FIITJEE

Time: 120Minutes   **Maximum Marks: 100**

MENTAL ABILITY TEST - 2018

Instructions to the Candidates
Read the following instructions carefully before you answer the questions:

1.   Answer are to be given on a SEPRATE ANSWER SHEET.

2.   Please write your eleven digits Roll Number very clearly on the Test-booklet and Answer Sheet as given in your admission card.

3.   Please note and follow the instructions given on the answer sheet for writing the answers.

4.   Darken the CIRCLE with pen for answering the question in the appropriate space against the number corresponding to the question you are answering.

5.   There are 100 question in the test.

6.   Since all questions are compulsory, do not try read the whole question paper before beginning to answer it.

7.   If you do not know the answer to any question, do not spend much time on it and pass on to the next one. Time permitting, you can come back to the question, which you have left in the first instance and try them again.

8.   Since the time allotted for this question paper is very limited you should make the best use of it by not spending too much time on any one question.

9.   Rough work can be done anywhere in the booklet but not on Answer sheet/loose paper.

10. Every correct answer will be awarded one mark.

11. Please return the answer sheet to the invigilator after the test.

1. In a certain code, MENTION is written a LNEITNO. How is PATTERN written in that code?
- (1) APTTREM
- (2) PTAETNR
- (3) OTAETNR
- (4) OTAETRN

2. In a certain code language, the word NUMBER is written 'SECNVO'. How will the word 'SECOND' be written in that language?
- (1) EPOEGH
- (2) EOPDFT
- (3) OPETFD
- (4) TEFDPOE

3. If PAINT is code as 74128 and EXCEL is coded as 93596, then would you code ACCEPT?
- (1) 455978
- (2) 547978
- (3) 554978
- (4) 735961

4. In a certain code, if SCHOOL is coded as 123445, TEAM as 6078, how is HOTEL coded in that code?
- (1) 34785
- (2) 60734
- (3) 43605
- (4) 34605

5. Which number would replace question mark in the series 7, 12, 19, ? 39
- (1) 29
- (2) 28
- (3) 26
- (4) 24

6. Which fraction comes next in the sequence 1/2, 3/4, 5/8, 7/6?
- (1) 9/32
- (2) 10/17
- (3) 11/34
- (4) 12/35

7. Find the missing number in the given series:
9, 11, 20, 31,_____82.
- (1) 41
- (2) 60
- (3) 51
- (4) 71

(Q. 8-10) Direction: study the following number series to answer the given question.
2, 6, 7, 5, 4, 3, 7, 4, 8, 9, 4, 3, 2, 5, 4, 7, 9, 8, 6, 8, 7, 1, 2, 5, 3, 7, 6, 8, 9, 3, 6.

8. How many 7s are there in the series which are immediately precede by an even number and immediately followed by an odd number>
- (1) 2
- (2) 4
- (3) 3
- (4) 5

9. Which of the following will not be number of the series 1, 8, 27, 64, 125,_____
- (1) 256
- (2) 512
- (3) 729
- (4) 1000

10. How many such number are there in the series which are immediately followed by its multiple?
- (1) 3
- (2) 4
- (3) 5
- (4) 1

11. Which term comes next in the series? YEB, WFD, UHG, SKI,………..
- (1) QGL
- (2) TOL
- (3) QOL
- (4) QNL

12. Pointing towards a person in a photograph, Anjali said, "He is the only son of the father of my sister's brother". How is the person related to Anjali?
- (1) Mother
- (2) Father
- (3) Maternal Uncle
- (4) Brother

13. Pointing out a lady, Mohit said, "she is the daughter of the woman who is the mother of the husband of my mother". Who is the lady to Mohit?
- (1) Aunt
- (2) Grand Daughter
- (3) Daughter
- (4) Sister

14. A and B are brother C and D are sister. A's son is D's brother. How is B related to C?
- (1) Father
- (2) Brother
- (3) Grandfather
- (4) Uncle

15. *Deepak* is brother of Ravi. Rekha is sister of *Atul Ravi* is son of *Rekha*. How is *Deepak* related to *Rekha*?
- (1) Son
- (2) Brother
- (3) Nephew
- (4) Father

16. I am facing south. I turn right and walk 20 metre. Then I turn right again and walk 10 metre. Then I turn left and walk 10 metre and then turning right walk w0 metre. Then I turn right again and walk 60 metre. In which direction am I from the starting point?
(1) North-West
(2) North-East
(3) North
(4) West

Directions (17-19): Study the following information carefully and answer the questions given below.
'P$Q' means 'P is father of Q'.
'P+Q' means 'P is son of Q'.
'P@Q' means 'P is sister of Q'.
'P%Q' means 'P is wife of Q.
'P&Q' means 'P is husband of Q'.

