



THE  
**RADIANT**  
**ACADEMY**

Udaipur

Code - 0

**SAMPLE PAPER**

**Academic Session : 2023-24**

**Class : VII**

**FOR STUDENTS MOVING IN CLASS – (VII) IN 2023-24**  
(PRESENTLY STUDYING IN CLASS-VI IN 2022-23)

**Date : 2023-24**

**Duration: 1.5 Hours**

**Max. Marks : 210**

# R-SAT

**Radiant Scholarship cum Admission Test**

**Note :** Make sure that you have filled your Class (Science + Mathematics) % , Mobile No., Medium of Study, Date of Birth, Category, Board of the School in Objective Response Sheet (ORS).

Candidate Name:

Application Form Number

**The Radiant Academy**

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

Name of the Candidate:

Reg. Number :

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## GENERAL INSTRUCTIONS IN EXAMINATION HALL

1. Question paper contains 70 questions of **Mathematics (1 to 25), Physics (26 to 35), Chemistry (36 to 45), Biology (46 to 55) & Mental Ability (56 to 70)**, each question carry 3 mark.
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 and 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 answer sheet.
5. Do not forget to mention your roll number neatly and clearly in the blank space provided in the answer sheet.
6. There is no negative marks for wrong answer.
7. No rough sheets will be provided by the invigilators. All the rough work is to be done in the blank space provided in the question paper.
8. In case of any dispute, the answer filled in the OMR sheet available with the institute shall be final.









## MARKING CRITERIA

No. of Questions	Type	Marks		
		Correct	Incorrect	Blank
1-70	Only one correct	Q. No. 1 to 70 (3 Mark each)	No negative marks	0









## IMPORTANT

### PROCEDURE OF FILLING UP THE ANSWERS IN OMR SHEET

#### Wrong Filling

-  A  B C D Tick mark  
 A  B C D Cross mark  
 A  B C D Half filled or semi dark  
 A  B C D Light filled

#### Right Filling

-  A  B C D Fully darken with HB Pencil  
 A  B C D Fully darken with HB Pencil  
 A  B C D Fully darken with HB Pencil  
 A  B C D Fully darken with HB Pencil

**Best of Luck**

# 1. MATHEMATICS

## *Straight Objective Type*

This section contains 25 questions. Each question has 4 choices (A), (B), (C) and (D) for its answer, out of which **ONLY ONE** is correct.

1. The product of the place values of two 5's in 85356 is  
(A) 2500 (B) 25 (C) 25000 (D) 250000
2. Using digits 7 and 9 the greatest 4 – digit number is  
(A) 9739. (B) 9779. (C) 9977. (D) 9997.
3. Which digit makes the given sentence true?  
58,314,70? is divisible by 5.  
(A) 4 (B) 5 (C) 9 (D) 1
4. If  $a + b + c + d = 2012$  and  $b + d = 2013$ , what is the value of  $a - b + c - d$  ?  
(A) – 2014 (B) – 4 (C) 2014 (D) 2
5. Bobby is sorting some nails by their lengths. The lengths of the nails are  $2\frac{1}{2}$  cm,  $2\frac{3}{4}$  cm,  $\frac{3}{4}$  cm,  $3\frac{1}{2}$  cm and  $2\frac{1}{4}$  cm. Which of the following statements is correct ?  
(A)  $2\frac{1}{2} < 2\frac{1}{4} < \frac{3}{4} < 3\frac{1}{2} < 2\frac{3}{4}$  (B)  $\frac{3}{4} < 2\frac{1}{4} < 2\frac{1}{2} < 2\frac{3}{4} < 3\frac{1}{2}$   
(C)  $\frac{3}{4} < 2\frac{1}{2} < 2\frac{1}{4} < 3\frac{1}{2} < 2\frac{3}{4}$  (D)  $3\frac{1}{2} < 2\frac{3}{4} < 2\frac{1}{2} < 2\frac{1}{4} < \frac{3}{4}$
6. The largest number in the set below is : 0.109, 0.2, 0.111, 0.114, 0.17, 0.19  
(A) 0.109 (B) 0.2 (C) 0.114 (D) 0.19
7. Rehan attended a basketball camp for two weeks. His parents paid Rs. 50.00, which was  $\frac{1}{3}$  of the cost of attending the camp. Rehan had saved money to pay the rest of the cost. Which equation can be used to find c, the entire cost of attending the camp?  
(A)  $c = 50 \times \frac{1}{3}$  (B)  $c = 50 \times 3$  (C)  $c = \frac{1}{(50 \times 3)}$  (D)  $c = 3 \times \frac{1}{50}$
8. Re- arrange the digits of 1,02,35,007 to get the largest and the smallest number. The difference between the place values of 2 in these two numbers is  
(A) 0 (B) 8,000 (C) 20,000 (D) 18,000

