

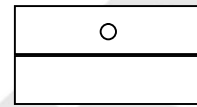
37.



(a)



(b)

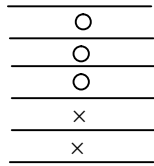
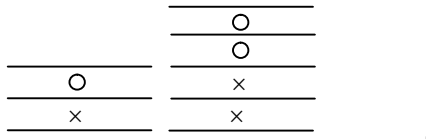


(c)

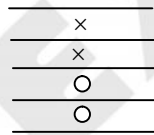


(d)

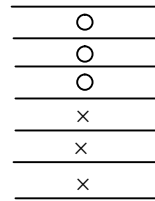
38.



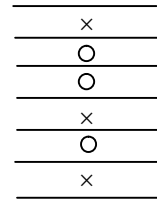
(a)



(b)



(c)

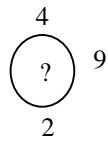
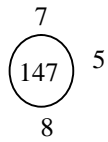
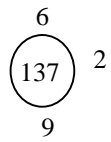


(d)

Space for rough work

Direction (Question number 39-43) Find the missing number in the end circle.

39.

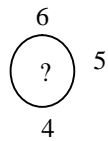
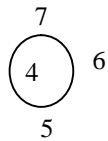
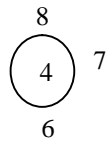


(a) 157 (b) 104

(c) 127

(d) 102

40.

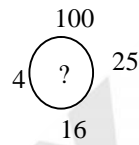
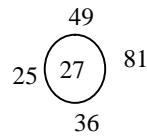
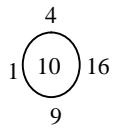


(a) 3 (b) 4

(c) 5

(d) 6

41.



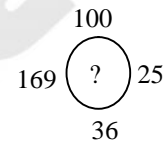
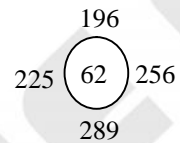
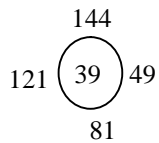
(a) 21

(b) 42

(c) 64

(d) 11

42.



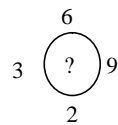
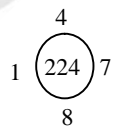
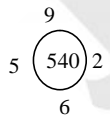
(a) 62

(b) 36

(c) 34

(d) 43

43.



(a) 471

(b) 324

(c) 341

(d) 412

Space for rough work

Direction (Question number 44 -46) Complete the letter series

44. KA-KA-AL-AK-LKA

- (a) LKKA (b) KLKA (c) LAKK (d) ALKA

45. A-IAASI--SIAAS-A

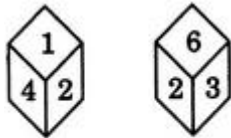
- (a) SAIA (b) SAAI (c) AISA (d) IASA

46. A-CCEEG-BB-DFF-H

- (a) AHGD (b) HAGD (c) AHDG (d) AGDH

Directions from 47 -51 Questions are based on Cubes and dice

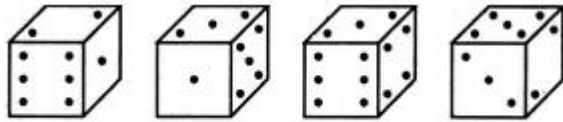
47. What will be the number at the bottom, if 5 is at the top; the two positions of the dice being as given below:



(i) (ii)

- (a) 1 (b) 2 (c) 3 (d) 6

48. If the total number of dots on opposite faces of a cubical block is always 7, find the figure which is correct.

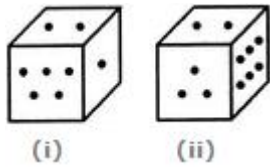


(1) (2) (3) (4)

- (a) Fig1 (b) Fig2 (c) Fig3 (d) Fig4

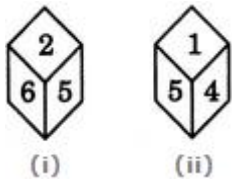
Space for rough work

49. Two positions of a block are given below. When 1 is at the top, which number will be at the bottom?



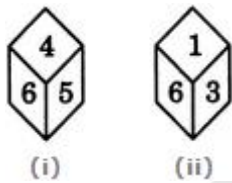
- (a) 2 (b) 4 (c) 3 (d) 6

50. What number is opposite 3 in the figure shown below? The given two positions are of the same dice whose each surface bears a number among 1, 2, 3, 4, 5 and 6.