17. In the expression 'M+K$T@N' how is M related to N?
(1) Sister
(2) Cousin
(3) Brother
(4) Paternal Uncle

18. Which of the following expression represents the relation V is mother of D?
(1) V%Q@R$D
(2) D+T@J$V
(3) V%Q$R@D
(4) V@F$D%M

19. In the expression 'E+H@K$B' how is B related to E?
(1) Brother
(2) Sister
(3) Cousin
(4) Can't be determined

20. *Rajeev* is facing west. He turns 45 degree in the clockwise direction and then another 180 degree in the same direction and then 270 degree in the anticlockwise direction. Find which direction he is facing now?
(1) South
(2) West
(3) South-West
(4) South-East

21. *Rohit* walks 10 km towards North. From there he walks 6 km towards South. Then, he walks 3 km towards east. How far and in which direction is he with reference to his starting point?
(1) 3 Km South
(2) 4 Km East
(3) 5 Km South
(4) 5 Km North-East

Direction (22-25): Study the information and answer the question given:
Seven people-P, Q, R, S, T, U, and V are in a circle facing the centre. P is between T and S. U is between Q and V. Q is 2nd to the right of T.

22. V is sitting
(1) Between P and U
(2) to the immediate left of U
(3) 2nd to the left of P
(4) 4th to the left of T

23. Who is sitting in the immediate left of R?
(1) T
(2) S
(3) U
(4) V

24. Which pair amongst the following are not immediate neighbours?
(1) TR
(2) SP
(3) VU
(4) SQ

25. What is the position of S with respect to u?
(1) 2nd to the right
(2) 3rd to the left
(3) Immediate left
(4) Immediate right

26. Two positions of dice are shown below. How many points will be on the top when 2 points are at the bottom?
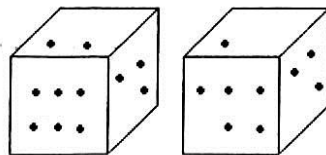
(1) 6
(2) 1
(3) 4
(4) 5

Directions (27-30) Study the information and answer the questions below.
Six dice with upper faces erased are as shows. The sum of the numbers of dots on the opposite face of each dice is 7.
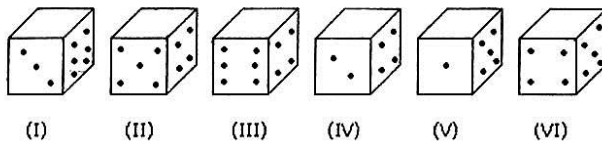
27. If even numbered (ii, iv, vi) dice have even number of dots on their top faces, then what would be the total number of dots on the top faces of their dice?
    (1) 12
    (3) 24
    (2) 14
    (4) 18

28. If the odd numbered dice have even number of dots on their top faces, then what would be the total number of dots on the top faces of their dice?
    (1) 8
    (3) 12
    (2) 10
    (4) 14

29. If dice (I), (II) and (III) have even number of dots on their bottom faces and the dice (IV), (V) and (VI) have odd number of dots on their top faces, then what would be the difference in the total number of top faces between these two sets?
    (1) 2
    (3) 6
    (2) 4
    (4) 0

30. If the even numbers of dice have odd number of dots on their top faces and odd numbered dice have even of dots on their bottom faces, then what would be the total number of dots on their top faces?
    (1) 14
    (3) 16
    (2) 18
    (4) 12

Directions (31-32): In each question below are given two statements followed by two conclusions numbered I and II. You have to take the given two statements to be true even if they seem to be at variance from commonly known facts. Read the conclusion and then decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts.

31. **Statements:** All bags are books. All pencils are books.

