

SAMPLE PAPER

CLASS : 8



Total Questions : 60

Duration : 2 Hrs.

## Paper Pattern

Section	(A) Physics	(B) Chemistry	(C) Biology	(D) Mathematics	(E) Logical Reasoning & IQ
Number of Questions	7	6	7	30	10

**Marking Scheme:** +4 For Correct Answer (There is no negative for wrong answer)

## Syllabus

Section A – • Force and Pressure • Friction

Section B – • Synthetic Fibres and Plastics • Materials : Metals and Non- metals

Section C – • Crop Production • Micro-Organism

Section D – • Rational Numbers • Linear Equations in One Variable • Understanding Quadrilaterals • Data Handling • Square and Square Roots  
• Cubes and Cube Roots • Comparing Quantities

Section E – • Series : Number, Alphabet and Letter repeating series • Direction sense • Mirror & Water Image • Ranking and Ordering  
• Mathematical Operation • Paper Folding and Cutting

## Instructions :

- This Booklet is your **Question Paper**. DO NOT break seal of Booklet until the invigilator instructs to do so.
- The Answer Sheet is provided to you separately which is a machine readable **Optical Response Sheet (ORS)**. You have to mark your answer in the ORS by darkening bubble, as per your answer choice, by using **Black/Blue** ball point pen only.
- If you are found involved in cheating or disturbing others then your ORS will be cancelled.
- Do not put any stain on ORS and hand it over back properly to the invigilator.
- You can take along the question paper after test over.

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MATRIX

JEE Division | NEET Division

Piprali Road, Sikar, (Raj.) 332001 | 01572-241911, 01572-243911

MATRIX HIGH SCHOOL

Pre-Foundation &amp; Schooling Division

Piprali Road, Sikar, (Raj.) 332001 | Bikaner Bypass Road, Near Gokulpura Village, Sikar (Raj.) 332021 | 01572-299956

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**PART I : PHYSICS**

This section contains 07 Multiple Choice Questions. Each question has four choices (A), (B), (C) and (D) out of which ONLY ONE is correct.

- Fluid pressure is always directed :
  - up
  - sideways
  - down
  - in all directions
- Which combination of statements is correct?
  - Force is a physical quantity which can increase or decrease the speed of a moving body
  - The strength of a force is usually expressed by its magnitude
  - One body cannot apply force on other body if they are not in contact
  - Frictional force is an example of contact force
  - Without involving force, shape of a body cannot be changed
  - i, ii, iii, iv only
  - i, ii, iv only
  - i, ii, iv and v only
  - i, ii only
- Friction between two objects is caused due to \_\_\_\_\_ in the surfaces of the objects :
  - softness
  - irregularities
  - atmospheric pressure
  - magnetism
- When a balloon is rubbed with a piece of synthetic cloth and brought near to a wall, it sticks to the wall due to :
  - Frictional force
  - Electrostatic force
  - Gravitational force
  - None of these
- If  $45 \times 10^5$  dyne force is exerted on the area of  $2 \text{ cm}^2$  of an object, calculate the pressure produced by the force:
  - 90 Pa.
  - 22.5 Pa.
  - 20 Pa.
  - None of these
- Match the following columns :

**Column – I**

- P. Muscular force  
 Q. Electrostatic force  
 R. Magnetic force  
 S. Frictional force

**Column – II**

- Hard drives
- Shooting stars
- Plastic comb attracts small thin pieces of paper
- A ball of dough is rolled into a flat chapatti

**Code :**

- |     | P | Q | R | S |
|-----|---|---|---|---|
| (A) | 4 | 3 | 1 | 2 |
| (B) | 4 | 3 | 2 | 1 |
| (C) | 1 | 2 | 3 | 4 |
| (D) | 2 | 3 | 4 | 1 |

7. A bicycle starts moving on a rough road and accelerating. Friction force applied by road on the rear and front wheels of bicycle is :
- (A) In the direction of motion  
 (B) Opposite to the direction of motion  
 (C) In the direction of motion on rear wheel and opposite to the direction of motion on front wheel  
 (D) None of these

## PART II : CHEMISTRY

*This section contains 06 Multiple Choice Questions. Each question has four choices (A), (B), (C) and (D) out of which ONLY ONE is correct.*

