



THE
RADIANT
ACADEMY[®]

Udaipur's Biggest Mental Ability Test

“MAT - A - THON” 2022

CLASS -X

Time: 90 Min.

Date: 21-08-2022

Max. Marks: 60

GENERAL INSTRUCTIONS

TEST PATTERN					
Time	Total No. of Questions	Subject/Question Segregation	Type	Total Marks : 60	
				Correct	Negative
90 Minutes	1 - 60	Mental Ability (1-60)	Objective Question	1 Mark	0.25 Mark

1. A student has to write his/her answers in the OMR sheet by darkening the appropriate bubble with the help of Ball pen only as the correct answer(s) of the question attempted.
2. Blank papers, clip boards, log tables, slide rule, calculators, mobile or any other electronic gadgets in any form is not allowed.
3. Write your **Name & Roll No.** in the space provided in the bottom of this booklet.
4. Before answering the paper, fill up the required details in the blank space provided in the OMR sheet.
5. **In case of any dispute, the answer sheet available with the institute shall be final.**
6. **In case of tie, younger student will get top rank.**

NAME OF THE CANDIDATE :ROLL NO. :
I have read all the instructions and shall abide by them
I have verified the identity, name and roll number of the candidate.

.....

.....

THE RADIANT ACADEMY

Corporate Office: 7-8, Samta Nagar, Hiran Magri, Sector - 3, Udaipur (Rajasthan) - 313001

Mob.: +91-9001053989, 9461172001 | Email: info@theradiantacademy.com | Website: www.theradiantacademy.com

MENTAL ABILITY

Straight Objective Type

This section contains 60 questions. Each question has 4 choices (A), (B), (C) and (D) for its answer, out of which **ONLY ONE** is correct.

1. THRICE us UJUMHK, then EQUALS is
(A) FRVBMT (B) FPVZMU (C) FSXEY (D) FRWDPX
2. NUMBER is OTNAFQ, then STUDENT is
(A) TSVCDMU (B) TUVFOU (C) RUVCFMS (D) TSVCFMU
3. In a certain code, 01234 is coded COUNT, 4765 as TRAY, how is 0123475 coded?
(A) COUNTRY (B) TRYCOUN (C) RYCOUN (D) YRCOUN
4. In a certain language, if 'water' is called 'black', 'black' is called 'tree', 'tree' is called 'blue', 'blue' is called 'rain', 'rain' is called 'pink', and 'pink' is called 'fish', what will the colour of the sky be called in that language?
(A) Blue (B) Fish (C) Rain (D) Pink

Directions : (5 to 10) Study the given information carefully and answer the questions that follow.

There are four people sitting in a row : one each from India, Japan, USA and Germany, but not necessarily in that order,

- I. They are wearing caps of different colours – green, yellow, red and white, not necessarily in that order.
- II. One is wearing a kurta and one a T-shirt
- III. The Indian is wearing a green cap and a jacket
- IV. The American is not seated at either end
- V. The persons with kurta and T-shirt are sitting next to each other.
- VI. The persons with kurta wears a red cap sits next to the Japanese.
- VII. The Japanese wears a shirt and is not seated at either end.
- VIII. The man with white cap wears T-shirt and is seated at one end.

5. Who wears the T-shirt?
(A) Indian (B) Japanese (C) American (D) German
6. Who is wearing a kurta?
(A) Indian (B) Japanese (C) American (D) German
7. What is the colour of the cap worn by the Japanese?
(A) Red (B) Green (C) Yellow (D) White
8. Who precedes the man wearing T-shirt?
(A) Indian (B) Japanese (C) American (D) German
9. Who precedes the man wearing jacket?
(A) Indian (B) Japanese (C) American (D) German
10. Who proceeds the man wearing shirt?
(A) Indian (B) German (C) American (D) Cannot say

Directions : (11 to 16) Find the missing term

11. 3, 6, 24, 30, 63, 72, ?, 132
(A) 58 (B) 42 (C) 90 (D) 120
12. 16, 54, 195, ?
(A) 780 (B) 802 (C) 816 (D) 824
13. 1, 3, 7, 25, 103, ?
(A) 526 (B) 521 (C) 515 (D) 509

14. 7, 24, 75, 228, ?
 (A) 684 (B) 686 (C) 688 (D) None of these
15. AH, DL, GP, JT, ?
 (A) MY (B) NX (C) MX (D) NY
16. AF, EJ, IN, OT, ?
 (A) UX (B) UY (C) UN (D) UZ

Directions : (17 to 19) Answer the questions based on the following information.

