



# **N-ACST-2022**

**CLASS – IX: - (Mental Ability, Mathematics & Science)**  
**(Class VIII Moving to IX)**

**[SET-1]**

**N-ACST (12-06-2022)**

**Time Duration: 1 Hour**

**Maximum marks: 140**

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

## **INSTRUCTIONS:**

1. This question paper contains 35 questions: **Mental Ability (Q. No. 1 to Q. No. 7), Mathematics (Q. No. 8 to Q. No. 14), Physics (Q. No. 15 to Q. No. 21), Chemistry (Q. No. 22 to Q. No. 28) & Biology (Q. No. 29 to Q. No. 35)**
2. There will be individual qualifying cut-offs for all sections.
3. **For Each correct answer 4 marks will be awarded. No Negative Marking.**
4. Use OMR-Sheet for answering
5. Use HB Pencil / Pen to darken the circles.
6. If you wish to change your answer, erase the already darkened circle completely and then darken the appropriate circle.
7. Use of a calculator and mobile phone is strictly prohibited during the exam.

### **TO BE FILLED IN CAPITAL LETTERS**

**NAME OF THE STUDENT :** \_\_\_\_\_

**FATHER'S NAME :** \_\_\_\_\_

**CONTACT NUMBER:** \_\_\_\_\_ **SCHOOL NAME :** \_\_\_\_\_

**ROLL NO. :** \_\_\_\_\_ **TEST CENTRE :** \_\_\_\_\_

**I have read all the instructions and shall abide by them**

.....  
**Signature of Candidate**

**I have verified all the information filled in by the Candidate**

.....  
**Signature of Invigilator**

**MENTAL ABILITY (MAT)**

1. Find the missing number.

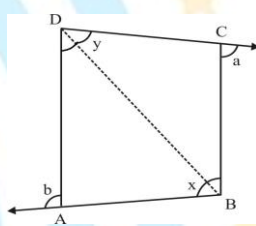
|    |    |    |
|----|----|----|
| 56 | 65 | 78 |
| 12 | ?  | 30 |
| 44 | 14 | 48 |

- (A) 14 (B) 44 (C) 62 (D) 51
2. In a row of trees, a tree is 7th from left end and 14th from right end. How many trees are there in the row?
- (A) 18 (B) 19 (C) 20 (D) 21
3. The sum of the first 2007 terms of the sequence 1, 2, 3, 4, 1, 2, 3, 4, \_\_\_\_\_ is?
- (A) 5013 (B) 5016 (C) 5020 (D) 5107
4. If '+' stands for '×', '-' for '÷', '×' for '-' and '÷' for '+', find the value of  $12+90-5\times 9\div 3$ .
- (A) 210 (B) 216 (C) 215 (D) 120
5. Pointing at a photo, Dinesh said, "His father is only son of my mother". The photo belongs to
- (A) Dinesh (B) Dinesh's brother (C) Dinesh's father (D) Dinesh's son
6. ELFA, GLHA, ILJA, \_\_\_\_\_, MLNA
- (A) OLPA (B) KLMA (C) LLMA (D) KLLA
7. A man is facing west. He turns 45 degrees in the clockwise direction and then another 180 degrees in the same direction and then 270 degrees in the anticlockwise direction. Find in which direction he is facing now?
- (A) South-West (B) West (C) South (D) East – South

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Space for Rough Work

**MATHEMATICS**

8. The ratio of cost price and selling price is 5 : 4, the loss percent is:  
(A) 20% (B) 25%  
(C) 40% (D) 50%
9. A man invests ₹ 5,000/- for three years at a certain rate of interest, compounded annually. At the end of first year it amounts to ₹ 5,600/- then the rate of the interest per annum is?  
(A) 11% (B) 12%  
(C) 13% (D) 14%
10.  $\frac{3x}{4} - \frac{(x-1)}{2} = \frac{(x-2)}{3}$ , solve for x  
(A) 22 (B) -14  
(C) 14 (D) 15
11. The sides BA and DC of a quadrilateral ABCD are produced as shown in the figure the true relation from the following is  
(A)  $2x + y = 2a + b$  (B)  $x + y = 2$   
(C)  $x + y = a + b$  (D) None of these
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12. The number which when added to the terms of the ratio 11 : 23 makes it equal to the ratio 4 : 7 is  
(A) 5 (B) 10  
(C) 15 (D) 20
13. 12 men take 18 days to complete a job whereas 12 women in 18 days can complete  $\frac{3}{4}$  of the same job. The number of days will be taken by 10 men and 8 women working together to complete the same job?  
(A) 6 (B)  $13\frac{1}{2}$   
(C) 12 (D) 16
14. The cube root of  $x + y + 3x^{\frac{1}{3}}y^{\frac{1}{3}}\left(x^{\frac{1}{3}} + y^{\frac{1}{3}}\right)$  is  
(A)  $x + y$  (B)  $x^{\frac{1}{3}} + y^{\frac{1}{3}}$   
(C)  $(x + y)^{\frac{1}{3}}$  (D)  $(x + y)^3$