8. Match the following columns :

Column – I	Column – II
P. Polyester	1. Sarees, dresses, suits, jacket, shirts etc
Q. Spandex	2. Sweaters, socks, shawls
R. Nylon	3. Shirts, tyres lining
S. Rayon	4. Sarees, socks, stocking etc
T. Acrylic	4. Swimming costumes, caps, T-shirts

**Code :**

	P	Q	R	S	T
(A)	1	5	4	3	2
(B)	5	1	4	3	2
(C)	4	1	5	3	2
(D)	1	5	4	2	3

9. Uniform of fireman is coated with :
- (A) Teflon  
 (B) Rayon  
 (C) PVC  
 (D) Melamine
10. To identify the type of plastic a specific number is allotted to plastic products. This number represent :
- (A) Durability of plastic product  
 (B) Electrical conductivity of plastic product  
 (C) Thermal resistance of plastic product  
 (D) Recycling of plastic product
11. Which among the following elements is a metalloid?
- (A) Beryllium  
 (B) Barium  
 (C) Boron  
 (D) Bismuth

12. The metal which is least reactive is :
- (A) Ag (B) Au  
(C) Cu (D) Pt
13. Oxide formed by an element X turns blue litmus red. Element X is :
- (A) Phosphorus (B) Sodium  
(C) Iron (D) d

### **PART III : BIOLOGY**

*This section contains 07 Multiple Choice Questions. Each question has four choices (A), (B), (C) and (D) out of which ONLY ONE is correct.*

14. Which type of irrigation is similar to rainfall?
- (A) Moat (B) Sprinkler system  
(C) Rahat (D) Drip system
15. Which of the following tool helps in uniform distribution of seeds while sowing?
- (A) Thresher (B) Seed drill  
(C) Funnel connected to pipes (D) Sprinkler
16. Fish is good for health, we get cod liver fish oil from fish, which is rich in :
- (A) Vitamin B (B) Vitamin C  
(C) Vitamin D (D) Vitamin E
17. Which of the following is not used as food preservatives?
- (A) Salt (B) Sugar  
(C) Vinegar (D) Methane

18. Match the organisms in column I with their action in Column II :

Column – I	Column – II
P. Microbes	1. Amoeba
Q. Single cell	2. Lactic acid
R. Curd	3. Antibiotics
S. Virus	4. Influenza

**Code :**

	P	Q	R	S
(A)	3	1	2	4
(B)	1	2	3	4
(C)	2	1	3	4
(D)	4	1	2	3

19. The status of algae in the aquatic food chain is :

- (A) Consumers (B) Producers  
(C) Host (D) Small in size

20. Bacteria present in root nodules of pea :

- (A) Coli (B) Plasmodium  
(C) Rhizobium (D) Penicillin

**PART IV : MATHEMATICS**

This section contains 30 Multiple Choice Questions. Each question has four choices (A), (B), (C) and (D) out of which ONLY ONE is correct.

21. Which of the following is not true?
- (A) Rational numbers are closed under addition  
(B) Rational numbers are closed under subtraction  
(C) Rational numbers are closed under multiplication  
(D) Rational numbers are closed under division
22. The solution of which of the following equations is not an either?
- (A)  $-3x + 2 = 5x + 2$  (B)  $4x - 18 = 2$   
(C)  $4x + 7 = x + 2$  (D)  $5x - 8 = x + 4$
23. For which of the following, diagonals bisect each other?
- (A) Square (B) Kite  
(C) Trapezium (D) Quadrilateral
24. The height of a rectangle in a histogram shows the :
- (A) width of the class (B) upper limit of the class  
(C) lower limit of the class (D) frequency of the class
25. If one member of a Pythagorean triplet is  $2m$ , then the other two members are :
- (A)  $m, m^2 + 1$  (B)  $m^2 + 1, m^2 - 1$   
(C)  $m^2, m^2 - 1$  (D)  $m^2, m + 1$
26. If  $m$  is the cube root of  $n$ , then  $n$  is :
- (A)  $m^3$  (B)  $\sqrt{m}$   
(C)  $\frac{m}{3}$  (D)  $\sqrt[3]{m}$
27. A jacket was sold for Rs. 1120 after allowing a discount of 20%. The market price of the jacket is :
- (A) Rs. 1440 (B) Rs. 1400  
(C) Rs. 960 (D) Rs. 866.66
28. One (1) is :
- (A) The identity for addition of rational numbers  
(B) The identity for subtraction of rational numbers  
(C) The identity for multiplication of rational numbers  
(D) The identity for division of rational numbers

