



# **MITTAL CLASSES**

IIT-JEE | MEDICAL | FOUNDATION

Paper Code:07F-SP-1

## **SAMPLE PAPER**

**Class – VII**

**Time: 2 Hour**

**M. Marks: 300**

### **General Instructions:**

1. Answers have to be marked on the OMR sheet.
2. The question paper consists of 75 multiple choice questions (single correct option) divided into five sections.  
Section – A contains 15 questions (Q1 to Q15) of Physics.  
Section – B contains 15 questions (Q16 to Q30) of Chemistry.  
Section – C contains 15 questions (Q31 to Q45) of Biology.  
Section – D contains 15 questions (Q46 to Q60) of Mathematics.  
Section – E contains 15 questions (Q61 to Q75) of Mental Ability.
3. Each question carries **+4** marks for correct answer and **-1** mark for wrong answer.
4. The Question Paper contains blank spaces for your rough work. No additional sheets will be provided for rough work.
5. Blank papers, clip boards, log tables, slide rule, calculator, cellular phones, pagers and electronic devices, in any form, are not allowed.
6. Write your Name, Father Name, Class, MSAT Roll No. and Date in the space provided at the bottom of this sheet.

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NAME: \_\_\_\_\_

FATHER NAME: \_\_\_\_\_

CLASS: \_\_\_\_\_

MSAT ROLL NO: \_\_\_\_\_

DATE: \_\_\_\_\_

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**PHYSICS**

1. To get a shadow, we need  
(A) only a source of light  
(B) only an opaque object  
(C) both a source of light and an opaque object  
(D) neither a source of light nor an opaque object
2. If an object is placed at a distance of 2.5 m in front of a plane mirror, the distance between the object and the image formed by the mirror will be:  
(A) 2 m                      (B) 1 m  
(C) 5 m                      (D) 0.25 m
3. Calculate the value of  $5 \text{ Ms}^{-1}$  in  $\text{km h}^{-1}$ .  
(A) 10                      (B) 1.38  
(C) 18                      (D) 3.6
4. Which of the following are not natural sources of light?  
(A) Bulb                      (B) Stars  
(C) Fire files                      (D) All of these
5. Velocity of light is maximum in :  
(A) diamond                      (B) water  
(C) glass                      (D) vacuum
6. Speed of light in vacuum is :  
(A)  $3 \times 10^6 \text{ m/sec}$   
(B)  $3 \times 10^8 \text{ m/sec}$   
(C)  $3 \times 10^8 \text{ km/hr}$   
(D)  $3 \times 10^8 \text{ cm/sec}$
7. Choose correct statement:  
(A) light travels in straight line  
(B) light causes in us sensation of sight  
(C) light may be obtained from heat energy  
(D) All of these.
8. Choose the correct option:  
I. Ampere second and coulomb both are the units of electric charge.  
II. Volt is the SI unit of electric current  
III. Voltmeter is used to measure potential difference between two given point in a circuit  
(A) only (I) and (II) are correct  
(B) only (II) and (III) are correct  
(C) (I), (II) and (III) are correct  
(D) only (I) and (III) are correct
9. Which of the following mirror is commonly used as a rear view mirror?  
(A) Concave                      (B) Convex  
(C) Plane                      (D) None of these

*Space for rough work*



10. Height of the image formed by a plane mirror, of an object of 4 m high kept at distance of 10 m from the mirror is  
(A) 5 m                      (B) 4 m  
(C) 2 m                      (D) 0.2 m
15. The CGS unit of time is \_\_\_\_\_.  
(A) second  
(B) cm s<sup>-1</sup>  
(C) Both (A) and (B)  
(D) hour