- (a) 2 (b) 4 (c) 5 (d) 6

51. Two positions of a dice are shown below. Identify the number at the bottom when the top is '3'?

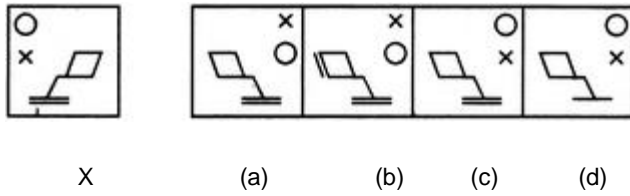


- (a) 2 (b) 4 (c) 5 (d) 6

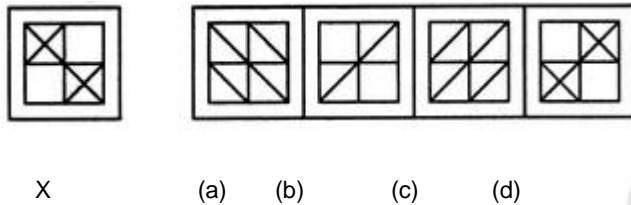
Space for rough work

(Question No.52-56) : In each of the following questions, choose the correct mirror images of the given image of the Fig.(X) from amongst the four alternatives (a), (b), (c) and (d) given along with it.

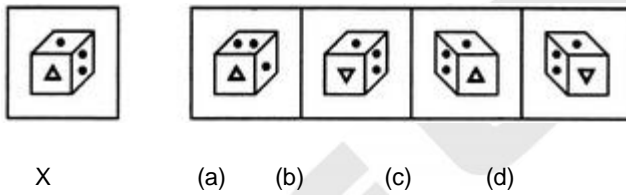
52. .



53.

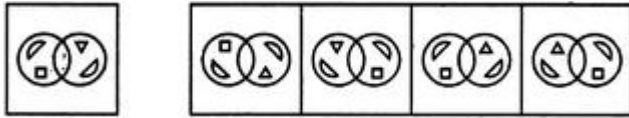


54.



Space for rough work

55.



X (a) (b) (c) (d)

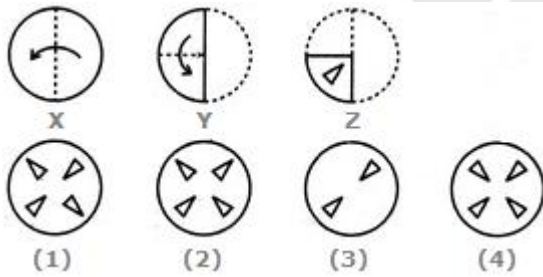
56.



X (a) (b) (c) (d)

Direction (Question number 57-60) : Each of the following questions consists of a set of three figures X, Y and Z showing a sequence of folding of a piece of paper. Figure (Z) shows the manner in which the folded paper has been cut. These three figures are followed by four answer figures from which you have to choose a figure which would most closely resemble the unfolded form of figure (Z).

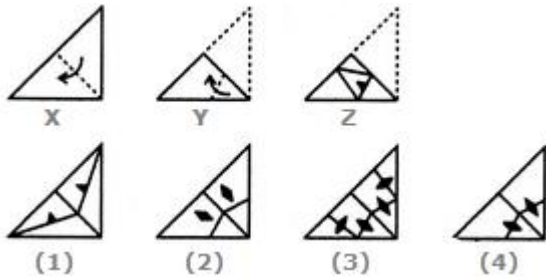
57.



