PART I: MENTAL ABILITY TEST

(For Students of Class VIII)

Time: 90 Minutes  Max. Marks: 90

INSTRUCTIONS TO CANDIDATES

1. Read the following instructions carefully before you open the Question Booklet.

2. Answers are to be given on the same OMR Answer Sheet.

3. There are 90 questions in this booklet. All are compulsory.

4. Choose the correct answer from the options given for each question and darken the corresponding circle with black ball point pen in the OMR Answer Sheet.

5. 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.

6. If you do not know the answer to any question, do not waste time on it and pass on to the next one. If time permits, you can come back to the questions which you have left in the first instance and attempt them.

7. Rough work can be done anywhere in the Question Booklet but not in the OMR Sheet / loose paper.

8. Each correct answer will be awarded One Mark.

9. Please return the OMR Answer Sheet only to the invigilator after the test. You can retain the Question Booklets.

10. English version of the Question Paper will be considered as final in case of any dispute arising out of variation in translated version.

Quote your seven digit Roll Number without fail for any future correspondence.

PLEASE TURN OVER THE PAGE AND START ANSWERING
Direction: (Question No. 1 to 7)
Find the missing number in the following sequence.

1. 53, 59, 61, 67, ___, 79, 83
   (1) 74   (2) 69   (3) 71   (4) 68

2. 9, 19, 39, 79, 159, ___, 639
   (1) 139   (2) 309   (3) 259   (4) 319

3. 12, 15, 36, 45, 108, ___, 324
   (1) 100   (2) 135   (3) 125   (4) 110

4. \[
\begin{array}{ccc}
72 & 49 & 132 \\
16 & 9 & ? \\
4 & 7 & 11
\end{array}
\]
   (1) 20   (2) 24   (3) 12   (4) 22

5. \[
\begin{array}{c}
10 \\
34 \\
19 \\
8 \\
4
\end{array}
\]
   (1) 16   (2) 22   (3) 24   (4) 23
6. 
\[ \begin{array}{c}
125 \\
2 \\
(1) 7 \\
(3) 8 \\
\end{array} \quad \begin{array}{c}
64 \\
3 \\
(2) 4 \\
(4) 3 \\
\end{array} \quad \begin{array}{c}
216 \\
2 \\
? \\
? \\
\end{array} \]

7. 
\[ \begin{array}{cccc}
3 & 5 & 4 & 1 \\
7 & 2 & 8 & 7 \\
7 & 6 & 9 & 12 \\
28 & 39 & 84 & ?
\end{array} \]

(1) 63  (2) 42  (3) 50  (4) 100

Direction: (Question No. 8 to 10)
Find the odd man in the series.

8. 41, 43, 47, 51, 53, 59
(1) 47  (2) 51  (3) 53  (4) 59

9. 19, 37, 73, 145, 217, 285
(1) 19  (2) 73  (3) 285  (4) 145

10. 1, 4, 27, 16, 25, 36
(1) 27  (2) 16  (3) 25  (4) 36

Direction: (Question No. 11 - 14)
Find the next term of the series.

11. 7, 13, 17, 13, 13, 27, 13, 13, 13, 37
(1) 23  (2) 17  (3) 13  (4) 11
12. Z, W, T, Q, N, —, —
   (1) K, L  (2) K, H
   (3) K, J  (4) J, K
13. 4A, 7B, 13D, 25G, —
    (1) 37J    (2) 29K
    (3) 49K    (4) 27K
14. BDG, GIL, LNQ, —
    (1) QTV    (2) QTV
    (3) QVS    (4) QSV

Direction : (Question No. 15 - 17)
Find the missing numbers / alphabets in the following sequence.
15. aab-aa-bbb-aaa-bbb
    (1) abab  (2) baab
    (3) aaab  (4) abba
16.
   R  O
   D
   O  C
   ?  T
    (1) 65  (2) 64
    (3) 75  (4) 74
17.
   6  2  9  3
   4  L  ?  7
   5  Q  N  1
   8  4  6  7
   (1) Q    (2) T
   (3) R    (4) S
Direction: (Question No. 18 - 24)
There is some relationship between two given words / letters / numbers before the ::. Find the other word from the given alternatives having the similar relationship.