### CHEMISTRY

11. The motion of a satellite around a planet is  
(A) Rectilinear    (B) curvilinear  
(C) Oscillatory    (D) circular
12. Which of the following letters will be seen without any change in a plane mirror?  
(A) w                      (B) T  
(C) L                      (D) Both (A) and (B)
13. If a body is moving with an decreasing velocity, then its acceleration is \_\_\_\_\_.  
(A) negative              (B) positive  
(C) zero                      (D) None of these
14. An iron bolt & a feather is dropped from same height which will fall earlier. (ignore air drag)  
(A) iron bolt  
(B) feather  
(C) both at same time  
(D) none of these
16. Which is a method to prevent rust?  
(A) Crystallization  
(B) Sedimentation  
(C) Galvanisation  
(D) None of these
17. What is the formula of rust?  
(A) Fe<sub>2</sub>O<sub>3</sub>                      (B) Fe<sub>3</sub>O<sub>4</sub>  
(C) FeO                      (D) None of these
18. In which type of change a new substance is formed?  
(A) In physical change  
(B) In chemical change  
(C) Both A and B  
(D) In neither of these
19. Which of the following is a chemical change?  
(A) Bursting of a fire cracker  
(B) Germination of seed  
(C) Coal formation from buried trees  
(D) All of these

*Space for rough work*



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20. A physical change is generally  
(A) Reversible  
(B) Irreversible  
(C) Considerable  
(D) All of these
21. Rusting occurs when iron is exposed to  
(A) Oxygen and water  
(B) Soil and rain  
(C) Breeze and sunlight  
(D) Salt water and clouds
22. Properties like size, shape, colour, state of substance are  
(A) Chemical properties  
(B) Mental properties  
(C) Physical properties  
(D) Physico-chemical properties
23. Acids taste  
(A) Sour                      (B) Sweet  
(C) Bitter                    (D) Salty
24. Colours of phenolphthalein indicator in acidic and basic medium, respectively are  
(A) Pink and colourless  
(B) Colourless and Pink  
(C) Blue and Red  
(D) Red and Blue
25. Which of the following feel soapy on touching  
(A) Acid                      (B) Base  
(C) Salt                      (D) None of these
26. Which of the following is a natural indicator?  
(A) China rose petal  
(B) Turmeric  
(C) Litmus  
(D) All of these
27. The most commonly used natural indicator is  
(A) Turmeric                      (B) Beetroot  
(C) China rose petal      (D) Litmus
28. Litmus is extracted from  
(A) Curd                      (B) Grapes  
(C) Lichens                      (D) Cabbage
29. Neutralisation reaction is a  
(A) Physical and Reversible change  
(B) Physical and irreversible change  
(C) Chemical and Reversible change  
(D) Chemical and irreversible change
30. Tap water is  
(A) Acidic  
(B) Basic  
(C) Neutral  
(D) Depend on source

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*Space for rough work*



**BIOLOGY**

31. Green pigment present in the leaves of mesophyll cells is called  
(A) Haemoglobin  
(B) Globulin  
(C) Albumin  
(D) Chlorophyll
32. During photosynthesis plants  
(A) Take  $O_2$  & released  $CO_2$   
(B) Take  $CO_2$  & released  $O_2$   
(C) Take  $CO_2$  & released  $SO_2$   
(D) Take  $O_2$  & do not released  $CO_2$
33. The acid present in the stomach  
(A) NaCl (B) HCl  
(C)  $HNO_3$  (D) All of these
34. Find out incorrect match
- | <b>A</b>          |              | <b>B</b>          |              |
|-------------------|--------------|-------------------|--------------|
| (A) Autotroph     | Plant        | (A) Autotroph     | Plant        |
| (B) Sugar         | Carbohydrate | (B) Sugar         | Carbohydrate |
| (C) Phtosynthesis | Leaf         | (C) Phtosynthesis | Leaf         |
| (D) Amphibia      | Fish         | (D) Amphibia      | Fish         |
35. Yeast are used in  
(A) Wine & Beer  
(B) Bakery  
(C) Both A and B  
(D) None of these
36. Yeast can survive in the absence of air. They are called  
(A) Aerobic (B) Anaerobic  
(C) Amphibolic (D) All of these
37. Which of the following is the main circulatory fluid in our body?  
(A) Plasma (B) Lymph  
(C) Blood (D) None of these
38. Which one of the following contains haemoglobin?  
(A) RBC (B) WBC  
(C) Platelets (D) None of these
39. What is function of WBC?  
(A) Transport  $O_2$   
(B) Fight against germs  
(C) Blood clotting  
(D) All of these
40. Colour of leaf look like green is due to  
(A) Albumin (B) Globulin  
(C) Fibrin (D) Chlorophyll
41. Plant takes  $CO_2$  from the atmosphere mainly through their  
(A) Root (B) Stem  
(C) Flowers (D) Leaves
42. Organism need nutrition to  
(A) Obtain energy  
(B) Fight against diseases  
(C) Grow  
(D) All of these