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**Space for Rough Work**

**PHYSICS**

15. Which of the following is Non-contact force?  
(A) Friction force (B) Muscular force  
(C) Spring force (D) Gravitational force
16. Which of the following is the good conductor of electricity  
(A) Air (B) Glass  
(C) Copper (D) Plastic
17. A body of mass 6 kg placed on a rough surface of friction co-efficient 0.6, if no external force is applied on the body, then the friction force acting on the body is  
(A) 30 N (B) 32 N  
(C) Zero (D) 34 N
18. A mass of 2 kg at rest for 4 seconds. Then the gain in momentum of the body is  
(A) 2 kg m/s (B) 8 kg m/s  
(C) zero (D) 4 kg m/s
19. If an observer is walking away from the plane mirror with 6 m/sec. Then the velocity of the image with respect to mirror will be  
(A) 12 m/sec (B) -6 m/sec  
(C) 6 m/sec (D) 3 m/sec
20. An inflated rubber balloon is rubbed with a woollen cloth whereas a ballpoint pen refill is rubbed with a polythene bag. Which of these will get positively charged?  
A. Inflated rubber balloon B. Woollen cloth  
C. Ballpoint pen refill D. Polythene bag  
(A) A and B (B) B and C  
(C) A and D (D) B and D
21. Which of the following is not used for electroplating metal articles?  
(A) Nickel (B) Silver  
(C) Chromium (D) Sodium

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Space for Rough Work



**CHEMISTRY**

22. Which of the following is obtained from coal tar?  
(A) Petrol (B) Coke  
(C) Air (D) Naphthalene balls
23. Which zone represents the partial combustion in candle flame?  
(A) Outer zone (B) Middle zone  
(C) Inner zone (D) Cover zone
24. A metal which melts on the palm  
(A) Potassium (B) Sodium  
(C) Gallium (D) Zinc
25. Which type of coal has the highest percentage of carbon?  
(A) Anthracite (B) Bituminous  
(C) Peat (D) Lignite
26. The first oil well was drilled in  
(A) USA (B) USSR  
(C) UK (D) India
27. Petroleum is refined by the process of  
(A) Fractional distillation (B) Destructive distillation  
(C) Distillation (D) All of the above
28. Sodium metal is stored in  
(A) Water (B) Alcohol  
(C) Kerosene oil (D) Ether

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**BIOLOGY**

29. The changes which occur at adolescence are controlled by  
(A) Chemicals (B) Enzymes  
(C) Both (A) and (B) (D) Hormones
30. Deforestation leads to an increase in the amount of  
(A)  $\text{NO}_2$  (B)  $\text{SO}_2$   
(C)  $\text{CO}_2$  (D) Both (A) and (B)
31. From the following, the best technique for watering fruit plants is  
(A) Dhekli (B) Chain pump  
(C) Sprinkler system (D) Drip system
32. Fermentation of rice idlis take place by  
(A) Bacteria and algae (B) Bacteria and yeast  
(C) Algae and protozoa (D) Virus and yeast
33. The number of nucleus present in zygote is  
(A) Zero (B) One  
(C) Two (D) Four
34. The species that are not naturally found anywhere but are found exclusively in a particular area are called  
(A) Endemic species (B) Vulnerable species  
(C) Endangered species (D) Rare species
35. A billion is a \_\_\_\_\_  
(A) Thousand million (B) Thousand billion  
(C) Thousand trillion (D) Hundred billion



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