   (1) Mill        (2) Textile 
   (3) Fibre      (4) Yarn

   (1) gravel  (2) sand 
   (3) clay    (4) brick

   (1) events  (2) people 
   (3) geography (4) mountains

   (1) words   (2) letters 
   (3) paragraphs (4) passages

   (1) Joule    (2) Watt 
   (3) Radian   (4) Newton

   (1) Squash   (2) Table-tennis 
   (3) Badminton (4) Tennis

   (1) freeze   (2) condense 
   (3) boil     (4) decompose

Direction: (Question No. 25 to 27)
Find the odd one out.

25. (1) Lions : roar 
    (2) Cat : mew 
    (3) Dogs : bark 
    (4) Snakes : twitter
26. (1) Rajasthan  (2) Punjab  
(3) Haryana  (4) Chandigarh

27. (1) behind  (2) under  
(3) and  (4) from

Direction: (Question No. 28 - 29)
Find the word which cannot be formed by using the letters once, from the given word.

28. CREDITORS
(1) ROSE  (2) EDITOR  
(3) DIRECTOR  (4) STEP

29. AMPLIFICATION
(1) FICTION  (2) ACTION  
(3) FILTER  (4) MAP

Direction: (Question No. 30 and 31)
Choose the word which can be formed by using the letters once from the given word.

30. MAGNITUDE
(1) GRIND  (2) MAGNET  
(3) TUBE  (4) NUMBER

31. DEMONSTRATION
(1) MONSTER  (2) STATIC  
(3) TRAINING  (4) DRINK

32. If ORANGE is coded as ANEORG, then GRAPES is coded as:
(1) RAPESA  (2) APSGRE  
(3) APGSER  (4) RASGPE

33. If LILLY is coded as NKNNA, then LOTUS is coded as:
(1) WQNUV  (2) NQUUVW  
(3) WOVQN  (4) NQVWU
Direction: (Question No. 34 and 35)
Arrange the given words in a meaningful sequence and then choose the most appropriate sequence.

34. (a) chair  (b) tree  
    (c) wood  (d) seed  
    (e) plant  

35. (a) sentence  (b) essay  
    (c) words  (d) letters  
    (e) paragraph  

36. The number of rectangles in the above picture is 

37. The number of triangles in the given picture is
38. The angle between the hands of the watch when the time is 9 hours 30 minutes is:

(1) 105°  (2) 95°  (3) 100°  (4) 110°

39. The number of numbers from 1 to 30 of which is not only exactly divisible by 3 but also contain 3 as a digit in it is:

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

40. A family has a man, his wife, their four sons and their wives. The family of every son also has three sons and one daughter. The total number of male members in the whole family is:

(1) 4  (2) 8  (3) 12  (4) 17

41. Which of the following represent ‘Health-worship-strength’ in code language:

(1) 810  (2) 018  (3) 108  (4) 180
42. Choose the incorrect pair.
(a) Union wealth - 9 3
(b) Time gold - 4 8
(c) Health strength - 1 0
(d) Work worship - 6 5
(1) (a), (d) (2) (a), (c)
(3) (b), (d) (4) (b), (c)

43. Match the following:
(a) Health worship (i) 9 5
(b) Time wealth (ii) 6 0
(c) Union gold (iii) 4 3
(d) Work strength (iv) 1 8
(1) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)
(2) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)
(3) (a)-(iii), (b)-(ii), (c)-(iv), (d)-(i)
(4) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

44. What does code 5 2 3 stand for?
(1) Time is gold
(2) Health is wealth
(3) Gold is wealth
(4) Time is strength

45. Write the code no. which stands for 'Worship'

\[
\text{gold is worship}
\]

(1) 2
(2) 3
(3) 5
(4) 8
46. In a row of 20 girls, Deepa stands fifth from the left end and Pooja tenth from the right end. If Pooja moves five places towards Deepa, what will be her position from the left end?