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Space for Rough Work

9. Which of the following will not represent zero?  
 (A)  $\frac{0}{2} \times 56$  (B)  $5687 \times 0$  (C)  $\frac{1002}{2} + 0$  (D)  $\frac{0}{679}$
10. In a morning walk, Garima, Latika and Prerna step off together. Their steps measure 50 cm, 65 cm and 75 cm respectively. What is the minimum distance each should walk so that all can cover the same distance in complete steps?  
 (A) 1595 cm (B) 1955 cm (C) 1185 cm (D) 1950 cm
11.  $-101 \times \underline{\hspace{2cm}} = 101$   
 (A) 1 (B) 0 (C) -1 (D) 100
12. A fraction is equivalent to  $\frac{5}{8}$ . Its denominator and numerator adds up to 91. What is the difference between numerator and denominator of this fraction?  
 (A) 21 (B) 33 (C) 13 (D) 19
13. A shopkeeper has 150 litres of oil in a drum. He sells 15 L 500 mL, 23 L 250 mL, 13 L 750 mL and 29 L oil to four customers. How much oil is now left in the drum?  
 (A) 77 L 50 mL (B) 875000 L (C) 68 L 500 mL (D) 975000 L
14. Kavya is K years old. In 7 years time, her father's age will be twice her age. How old will her father be, in terms of k in 7 years time?  
 (A)  $\frac{K+7}{2}$  years (B)  $\frac{2K+7}{2}$  years (C)  $2K+7$  years (D)  $2(K+7)$  years
15. The value of XVI + CCCVII =  
 (A) CCXXIII (B) CCCXIV (C) CCCXXIII (D) CCCXXV
16. The whole numbers from 1 to 1000 are written. How many of these numbers have at least two 7's appearing side-by-side?  
 (A) 10 (B) 11 (C) 21 (D) 19
17. The sum of the prime factors of 63 is \_\_\_\_\_.  
 (A) 4 (B) 8 (C) 10 (D) 14
18. Given a pair of numbers -14, -15, we know that  
 (A) -14 is on the left side of -15.  
 (B) -15 is on the left side of -14.  
 (C) the numbers can be anywhere on the number line.  
 (D) None of the above.

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**Space for Rough Work**



19. A bottle is  $\frac{3}{4}$  full of water. The water in the bottle can fill 5 glasses. If the water in the bottle is poured out to fill 3 glasses. Find the fraction of the water left in bottle.  
 (A)  $\frac{9}{10}$  (B)  $\frac{3}{5}$  (C)  $\frac{9}{20}$  (D)  $\frac{3}{10}$
20. Beena bought 12 kg of sugar. After filling 11 containers of the same size. She had 3.2 kg left. How much sugar was there in each container?  
 (A) 0.5 kg (B) 0.6 kg (C) 0.7 kg (D) 0.8 kg
21. If the perimeter of a regular hexagon is x metres, then the length of each of its sides is  
 (A)  $(x + 6)$  metres (B)  $(x \div 6)$  metres (C)  $(x - 6)$  metres (D)  $(6 \div x)$  metres
22. Mini has some pencils. If she gives 3 pencils to each pupil. She will have 20 pencils left. If she gives 4 pencils to each pupil. She will have none left. How many pencils does she have?  
 (A) 40 (B) 60 (C) 80 (D) 120
23. Two consecutive integers between which the fraction  $\frac{5}{7}$  lies are :  
 (A) 5 and 6 (B) 0 and 1 (C) 5 and 7 (D) 6 and 7
24. Coach Kabir needs to buy 12 T-shirts for the girls basketball team. The list below shows the prices of T-shirts at 2 stores.  
 (i) Store X : One T-shirt costs Rs. 250  
 (ii) Store Y : A package of 6 T-shirts costs Rs.1200.  
 What is the amount of money coach Kabir will save if he buys 12 T-shirts from store Y?  
 (A) Rs. 600 (B) Rs. 400 (C) Rs. 1650 (D) Rs. 375
25. If  $\frac{-9}{5} = \frac{a}{20} = \frac{27}{b} = \frac{-45}{c}$ , then the values of a, b and c is  
 (A)  $a = -36, b = -15, c = 25$  (B)  $a = -36, b = -15, c = -3$   
 (C)  $a = -30, b = -15, c = -36$  (D)  $a = -15, b = -25, c = 25$

## 2. PHYSICS

### ***Straight Objective Type***

This section contains 10 questions. Each question has 4 choices (A), (B), (C) and (D) for its answer, out of which **ONLY ONE** is correct.