A, B, C, D, E, F and G are consecutive integers, not necessarily in that order, such that the lowest of these is greater than 50 and the highest is less than 60.

- I. $E - D + 11 = \frac{G}{4}$
 II. B is the highest and is prime
 III. $C - D = B - A$
 IV. A is an odd number and C is an even number
17. The smallest number is
 (A) A (B) D (C) E (D) F
18. The number C denotes
 (A) 56 (B) 57 (C) 58 (D) None of these
19. $E - A$ is equal to
 (A) 4 (B) 3 (C) 2 (D) 1

Directions : (20 to 24) Refer to the data below & answer the questions that follow.

	A	B	C
1			
2			
3			

- The cells contain the numbers 1 to 9
 - Sum of the numbers in column C is 14
 - The number 7 is in column B; its left hand neighbor is not 4
 - The digits in column C arranged in a random order.
 - Column A contains no odd digits
 - Cell C3 minus Cell C2 equals 4
 - The three digits in row 1 add up to 17
 - The number 2 is not in the same row as 8.
 - 9 is not immediately below 3.
20. The number 4 is in cells
 (A) B1 (B) A3 (C) C2 (D) A1
21. The number 1 is in cell
 (A) B2 (B) B3 (C) C2 (D) A2
22. The number 9 is in cell
 (A) B1 (B) B3 (C) C1 (D) A1
23. Highest sum of the elements in the row is
 (A) 18 (B) 13 (C) 17 (D) 19
24. The highest sum of the elements in the column is
 (A) 18 (B) 13 (C) 17 (D) 19

25. In a knock-out tennis tournament of 128 players, what is the number of matches played to decide the winner
(A) 128 (B) 127 (C) 64 (D) 129
26. Prashanth wants to distribute 127 one-rupee coins into different piggy-banks so that any integer sum from 1 through 127 rupees can be paid by just handing over the piggy banks without having to break open the piggy banks. What is the minimum number of piggy banks required?
(A) 7 (B) 8 (C) 6 (D) 10
27. You have 12 similar looking coins, 11 of them weight the same. One of them has different weight, but you don't know whether it is heavier or lighter. You also have a scale. You can coins on both sides of the scale and it'll tell you which side is heavier or will stay in the middle if both sides weigh the same. What is the minimum number of weighing required to find out the odd coin.
(A) 2 (B) 3 (C) 4 (D) 6
28. Sudeep has 11 packs of cigarettes and in each pack there are 10 cigarettes. One of the packs is defective in the sense that each cigarette in that pack weighs one gram less than the ones in the rest of the packs. The weight of a single non-defective cigarette is 2.5grams He wants to identify the defective cigarette packet. In how many weighing can he definitely identify it if he has
I : A weighing balance, which can only compare weights
II : A weighing machine, which can read the exact weights
(A) I : 1 and II : 3 (B) I : 3 and II : 3 (C) I : 3 and II : 5 (D) I : 3 and II : 1

Direction (29 – 33) Each of these questions are based on the information given below:

1. A, B, C, D and E are five men sitting in a line facing to south - while M, N, O, P and Q are five ladies sitting in a second line parallel to the first line and are facing to North.
 2. B who is just next to the left of D, is opposite to Q.
 3. C and N are diagonally opposite to each other.
 4. E is opposite to O who is just next right of M.
 5. P who is just to the left of Q, is opposite to D.
 6. M is at one end of the line.
29. Who is sitting third to the right of O ?
(A) Q (B) N (C) M (D) Data inadequate
30. If B shifts to the place of E, E shifts to the place of Q, and Q shifts to the place of B, then who will be the second to the left of the person opposite to O ?
(A) Q (B) P (C) E (D) D
31. Which of the following pair is diagonally opposite to each other ?
(A) EQ (B) BO (C) AN (D) AM
32. If O and P, A and E and B and Q interchange their positions, then who will be the second person to the right of the person who is opposite to the person second of the right of P ?
(A) D (B) A (C) E (D) O
33. In the original arrangement who is sitting just opposite to N ?
(A) B (B) A (C) C (D) D
34. If > denote +, < denotes -, + denotes ÷, ÷ denotes ×, - denotes =, × denotes > and = denotes <, choose the correct statement in the following questions.
(A) $14 > 18 + 9 = 16 + 4 > 1$ (B) $4 > 3 \div 8 < 1 - 6 + 2 > 24$
(C) $3 < 6 \div 4 > 25 = 8 + 4 > 1$ (D) $12 < 9 \div 3 < 6 \times 25 + 5 > 6$
35. A man is facing North-West. He turns 90° in the clockwise direction, then 180° in the anti-clockwise direction and then another 90° in the same direction. Which direction is he facing now ?
(A) South (B) South-West (C) West (D) South-East
36. If A + B means A is the mother of B; A - B means A is the brother B; A % B means A is the father of B and A x B means A is the sister of B, which of the following shows that P is the maternal uncle of Q?
(A) $Q - N + M \times P$ (B) $P + S \times N - Q$ (C) $P - M + N \times Q$ (D) $Q - S \% P$

37. Introducing Sonia, Aamir says, "She is the wife of only nephew of only brother of my mother." How Sonia is related to Aamir?
 (A) Wife (B) Sister (C) Sister-in-law (D) Data is inadequate
38. In a row of boys, Kapil is eighth from the right and Nikunj is twelfth from the left. When Kapil and Nikunj interchange positions, Nikunj becomes twenty first from the left. Which of the following will be Kapil's position from the right after interchanging ?
 (A) 8th (B) 17th (C) 21st (D) Cannot be determined
39. How many 5's are there in the following sequence which are immediately followed by 3, but not immediately preceded by 7 ?
 8 9 5 3 2 5 3 8 5 5 6 8 7 3 3 5 7 7 5 3 6 5 3 3 5 7 3 8
 (A) One (B) Two (C) Three (D) Four

Direction (40 to 41) : Find out the wrong number in the series.

40. 7, 8, 18, 57, 228, 1165, 6996
 (A) 8 (B) 18 (C) 57 (D) 228
41. 10, 26, 74, 218, 654, 1946, 5834
 (A) 26 (B) 74 (C) 218 (D) 654

Directions (42) : In each of the following questions some letters are missing, which are shown by „_“. The missing letters are given in the proper sequence as one of the alternatives among the four given under each question.

42. a _bccb_ca_cca_baab_c
 (A) ababc (B) abcaa (C) bacaa (D) accab
43. If the first and the second letters interchange their positions and similarly the third and the fourth letters, the fifth and the sixth letters and so on, which letter will be the 17th from your right ?
 (A) H (B) I (C) F (D) J
44. If **TRAIN** is coded as **RPYGL** the code for **SCOOTER** would be
 (A) QAMMRCP (B) QBNNRCP (C) QAMMSBP (D) QBNNSBP
45. **DRIVER = 7 , PEDESTRIAN = 11, ACCIDENT = ?**
 (A) 9 (B) 8 (C) 6 (D) 18

Direction (46 to 47) Find the missing term.

46.

4	5	6
2	3	7
1	8	3
21	98	?

 (A) 94 (B) 76 (C) 73 (D) 16

47.