*Space for rough work*



43. Water reaches the leaves from root by  
(A) Stomata (B) Phloem  
(C) Xylem (D) None of these
44. The ultimate source of energy for living organisms is  
(A) Plants (B) Sun  
(C) O<sub>2</sub> (D) None of these
45. Which of the following shows symbiotic relationships?  
(A) Lichen  
(B) Rhizobium bacteria and leguminous plants  
(C) Both A and B  
(D) None of these

**MATHEMATICS**

46. On a number line, when we add a positive integer, we  
(A) Move to the right  
(B) Move to the left  
(C) Do not move at all  
(D) None of these
47.  $(-1) \times (-1) \times (-1) \times \dots \times (-1)$  10 times is equal to  
(A) 1 (B) -1  
(C) 1 or -1 (D) None of these

48. Which of the following is an improper fraction?  
(A)  $\frac{1}{2}$  (B)  $\frac{1}{3}$   
(C)  $\frac{2}{3}$  (D)  $\frac{3}{2}$
49.  $\frac{1}{2} - \frac{1}{4}$  is equal to  
(A)  $\frac{1}{2}$  (B)  $\frac{1}{8}$   
(C)  $\frac{1}{3}$  (D)  $\frac{1}{4}$

**For (50-51)**

The number of tourists visiting a historical place in a week is shown in the following table.

Day	Number of tourists
Monday	65
Tuesday	72
Wednesday	98
Thursday	84
Friday	60
Saturday	108
Sunday	160

Answer the following related questions:

50. What is the difference between the number of tourists visiting on Friday and Monday?  
(A) 10 (B) 24  
(C) 38 (D) 5

*Space for rough work*



51. The sum of the number of tourists visiting on Sunday and Friday is  
(A) 160 (B) 60  
(C) 220 (D) 100
52. Write the following statement in the form of an equation:  
If you subtract 3 from 6 times a number, you get 9  
(A)  $3x - 6 = 9$  (B)  $6x - 3 = 9$   
(C)  $6x + 3 = 9$  (D)  $3x + 6 = 9$
53. Write the following statement in the form of an equation:  
One fourth of  $x$  is 3 more than 2.  
(A)  $\frac{n}{4} - 2 = 3$  (B)  $\frac{n}{4} + 2 = 3$   
(C)  $\frac{n}{2} - 4 = 3$  (D)  $\frac{n}{2} + 4 = 3$
54. When the sum of the measures of two angles is  $90^\circ$ ; the angles are called  
(A) Supplementary angles  
(B) Complementary angles  
(C) Adjacent angles  
(D) Vertically opposite angles
55. The measure of the complement of the angle  $30^\circ$  is  
(A)  $30^\circ$  (B)  $16^\circ$   
(C)  $60^\circ$  (D)  $160^\circ$
56. If two sides of a triangle are not equal, the triangle is called  
(A) Scalene  
(B) Isoscles  
(C) Equilateral  
(D) Right angle
57. The total measure of the three angles of a triangle is  
(A)  $360^\circ$  (B)  $90^\circ$   
(C)  $180^\circ$  (D) None of these
58. If  $\triangle ABC = \triangle PQR$ , then  $\overline{CA}$  correspond to  
(A)  $\overline{PQ}$   
(B)  $\overline{QR}$   
(C)  $\overline{RP}$   
(D) Noe of these
59. The ratio of 6 kg to 400 g is  
(A) 10 : 1  
(B) 15 : 1  
(C) 12 : 1  
(D) 6 : 1
60. The ages of father and son are 45 year and 10 year. The ratio of their ages is\_\_\_\_  
(A) 3 : 2 (B) 5 : 2  
(C) 9 : 2 (D) 15 : 2