26. The SI unit of time is  
 (A) day. (B) hour. (C) second. (D) minute.
27. In thermal power plant, heat energy is converted into  
 (A) Light energy (B) Electrical energy. (C) Sound energy (D) Potential energy.

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**Space for Rough Work**

28. The number of times a machine multiplies the effort force is its :  
(A) Load (B) Effort  
(C) Mechanical advantage (D) Work
29. Motion of a car on a straight road is an example of  
(A) rotatory motion. (B) rectilinear motion. (C) circular motion. (D) periodic motion.
30. When the applied force causes the displacement, it is known as:  
(A) Energy (B) Work (C) Force (D) Pressure
31. Which of the following is NOT an example of a lever?  
(A) A pair of scissors (B) Fork  
(C) A beam balance (D) A pair tongs
32. A body whose position with respect to surroundings does not change, is said to be in a state of :  
(A) rest (B) motion (C) vibration (D) oscillation
33. When a body is stationary:  
(A) there is no force acting on it  
(B) the body is in vacuum  
(C) the combination of forces acting on it balance each other  
(D) the forces acting on it are not in contact with it
34. A beam balanced is an example of  
(A) inclined plane (B) lever of first type (C) lever of second type (D) lever of third type
35. Solar energy can be used to produce:  
(A) Electrical energy (B) Heat energy (C) Mechanical energy (D) All of the above

### 3. CHEMISTRY

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#### ***Straight Objective Type***

This section contains 10 questions. Each question has 4 choices (A), (B), (C) and (D) for its answer, out of which **ONLY ONE** is correct.

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36. In following substances, which is pure substance:  
(A) Gold (B) Ice candy (C) Salty water (D) Cake
37. Which is leaf fibre?  
(A) Coir (B) Jute (C) Sisal (D) None
38. Objects made of iron are attracted to a magnet. In addition of iron which pair show magnetism  
(A) Co, Ni (B) Na, Mg (C) Fe, Cu (D) Al, P

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**Space for Rough Work**

39. Process of making sedimentation of dust particles faster is :  
(A) Filtration (B) Loading (C) Decantation (D) Centrifugation
40. The process of twisting fibres, by Hand or using machine, to obtain thread is called :  
(A) Weaving (B) Knitting (C) Sieving (D) Spinning
41. In following materials which are insulators :  
(A) Air (B) Wood (C) Plastic (D) All of these
42. The spinner in washing machine dries clothes works on the principle of :  
(A) Evaporation (B) Sedimentation (C) Filtration (D) Centrifugation
43. The fabric made from the used wool, by carding and spinning is called :  
(A) Shoddy (B) Kemp (C) Coarse wool (D) Fleece
44. Which of the following allow light to pass through it ?  
(A) Transparent (B) Translucent (C) A & B (D) Opaque
45. In following statements which are true :  
1. Chalk dissolves in water  
2. Oil mixes with water  
3. Sand settles down in the water  
4. A piece of wood floats on water  
(A) 1, 3 (B) 2, 4 (C) 3, 4 (D) 1, 2

## 4. BIOLOGY

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### ***Straight Objective Type***

This section contains 10 questions. Each question has 4 choices (A), (B), (C) and (D) for its answer, out of which **ONLY ONE** is correct.

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46. The male reproductive organ of a flower is the  
(A) Stamens (B) Pistils (C) Petals (D) Sepals
47. Goitre is caused due to deficiency of  
(A) Iodine (B) Iron (C) Calcium (D) None
48. What do living organism produce when oxygen combine with food ?  
(A) Energy and carbon dioxide (B) Energy and carbon monoxide  
(C) Protein and Carbon monoxide (D) energy and sulphur dioxide
49. Mango plant is a  
(A) dicot (B) Monocot (C) Both A and B (D) None
50. Which of these ingredients is not obtained from plants or animals ?  
(A) Honey (B) Salt (C) Wheat (D) Milk
- 

**Space for Rough Work**

51. Which of the following is best suited in all kind of climatic conditions ?  
 (A) Dog (B) Kangaroo rat (C) Polar bear (D) Bacteria
52. Onion shows modification of which type  
 (A) Stem (B) Root (C) Leaves (D) Flower
53. Which one of the following is not a omnivore animal ?  
 (A) Tiger (B) Human (C) Bear (D) Cockroach
54. Webbed feet is an adaptation in  
 (A) Aerial birds (B) Reptile birds (C) Aquatic birds (D) Ostrich
55. Fishes, Prawns and Crabs are good sources of -  
 (A) Carbohydrates (B) Proteins (C) Fats (D) Minerals

## 5. MENTAL ABILITY

### *Straight Objective Type*

This section contains 15 questions. Each question has 4 choices (A), (B), (C) and (D) for its answer, out of which **ONLY ONE** is correct.