29. Linear equation in one variable has :
- (A) only one variable with any power (B) only one term with a variable  
(C) only one variable with power 1 (D) only constant term
30. For which of the following figures, diagonals are perpendicular to each other ?
- (A) Parallelogram (B) Kite  
(C) Trapezium (D) Rectangle
31. A geometric representation showing the relationship between a whole and its parts , is a :
- (A) Pie chart (B) histogram  
(C) bargraph (D) pictograph
32. A perfect square can never have the following digit in its one's place :
- (A) 1 (B) 8  
(C) 0 (D) 6
33. Which of the following numbers is not a perfect cube?
- (A) 216 (B) 567  
(C) 125 (D) 343
34. A bought a tape recorder for Rs. 8000 and sold it to B . B in turn sold it to C , each earning a profit of 20% . Which of the following is true?
- (A) A and B earns the same profit (B) A earns more profit than B  
(C) A earns less profit than B (D) cannot be determined
35.  $\frac{x+y}{2}$  is a rational number :
- (A) Between x and y (B) Less than x and y both  
(C) Greater than x and y both (D) Less than x but greater than y
36. The digit in the ten's place of a two - digit number is 3 more than the digit in the unit's place . Let the digit at unit's place be b. Then, the number is :
- (A)  $11b + 30$  (B)  $10b + 30$   
(C)  $11b + 3$  (D)  $10b + 3$
37. What is the maximum number of obtuse angles that a quadrilateral can have?
- (A) 1 (B) 2  
(C) 3 (D) 4

38. Which of the following is not a random experiment?
- (A) Tossing a coin  
 (B) Rolling a die  
 (C) Choosing a card from a deck of 52 cards  
 (D) Throwing a stone from the roof of a building
39. The sum of first  $n$  odd natural numbers is?
- (A)  $2n + 1$  (B)  $n^2$   
 (C)  $n^2 - 1$  (D)  $n^2 + 1$
40. What should be divided by 53240 to make it a perfect cube?
- (A) 5 (B) 10  
 (C) 15 (D) 20
41. The market price of an article is Rs. 80 and it is sold at Rs. 76, then the discount rate is :
- (A) 5% (B) 95 %  
 (C) 10% (D) approx 11%
42. Which of the following expressions shows that rational numbers are associative under multiplication :
- (A)  $\frac{2}{3} \times \left( \frac{-6}{7} \times \frac{3}{5} \right) = \left( \frac{2}{3} \times -\frac{6}{7} \right) \times \frac{3}{5}$   
 (B)  $\frac{2}{3} \times \left( \frac{-6}{7} \times \frac{3}{5} \right) = \frac{2}{3} \times \left( \frac{3}{5} \times -\frac{6}{7} \right)$   
 (C)  $\frac{2}{3} \times \left( \frac{-6}{7} \times \frac{3}{5} \right) = \left( \frac{3}{5} \times \frac{2}{3} \right) \times -\frac{6}{7}$   
 (D)  $\left( \frac{2}{3} \times -\frac{6}{7} \right) \times \frac{3}{5} = \left( -\frac{6}{7} \times \frac{2}{3} \right) \times \frac{3}{5}$
43. If two adjacent angles of a parallelogram are  $15x - 5$  and  $10x + 35$ , then the ratio of these angles is :
- (A) 17 : 19 (B) 2 : 3  
 (C) 1 : 4 (D) 1 : 2
44. The value of  $\sqrt{248 + \sqrt{52 + \sqrt{144}}}$  is :
- (A) 14 (B) 12  
 (C) 16 (D) 13
45. Cube root of 15625 is :
- (A) 5 (B) 15  
 (C) 25 (D) 35