    Conclusions:
    I.   Some pencils are bags.
    II. No pencil is bag.
    (1) Only conclusion II follows
    (2) Only conclusion II follows
    (3) Either I or II follows
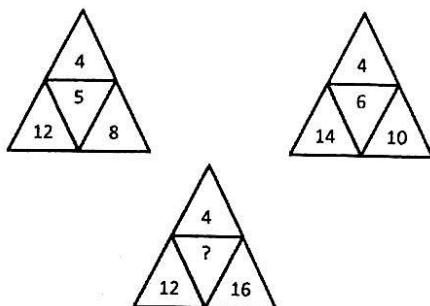   (4) Neither I nor II follows

32. **Statements:** All mangoes are golden in colour. No golden-coloured things are cheap.

    Conclusions:
    I.   All mangoes are cheap.
    II. Golden-coloured mangoes are not cheap.
    (1) Only conclusion I follows
    (2) Only conclusion II follows
    (3) Either I or II follows
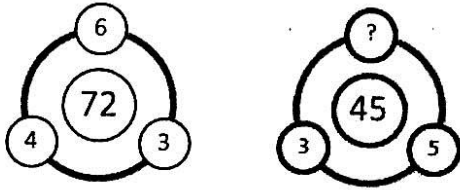   (4) Neither I nor II follows

Direction (33-38): there is a question mark in empty cell. Find out the correct alternative?

33.

    (1) 7
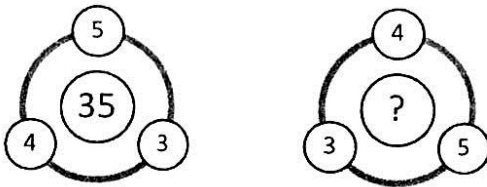   (3) 3
    (2) 8
    (4) 9
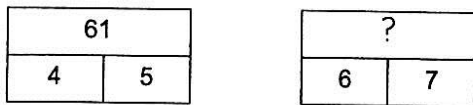
34.

(1) 2   (2) 4
(3) 3   (4) 5

35.

(1) 23   (2) 12
(3) 60   (4) 32

36.

61	
4	5

?	
6	7

(1) 128   (2) 71
(3) 127   (4) 89

37.

```
      4                 2
5  [ 15 ]  8      3  [ ? ]  6
      6                 4
```

(1) 12   (2) 18
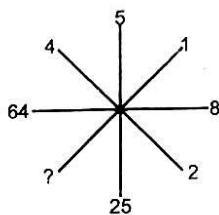(3) 9   (4) 10

38. Find the missing character (?) in the following diagram.
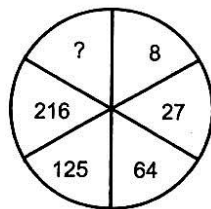
(1) 4   (2) 305
(3) 343   (4) 729

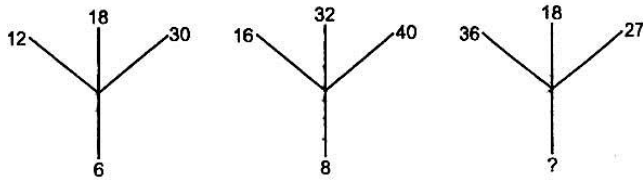**39.** Find the missing (?) in the following diagram.
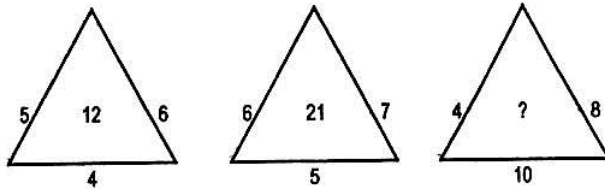

(1) 1   (2) 2
(3) 3   (4) 4

40. Find the missing character in the following (?) figure such that it follows rule
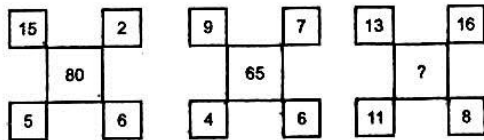

(1) 18   (2) 12
(3) 9   (4) 6

41. Find the missing character (?) in the following figure such that it follows rule

(1) 14   (2) 22
(3) 32   (4) 320

42. Find the missing character (?) in the following figure such that it follows rule

(1) 48   (2) 72
(3) 35   (4) 120

Direction (Ques. 43-50) There is a series provided to you where a gap is left. Analyze the series and fill the gap.