6		18		15				
2	9	15	9	14	14	15	?	3
	5			2			3	

 (A) 94 (B) 76 (C) 73 (D) 16

48. In a class of 35 students, kunal is placed seventh from the bottom where as Sonali is placed ninth from the top Pulkit is placed exactly in between the two. What is kunal's position from Pulkit?
 (A) 9 (B) 10 (C) 11 (D) 13
49. Pointing to a photograph of a boy Suresh said, "He is the son of the only son of my mother." How is Suresh related to that boy?
 (A) Brother (B) Uncle (C) Cousin (D) Father

50. Rahul put his timepiece on the table in such a way that at 6 P.M. hour hand points to North. In which direction the minute hand will point at 9.15 P.M. ?
 (A) South-East (B) South (C) North (D) West
51. A man walks 5 km toward south and then turns to the right. After walking 3 km he turns to the left and walks 5 km. Now in which direction is he from the starting place?
 (A) West (B) South (C) North-East (D) South-West
52. If South-East becomes North, North-East becomes West and so on. What will West become?
 (A) North-East (B) North-West (C) South-East (D) South-West

Directions (53 & 54) In the following question a word is represented by only set of numbers as given in any of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as given in the two matrices. The columns and rows of matrix I are represented from 0 to 4 and that of matrix II from 5 to 9. A letter from these matrices can be represented first by its row and next by Column number. E.g. In the matrix A can be represented by 13, 23 etc. T can be represented by 58, 65 etc. Similarly you have to identify the set of for the word in the question.

MATRIX I

	0	1	2	3	4
0	F	O	M	S	R
1	S	R	F	O	M
2	O	M	S	R	F
3	R	F	O	M	S
4	M	S	R	F	O

MATRIX II

	5	6	7	8	9
5	A	T	D	I	P
6	I	P	A	T	D
7	T	D	I	P	A
8	P	A	T	D	I
9	D	I	P	A	T

53. MOST
 (A) 40, 44, 22, 89 (B) 33, 20, 11, 79 (C) 21, 00, 03, 88 (D) 02, 13, 34, 56
54. ROAD
 (A) 42, 32, 79, 58 (B) 23, 32, 98, 99 (C) 11, 13, 67, 69 (D) 04, 20, 55, 78

Direction (55 to 56) : In each of the following questions, arrange the given words in a meaningful sequence and thus find the correct answer from alternatives.

55. Arrange the words given below in a meaningful sequence.
 1. Key 2. Door 3. Lock 4. Room 5. Switch on
 (A) 5, 1, 2, 4, 3 (B) 4, 2, 1, 5, 3 (C) 1, 3, 2, 4, 5 (D) 1, 2, 3, 5, 4
56. Arrange the words given below in a meaningful sequence.
 1. Word 2. Paragraph 3. Sentence 4. Letters 5. Phrase
 (A) 4, 1, 5, 2, 3 (B) 4, 1, 3, 5, 2 (C) 4, 2, 5, 1, 3 (D) 4, 1, 5, 3, 2
57. Read the following information carefully and give the answer.
 If 'P \$ Q' means 'P is father of Q'; 'P # Q' means 'P is mother of Q'; 'P ~ Q' means 'P is sister of Q', then how is D related to N in N # A \$ B ~ D ?
 (A) Nephew (B) Grandson (C) Grand daughter (D) Data Inadequate

Directions (58 to 60) Prashant Arora has three children – Sangita, Vimal and Ashish. Ashish married Monika, the eldest daughter of Mr. and Mrs. Roy. The Roys married their youngest daughter to the eldest son of Mr and Mrs. Sharma and they had two children named Amit and Shashi. The Roys have two more children, Roshan and Vandana, both elder to Veena. Sameer and Ajay are sons of Ashish and Monika. Rashmi is the daughter of Amit.

58. How is Sameer related to Monika's Father?
 (A) Grandson (B) Son (C) Cousin (D) Son - in - law
59. What is the surname of Rashmi?
 (A) Sharma (B) Roy (C) Arora (D) None of these
60. How is Mrs. Roy related to Ashish?
 (A) Aunt (B) Mother – in – law (C) Mother (D) Sister - in – law