(a)1 (b)2 (c)3 (d)4

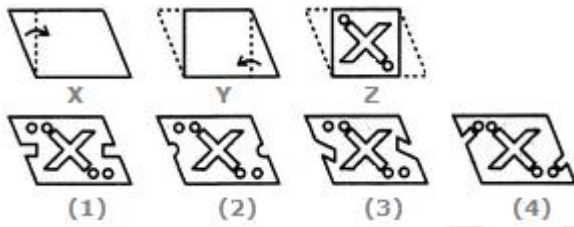
Space for rough work

58.



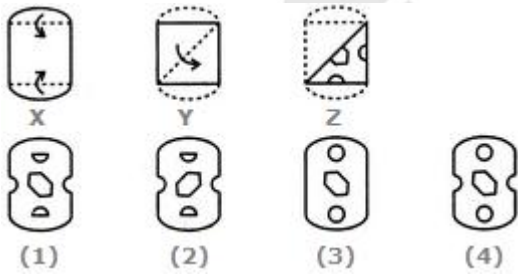
(a)1 (b)2 (c)3 (d)4

59.



(a)1 (b)2 (c)3 (d)4

60.



(a)1 (b)2 (c)3 (d)4

Space for rough work

Direction (Question number 61-64) : In each problem number of letters have specific relationship to each other. Find this relationship and then decide the next letter or number to replace the question mark (?)

61. 1, 1, 2, 4, 3, ?

(a) 1

(b) 5

(c) 4

(d) 7

62. A, Z, F, U, L, ?

(a) S

(b) K

(c) L

(d) none of these

63. CX, EV, GT, IR ?

(a) AZ

(b) VY

(c) DW

(D) KP

64. $\frac{C}{F}, \frac{E}{J}, \frac{G}{N}, \frac{I}{R}, ?$

(a) K/U

(b) L/V

(c) K/V

(d) M/N

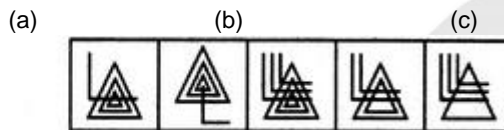
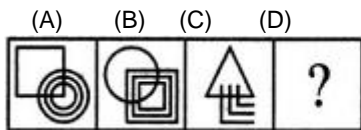
Space for rough work

Directions (Question number 65-69) : Each of the following questions consists of two sets of figures. Figures A, B, C and D constitute the Problem Set while figures a, b, c, d and e constitute the Answer Set. There is a definite relationship between figures A and B. Establish a similar relationship between figures C and D by selecting a suitable figure from the Answer Set that would replace the question mark (?) in fig. (D).

65.



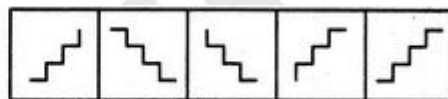
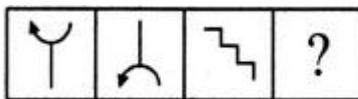
66.



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

(a) (b) (c) (d) (e)

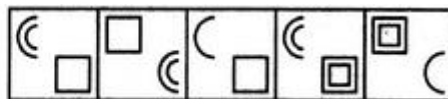
67.



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

(a) (b) (c) (d) (e)

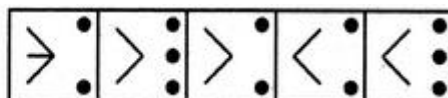
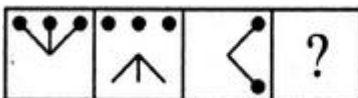
68.



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

(a) (b) (c) (d) (e)

69.



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

(a) (b) (c) (d) (e)

Space for rough work

Directions (Question number 70-74) : In each of the following questions, select a figure from amongst the four alternatives, which when placed in the blank space of figure (X) would complete the pattern.

70.



(x)

(a)

(b)

(c)

(d)

71.