*Space for rough work*



**MENTAL ABILITY**

61. Sanjay went 70 metres in the East before turning to his right. He went 10 metres before turning to his right again and went 10 metres from this point. From here he went 90 metres to the North. How far was he from the starting point?  
(A) 80 metres (B) 100 metres  
(C) 140 metres (D) 260 metres
62. Amit faces towards North. Turning to his right he walks 25 metres. He then turns to his left and walks 30 metres. Next, he moves 25 metres to his right. He then turns to his right again and walks 55 metres. Finally, he turns to the right and moves 40 metres. In which direction is he now from his starting point?  
(A) South-West (B) South  
(C) North-West (D) South-East
63. 2, 7, 15, 26, 40, 57, ?  
(A) 80 (B) 81  
(C) 75 (D) 77
64. 2, 3, 5, 7, ?,  
(A) 9 (B) 11  
(C) 10 (D) 12
65. 56, 72, 90, 110, 132, \_\_\_\_  
(A) 154 (B) 150  
(C) 152 (D) 156
66. \_\_ \_ aba\_\_ \_ ba \_\_ ab  
(A) abbba (B) abbab  
(C) baabb (D) bbaba
67. \_\_ \_ babbba\_\_ a \_\_ \_\_  
(A) ababb (B) baaab  
(C) bbaba (D) babbb
68. Pointing to a photograph Anjali said, "He is the son of the only son of my grandfather." How is the man in the photograph related to Anjali?  
(A) Brother  
(B) Uncle  
(C) Son  
(D) Data is inadequate
69. P is the mother of K; K is the sister of D; D is the father of J. How is P related to J?  
(A) Mother  
(B) Grandmother  
(C) Aunt  
(D) Data inadequate
70. If 'P + Q' means 'P is the brother of Q', 'P x Q' means 'P is the father of Q' and 'P - Q' means 'P is the sister of Q', which of the following relations shows that I is the niece of K?  
(A)  $K + Y + Z - I$  (B)  $K + Y \times I - Z$   
(C)  $Z - I \times Y + K$  (D)  $K \times Y + I - Z$

*Space for rough work*





71. Choose the alternative which is closely resembles the mirror image of the given combination.

**MALAYALAM**

- (1) MALAYALAM      (2) MAJAYAJAM  
(3) MALAYALAM      (4) MAGAYAGAM

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

72. Choose the alternative which is closely resembles the mirror image of the given combination.

**EFFECTIVE**

- (1) EVITCEFFE              (2) EVITCEFFE  
(3) EVITCEFFE              (4) EVITCEFFE

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

73. If A stands for +, B stands for -, C stands for  $\times$ , then what is the value of (10C4) A (4C4) B 6

- (A) 60                      (B) 50  
(C) 56                      (D) 20

74. If A stands for  $\div$ , B stands for  $\times$ , C stands for +, and D stands for -, then what is the value of

18B12A4C5D6 is \_\_\_\_

- (A) 36                      (B) 59  
(C) 53                      (D) 70

75. If + denotes for 'MINUS',  $\times$  stands for 'DIVIDED BY',  $\div$  stands for 'PLUS', and - stands for 'MULTIPLY BY', then which of the following will be the value of the expression

$252 \times 9 - 5 + 32 \div 92$ ?

- (A) 95                      (B) 168  
(C) 200                      (D) 210

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*Space for rough work*