(1) 7th  (2) 5th  (3) 4th  (4) 6th

47. Students line up in a queue in which Rohan stands sixth from left end and Adithya stands eight from right end. No one stands in between Rohan and Aditya. The number of students in the queue is

(1) 12  (2) 14  (3) 13  (4) 16

48. Nethra is at 19th rank from the top in a class of 35 students. Her rank from the bottom is:

(1) 21  (2) 17  (3) 18  (4) 16

49. Shashank ranks 8th from the top and 23rd from the bottom in an examination. Five students did not appear in the examination. The number of students in the class is:

(1) 34  (2) 32  (3) 33  (4) 35
Direction: (Question No. 50 - 52)

Based on the given informations answer the question 50 to 52.

Five students and their teacher are sitting in a circular table at an equal distance. Read the following instructions and answer the questions.

(a) Ram is sitting exactly opposite to Rahim and at two places right of Rahul.

(b) Robin is exactly opposite to Rahul and is on immediate left to Rohan.

(c) Ramesh, their teacher is also sitting at the table.

50. Who is the only person sitting between Ram and Rohan?
   (1) Robin  (2) Ramesh  (3) Rahul  (4) Rahim

51. Ram is sitting to the:
   (1) Left of Ramesh  (2) Right of Robin  (3) Left of Robin  (4) Right of Rahim

52. The angle subtended by Ramesh and Rahim at the centre of the table is:
   (1) 60°  (2) 120°  (3) 90°  (4) 180°
Direction: (Question No. 53 - 55)
Based on the given informations answer the questions 53 to 55.
P, Q, R, S, T, U are six girls standing in a row in descending order of their heights.

(a) T is taller than P
(b) Tallest among them is S
(c) Shortest is U
(d) Q is taller than T but shorter than S
(e) R is in the 2nd position from left

53. Name the two girls standing between P & R.
   (1) Q, T  (2) R, T  (3) P, Q  (4) R, Q

54. What is the position of P from right?
   (1) 5th  (2) 2nd  (3) 3rd  (4) 6th

55. Which among the statement is incorrect?
   (1) P stands in 1st position in alphabetical order.
   (2) P stands in 2nd position in alphabetical order.
   (3) R stands in 2nd position in alphabetical order.
   (4) T stands in 3rd position from right.

Direction: (Question No. 56 - 58)
In a certain language BANGLE is coded as 123456 and LEADERS is coded as 5627689, then identify the correct code for the given word in each question.

56. GANGES
   (1) 432649  (2) 423469  (3) 243469  (4) 342649
57. LEANDER
   (1) 5263768 (2) 5267368
   (3) 5267386 (4) 5623768

58. BEADS
   (1) 12679 (2) 16279
   (3) 12697 (4) 16297

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

   (i)  (ii)

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

60. Neeta walked 8 m towards west of her house. Then turned south and walked 12 m straight, then she turned east and walked 8 m. How far is she from her house now?

   (1) 8 m  (2) 12 m
   (3) 10 m  (4) 20 m

61. In a fun game, 20 persons had participated and each time one person gets eliminated. How many times will the music be played to announce the final winner?

   (1) 9  (2) 20
   (3) 19  (4) 10
62. A man is performing exercise with his head down and legs up. His face is towards the north. In which direction will his right hand be?

(1) South west  (2) North  
(3) East  (4) South

63. A father is 34 years of age. At present his son is 8 years old. In how many years will the father be three times as old as his son?

(1) 6 years  (2) 5 years  
(3) 4 years  (4) 3 years

**Direction:** (Question No. 64 - 68)

Based on the given informations answer the questions 64 to 68.

Five friends went on a vacation to a hill station. They are to be accommodated in a row of seven cottages, each to a cottage according to their choice. The way they occupied the cottages are as follows:

(a) Pradeep occupies the middle number of the cottage.

(b) There is no empty cottage between Rohan and Arvind who prefers the last cottage.

(c) Dileep occupies the cottage which is third from the last and fifth from the first.