43. 5, 8, 28, 162,...........12870
(1) 1738   (2) 2318
(3) 1288   (4) 2224

44. abb____baa___a___bab_____aba
(1) abba   (2) abab
(3) ccac   (4) aabb

45. J99, H63, ____, D15, B3
(1) E23   (2) F35
(3) F31   (4) D33

46. 0.15, 0.3, _____1.2, 2.4
(1) 4.8   (2) 0.006
(3) 0.6   (4) 0.9

47. 2, 3, 5, 7, 11, _____, 17
(1) 12   (2) 13
(3) 14   (4) 15

48. 8, 43, 11, 41, _____, 39, 17
(1) 43   (2) 37
(3) 14   (4) 19

49. 6, 11, 21, 36, 56,_____
(1) 42   (2) 51
(3) 81   (4) 91

50. 210, 209, 213, 186, 202,_____
(1) 77   (2) 177
(3) 138   (4) 200

Direction(Ques. 51-52) There is a series provided to you where one of the entry is wrong. Analyze the series and find the wrong entry

51. 2, 12, 38, 80, 150, 252, 392
(1) 392   (2) 2
(3) 38   (4) 150

52. 0, 6, 24, 60, 95, 210, 336
(1) 210   (2) 336
(3) 120   (4) 95

Directions (Ques. 53-57) In following question in certain code language if '+' mean 'x', '–' means '+', 'x' means '÷, 'x'mean '÷' and '÷' means '–', then answer the following questions.

53. $16 + 2 – 3 ÷ 4 = ?$
(1) 31   (2) 26
(3) 15   (4) None of these

54. $9 + 3 ÷ 18 x 3 + 4 = ?$
(1) 30   (2) 3
(3) 13   (4) 0

55. $28 ÷ 36 – 49 x 7 + 2 = ?$
(1) 12   (2) 10
(3) 8   (4) 6

56. $171 x 57 ÷ 279 x 93$
(1) 250   (2) 253
(3) 252   (4) 0

57. $8 ÷ 6 – 9 x 12 + 4$
(1) 5   (2) 7
(3) 9   (4) 13

58. When $12 + 10 = 1205$, $11 + 8 = 885$, $15 + 15 = ?$
(1) 2405   (2) 105
(3) 1025   (4) 130

Direction (Ques. 59- 60) In these question, find the missing number in the number pattern.

59. 268   [29]   210
218   [?]   166
(1) 42   (2) 25
(3) 26   (4) 29

60.

8	3	21
6	5	25
12	2	?

(1) 24   (2) 19
(3) 22   (4) 20

Direction (Ques. 61-63) In these questions select the related number frOm the given options.

61. 9 : 80 :: 100 : ?
(1) 901   (2) 1009
(3) 9889   (4) 9999

62. 2 : 3 :: 23 ?
(1) 25   (2) 28
(3) 46   (4) 29

63. 2 : 12 :: 8 : ?
(1) 18   (2) 128
(3) 396   (4) 576

Direction (Ques. 64-68) Study the following information carefully and answer the questions that follow:– Madhu and Shobha are good in Dramatics and Computer science. Anjali and Madhu are good in Computer Science and physics. Anjali, Poonam and Nisha are good in physics and History. Nisha and Anjali are good in Physics and Mathematics. Poonam and Shobha are good in History and Dramatics.

64. Who is good in Computer Science, History and Dramatics?
    (1) Anjali
    (2) Madhu
    (3) Shobha
    (4) Nisha

65. Who is good in Physics, Dramatics and Computer Science?
    (1) Shobha
    (2) Poonam
    (3) Madhu
    (4) Anjali

66. Who are good in Physics, History and Dramatics?
    (1) Poonam
    (2) Shobha
    (3) Madhu
    (4) Anjali

67. Who is good in History, Physics, Computer science and Mathematics?
    (1) Poonam
    (2) Nisha
    (3) Madhu
    (4) Anjali

68. Who is good in Physics, History, Mathematics but not a Computer Science?
    (1) Madhu
    (2) Poonam
    (3) Nisha
    (4) Anjali

Direction (Ques. 69-71) in these question four optaion are given in each question out of which only one is correctly spelt. Find the correctly spelt word.