46. If market price of an article is Rs. 1200 and the discount is 12% , then the selling price of the article is :
- (A) Rs. 1056 (B) Rs. 1344  
(C) Rs. 1212 (D) Rs. 1188
47.  $-\frac{3}{8} + \frac{1}{7} = \frac{1}{7} + \left[-\frac{3}{8}\right]$  is an example to show that :
- (A) addition of rational numbers is commutative  
(B) Rational numbers are closed under addition  
(C) Addition of rational numbers is associative  
(D) Rational numbers are distributive under addition
48. How many diagonals does a hexagon have?
- (A) 9 (B) 8  
(C) 2 (D) 6
49. The next two numbers in the number pattern 1 , 4 , 9 , 16 , 25 , ..... are :
- (A) 35 , 48 (B) 36 , 49  
(C) 36 , 48 (D) 35 , 49
50. Radhika bought a car for Rs. 250000 . Next year , its price decreased by 10% and further next year , it decreased by 12 % . In the two years , overall decrease percent in the price of the car is :
- (A) 3.2 % (B) 22 %  
(C) 20.8 % (D) 8 %

**PART V : LOGICAL REASONING & IQ**

This section contains 10 Multiple Choice Questions. Each question has four choices (A), (B), (C) and (D) out of which ONLY ONE is correct.

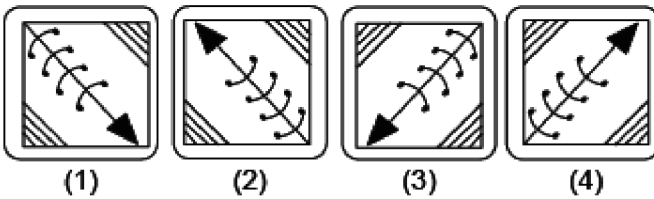
51. Find the missing number  
210, 120, ?, 24, 6, 0  
(A) 64 (B) 48  
(C) 60 (D) 35
52. Find the next term  
5, 6, 9, 14, 21, ?  
(A) 30 (B) 26  
(C) 25 (D) 29
53. Ashok is facing North. He turns 45 degrees in the clockwise direction and then turns 90 degrees in the anticlockwise direction. Finally, he turns back. Which direction is he facing now?  
(A) South-East (B) South-West  
(C) North-East (D) North-West
54. Rahul travels 10 km to the North. He turns to the right and walks 5 km. Then again he turns to his right and moves 10 km forwards. How many km away from starting point is he?  
(A) 26 km (B) 19 km  
(C) 13 km (D) 5 km
55. In a row of boys, Shyam is 9th from the left and 13th from the right. In another row of boys, Ram is 13th from left and 15th from right. How many boys are there in the rows together?  
(A) 48 (B) 46  
(C) 21 (D) 42
56. Suman ranks 19th in a class of 60 students. What is her rank from last?  
(A) 42 (B) 47  
(C) 41 (D) None of these
57. If  $-$  means  $\div$ ,  $+$  means  $\times$ ,  $\div$  means  $-$ ,  $\times$  means  $+$ , then which of the following equations is correct?  
(A)  $52 \div 4 + 5 \times 8 - 2 = 36$  (B)  $43 \times 7 \div 5 + 4 - 8 = 25$   
(C)  $36 \times 4 - 12 + 5 \div 3 = 420$  (D)  $36 - 12 \times 6 \div 3 + 4 = 60$
58. Find out the two signs to be interchanged for making following equation correct :  
 $5 + 3 \times 8 - 12 \div 4 = 3$   
(A)  $+$  and  $-$  (B)  $-$  and  $\div$   
(C)  $+$  and  $\times$  (D)  $+$  and  $\div$

59. Choose the correct water image of the question figure, from the given answer figures.

Questions figure :

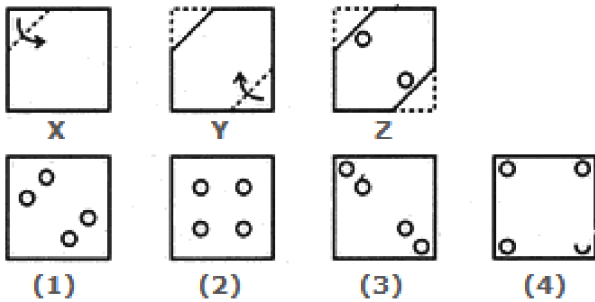


Answer figure :



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

60. Choose a figure which would most closely resemble the unfolded form of Figure (Z).



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