(d) Pranav prefers the cottage adjacent to Pradeep.
64. Which two cottages are not occupied?
   (1) second and third  
   (2) third and fourth  
   (3) first and second  
   (4) first and third

65. Who occupies the cottage in between Arvind and Dileep?
   (1) Pradeep  
   (2) Rohan  
   (3) Pranav  
   (4) None

66. What is the maximum number of consecutive cottages that are occupied?
   (1) 4  
   (2) 3  
   (3) 2  
   (4) 5

67. Who occupies the cottage which is left to Dileep?
   (1) Rohan  
   (2) Arvind  
   (3) Pradeep  
   (4) Pranav

68. Name the occupant who occupies the last cottage from the right end.
   (1) Pranav  
   (2) Pradeep  
   (3) Dileep  
   (4) Rohan

69. A mirror is placed in front of the clock. The clock shows the time 3'O clock. What will be its reflection in the mirror?
   (1) 3'O clock  
   (2) 6'O clock  
   (3) 9'O clock  
   (4) 8'O clock
70. முறையுடன்: (தகுதிய வாரண. 70, 71)
விளக்கம்: எளியவகையில் உள்ள படத்தில் (A) இருந்து விளக்கம் குறைவான பப்புகள் தருக்கம் குறைவான பப்புகள் உள்ளிட்டு உள்ள படத்தில் இருந்து விளக்கம்.

71. முறையுடன்: (தகுதிய வாரண. 72, 73)
விளக்கம்: எளியவகையில் உள்ள படத்தில் (X) இருந்து விளக்கம் குறைவான பப்புகள் தருக்கம் குறைவான பப்புகள் உள்ளிட்டு உள்ள படத்தில் இருந்து விளக்கம்.

Direction: (Question No. 70, 71)
Choose the mirror-image of the figure (A) amongst four alternatives.

Direction: (Question No. 72, 73)
Directions: A Fig. (X) is given, followed by four complex figures in such a way that Fig. (X) is embedded in one of them. Choose that one.
Directions: In each of the following questions, complete the missing portion by selecting from the alternatives.
Direction: (Question No. 76 to 80)
The figure given below consists of three intersecting circles which represents set of television viewers who watch sports channel (A), Comedy Channel (B) and Cartoon Channel (C). Each region is represented by the number of viewers. Based on these details answer the following questions.

76. Sports Channel and Comedy Channel. 20 viewers watch both channels. The number of viewers for each region is as follows:
(1) 10  (2) 9  
(3) 7   (4) 12

77. Cartoon Channel viewers who watch only one channel is:
(1) 23  (2) 30  
(3) 18  (4) 10

78. Sports Channel viewers who watch both Sports and Comedy channels but not Cartoon Channel are:
(1) 9   (2) 12  
(3) 10  (4) 7

79. Comedy Channel viewers who watch only this channel are:
(1) 30  (2) 23  
(3) 18  (4) 9
80. Sports Comedy Cartoon Channel - கனவு பாடல்பெற்று தோன்றிவிட்டது?
   (1) 9  (2) 10  (3) 8  (4) 7

81. If blue is called white,
white is called green,
red is called black,
black is called orange and
orange is called violet,
what would be the colour of human eye?
   (1) red  (2) white  (3) black  (4) orange

82. If $\alpha$ stands for + ;
$\beta$ stands for - ;
$\gamma$ stands for ÷ ;
$\delta$ stands for $\times$ ;
then what is the value of $100\gamma10810\beta27\alpha4$?
   (1) -87  (2) 77  (3) 122  (4) -88

83. If $X$ is the sister of the daughter of $Y$’s daughter. How is $X$ related to $Y$?
   (1) Daughter  (2) Sister  (3) Grand Daughter  (4) Aunt

80. Find the number of viewers watching sports or comedy or cartoon channels.
   (1) 9  (2) 10  (3) 8  (4) 7
Direction: (Question No. 84 - 88)
Identify the figure based on the continuation of the previous figures.

84.

85.

86.

87.
Direction: (Question No. 89-90)
Find the odd one from the given figures.

89. B O S W

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

90. - o o o -
FOR ROUGH USE (Not for evaluation)