(x)

(a)

(b)

(c)

(d)

72.



(x)

(a)

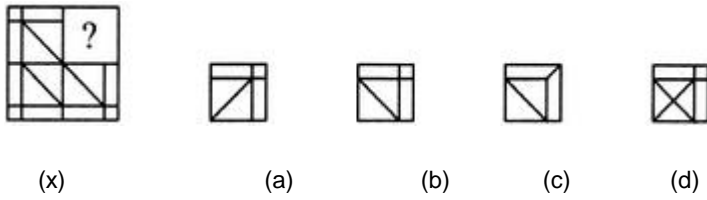
(b)

(c)

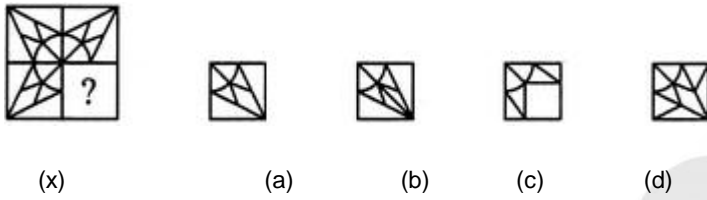
(d)

Space for rough work

73.



74.



Direction (Question Number 75 – 79) : numbers have been written in the cells according to some rule. Find out the rule and select the suitable answer from the given choices.

75.

2	4	8
1	2	4
6	12	?

- (a) 3 (b) 9 (c) 6 (d) 24

76.

8	3	4
7	6	1
2	4	?
13	5	4

- (a) 1 (b) 2 (c) 3 (d) 4

77.

4	2	3
-33	?	5
7	5	2

- (a) 21 (b) - 21 (c) 12 (d) - 12

78.

3	8	10	2	?	1
6	56	90	2	20	0

- (a) 0 (b) 3 (c) 5 (d) 7

Space for rough work

79.

9	12	3
7	16	9
9	?	-6

(a) 8

(b) 3

(c) 2

(d) 4

80. Krishna walks 10 meters in front and 10 metres to the right. Then every time turning to his left, he walks 5, 15 and 15 metres respectively. How far is he now from his starting point.

(a) 5 cm

(b) 5m

(c) 5 km

(d) 15 m

81. A rat runs 20 m toward east and turns to right, runs 10 m and turns to right, runs 9 m and again turns to left, runs 5 m and turns to left, runs 12 m and finally to left and runs 6 m. Now which direction is the rat facing?

(a) north

(b) west

(c) south

(d) east

82. How many 4's are there in the following number series which are preceded by 5 but not followed by 7?

234234254732431925475472345

(a) one

(b) two

(c) three

(d) none

83. If the following numbers are written in descending order then what will be the middle digit of the middle number?

723, 789, 713, 659, 785, 689, 769

(a) 1

(b) 2

(c) 3

(d) 5

84. Nikhilesh is taller than Aravind who is taller than Mahendar. Naresh is smaller than Suresh but taller than Nikhilesh. Who is shortest?

(a) Nikhidesh

(b) Mahendar

(c) Aravind

(d) None of these

Directions (Question number 85-89) Find the odd man out:

85.

(a) LHJ

(b) ZUW

(c) RNP

(d) FBD

86.

(a) BDH

(b) JLP

(c) MOS

(d) PRW

87.

(a) CXE

(b) FUH

(c) JRL

(d) MON

88.

(a) LKHG

(b) RQNM

(c) XWTS

(d) VUQP

89.

(a)XUWV

(b)TQSR

(c) JHIG

(d) NKML

Directions (Question number 90-94) : Words in the following questions have certain relationship. Your are required is to tick mark the choice from (a), (b), (c) and (d) the has similar relationship

90. tea : coffee

(a) car : vehicle

(b) paper : book

(c) bangle : ring

(d) line : geometry

Space for rough work

JEE EXPERT

Going IX MAT [20.01.2019] ANSWER KEY

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