**Directions : (56 to 57)** Find the missing number.

56. 912, 303, 102, 33, ?, 3, 2  
 (A) 12 (B) 10 (C) 8 (D) 6
57. 1, 4, 9, ?, 25, 36  
 (A) 11 (B) 19 (C) 21 (D) 16

**Directions : (58 to 59)** Find the missing term.

58. BYDW, FUHS, JQLO, NMPK, ?  
 (A) RITG (B) RJGH (C) IRGT (D) HPIN
59. BYCXA, EVFUD, HSIRG, KPLOJ, ?  
 (A) MNLOL (B) NMOLM (C) QJRIP (D) PKQJO

**Directions: (60 to 61)** Find the missing term.

60.  $\begin{array}{c} 3 \\ 2 \text{ (23) } 4 \\ 5 \end{array}$      $\begin{array}{c} 4 \\ 3 \text{ (39) } 5 \\ 6 \end{array}$      $\begin{array}{c} 5 \\ 4 \text{ (?) } 6 \\ 7 \end{array}$   
 (A) 120 (B) 59 (C) 62 (D) 22
61.  $\begin{array}{c} 8 \\ 4 \text{ (5) } 6 \\ 7 \end{array}$      $\begin{array}{c} 12 \\ 18 \text{ (7) } 9 \\ 10 \end{array}$      $\begin{array}{c} 11 \\ 13 \text{ (6) } ? \\ 7 \end{array}$   
 (A) 9 (B) 8 (C) 6 (D) 5

Space for Rough Work

**Directions:(62 to 63)** In each of the following questions, a group of letters is given which are numbered 1, 2, 3, 4, 5 and more. They are four alternatives given containing the combinations of these numbers. Select that combination of numbers in which letters arranged accordingly to form a meaningful word.

62. R M N B U E  
1 2 3 4 5 6

(A) 1,5,4,2,6,3

(B) 2,6,3,4,1,5

(C) 3,5,2,4,6,1

(D) 4,6,3,2,1,5

63. D I F E R N  
1 2 3 4 5 6

(A) 1,4,3,6,2,5

(B) 6,4,3,5,2,1

(C) 3,5,2,4,6,1

(D) 5,4,3,2,6,1

64. In a certain code, **INSTITUTION** is written as **NOITUTISNI**. How is **PERFECTION** written in that code?  
(A) NOICTEFREP (B) NOITCEFERP (C) NOITCEFRPE (D) NOITCEFREP

65. If **POLITICS** is coded as **OPILITSC**, then **ARTICLES** will be coded as  
(A) RAITLCES (B) RAITLCSE (C) NNUHPM (D) NNVHPN

66. A man walked 3 metre towards North, turned West and walked 2 metre then turned North and walked 1 metre and finally turned East and walked 5 metre. How far is he from the starting point?  
(A) 5 metre (B) 8 metre (C) 10 metre (D) 12 metre

67. Amit faces towards North. Turning to his right he walks 25 metre. He then turns to his left and walks 30 metre. Then moves 25 metre to his right. He then turns to his right again and walks 55 metre. Finally, he turns to the right and moves 40 metre. In which direction is he now from his starting point?  
(A) South-West (B) South (C) North-West (D) South-East

**Directions : (68)** Study the given information and answer the following questions.

(i) P, Q, R, S, T, U and V are sitting in a row facing East.

(ii) R is on the immediate right of S.

(iii) Q is at an extreme end and has T as his immediate neighbour.

(iv) V is exactly between T and U.

(v) S is sitting third from the South end.

68. Name the person who is at the third place from the North end.  
(A) T (B) U (C) V (D) S

69. What is the value of  $78 - [5 + 3 \text{ of } (25 - 2 \times 10)]$ ?  
(A) 58 (B) 120 (C) 920 (D) 979

70. What mathematical operation should come at the place of '?' in the equation  
 $2? 6 - 28 \div 7 + 2 = 10$   
(A) + (B) - (C)  $\times$  (D)  $\div$

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Space for Rough Work



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