69.
    (1) Apparrel
    (2) Aparell
    (3) Aparel
    (4) Apparel

70.
    (1) Commissioner
    (2) Commissionar
    (3) Comissioner
    (4) Commissionor

71.
    (1) Etiqute
    (2) Etiquette
    (3) Ettiquet
    (4) Ettiquette

72. Which is the following is the same as wrestling, karate, Boxing?
    (1) Swimming
    (2) Polo
    (3) Pole vault
    (4) Judo

73. Which of the following is the same as Canoe, Raft, Wangan?
    (1) Dinghy
    (2) Shallot
    (3) Canopy
    (4) Submarine

Directions (Ques. 74-78) The numbered cells in the square below have been filled with letters, the columns and the rows are identified by the numbers 0 to 9. A letter in a cell is represented first by its column number and then by its row number e.g. G in column 3 and row 1 is represented buy 31. In each of the following questions a word has been given which is represented by one of the four correct alternatives.

	0	1	2	3	4	5	6	7	8	9
0	1	L	B	P	K	N	H	S	A	E
1	M	A	Q	G	T	V	I	O	N	U
2	H	R	W	J	A	X	B	E	C	I
3	T	Y	A	I	U	U	O	N	J	F
4	F	O	B	M	E	G	U	K	W	R
5	A	C	L	J	X	R	A	A	X	T
6	P	S	U	E	Z	K	V	W	D	L
7	Z	D	Y	V	F	O	H	Y	I	O
8	M	I	Z	Q	E	A	U	E	I	S
9	P	E	O	D	E	U	Q	O	C	G

74. MIND
(1) 01, 61, 73, 36
(2) 08, 61, 55, 44
(3) 34, 33, 50, 17
(4) 73, 33, 61, 17

75. JAIL
(1) 32, 05, 25, 44
(2) 32, 05, 87, 96
(3) 35, 23, 26, 33
(4) 83, 65, 25, 44

76. BLOT
(1) 20, 10, 71, 22
(2) 24, 10, 26, 48
(3) 34, 35, 63, 03
(4) 62, 25, 57, 95

77. JOKE
(1) 32, 14, 56, 44
(2) 35, 14, 37, 78
(3) 83, 63, 40, 59
(4) 83, 71, 25, 36

78. OMIT
(1) 14, 34, 88, 95
(2) 63, 44, 88, 03
(3) 79, 09, 61, 41
(4) 97, 34, 62, 95

Directions: (Ques. 79-83) study each of the following tables and choose the alternative which can best replace the sign of interrogation (?)

79.

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

(1) 0
(2) 3
(3) 5
(4) 7

80.

1	2	3	2	10	12
2	5	12	10	16	13
1	2	1	?	10	24

(1) 5
(2) 11
(3) 13
(4) 8

81.

963	2	844
464	?	903

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

82.

1	2	3
11	7	903
120	45	?

(1) 19   (2) 17
(3) 16   (4) 15

83. Find the value of X in the following figure.
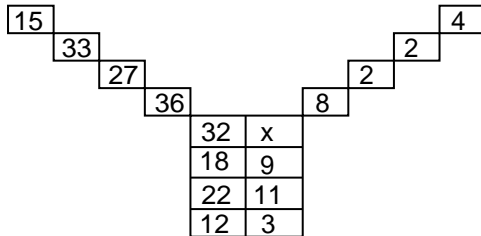
(1) 3   (2) 4
(3) 8   (4) 12

Directions: (Ques. 84-86) In each of the following questions four words have been given each of which three are alike in some manner and the fourth one is different. Choose out the odd one.

84.
(1) Apple   (2) Mango
(3) Watermelon   (4) Guava

85.
(1) Microscope   (2) Telescope
(3) Periscope   (4) Stethoscope

86.
(1) Commander   (2) Commodore
(3) Brigadier   (4) Admiral

Direction: (Ques. 87-90) In each of the following equations series of number / alphabets is given with term /terms missing. Choose the correct alternative that will continue the same pattern and fill in the blank spaces

87. $\dfrac{4}{3}, \dfrac{9}{20}, (............), \dfrac{39}{86}$

(1) $\dfrac{17}{40}$ (2) $\dfrac{19}{42}$

(3) $\dfrac{20}{45}$ (4) $\dfrac{29}{53}$

88. $\dfrac{2}{\sqrt{5}}, \dfrac{3}{5}, \dfrac{4}{5\sqrt{5}}, \dfrac{5}{25}, (............)$

(1) $\dfrac{6}{5\sqrt{5}}$ (2) $\dfrac{6}{25\sqrt{5}}$

(3) $\dfrac{6}{125}$ (4) $\dfrac{7}{25}$
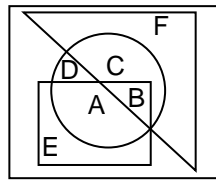
89. 0,2,3,5,8,10,15,17,24,26, (.............)
(1) 35   (2) 32
(3) 30   (4) 28

90. P3C, R5F, T8 I, V 12 L, (.............)
(1) Y 17 O   (2) X 17 M
(3) X 17 O   (4) X 16 O

**91.** A man is facing north-west. He turns 90° in the clockwise direction and then 135° in the anticlockwise direction. Which direct is he facing now
(1) East
(2) West
(3) North
(4) South

92. Which one of the following statement is correct with regard to the given figure

(1) A and B are in all the three shapes
(2) E, A, B, C are in all the three shapes
(3) F, C, D, B, A are in all the three shapes
(4) Only B is in all the three shapes

93. Arrange the following given names in the appropriate order based on the telephone directory (telephone directory) and select the correct order.
(1) Avdesh
(2) Avadhesh
(3) Awadesh
(4) Awadhesh
(1) 2,3,4,1
(2) 2,1,3,4
(3) 1,2,3,4
(4) 2,1,4,3

Directions: (Ques. 94 to 95) are based on the following alphabet series
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

94. Which letter is exactly midway between H and S in the given alphabet series
(1) L
(2) M
(3) N
(4) No such letter

95. Which letter is midway between 22nd letter from the left and 21st letter from the right
(1) L
(2) M
(3) N
(4) O

96. How many squares does the given figure have?
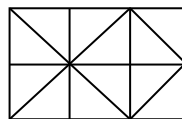
(1) 6
(2) 7
(3) 9
(4) 10

Directions: (Ques. 97 : In the following questions there are two problem figures followed by the answer figures labelled as A, B, C and D. The two problem figures have some common characteristics/features. Select the answer figure which has the same commonality.
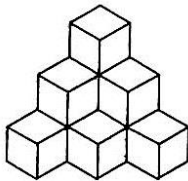
97.
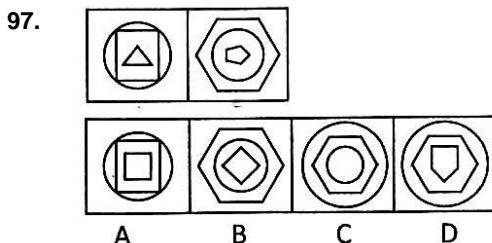
(1) C
(2) D
(3) A
(4) B

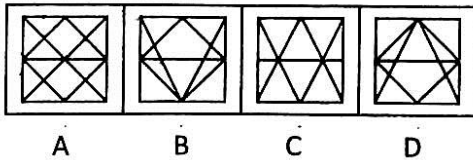**98.** Choose the correct mirror-image of the figure (x) from the amongst the four alternatives A,B,C and D
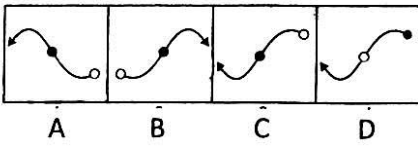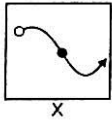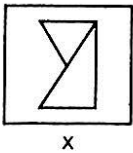

(1) 1   (2) 2
(3) 3   (4) 4

99. How many cubes are there in the following figure?

(1) 11   (2) 10
(3) 7   (4) 6

100. You are given a figure (x) followed by four figures 1,2,3 and 4 such that (x) is embedded in one of them. Trace out the correct alternative

(1) A   (2) B
(3) C   (4) D

FIITJEE

<u>MAT ANSWERS</u>

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