



## N-SCORE-2022

CLASS - XI: - (Mental Ability, Biology, Physics & Chemistry)  
(Class X Moving to XI - PCB)

(SET-2)  
N-SCORE TEST

*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), Physics (Q. No. 8 to Q. No. 16), Chemistry (Q. No. 17 to Q. No. 25), and Biology (Q. No. 26 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)

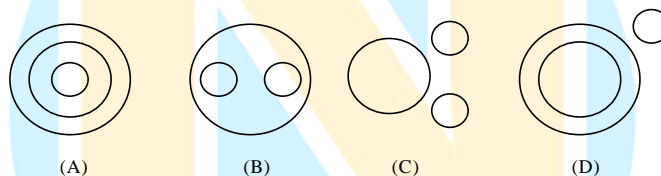
**Directions: A number series is given with one term missing. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series.**

1. 11, 13, 17, 19, 23, 25, ?  
 (A) 26 (B) 27  
 (C) 29 (D) 37

**Directions: Various terms of an alphabet series are given with one or more terms missing as shown by (?). Choose the missing terms out of the given alternatives.**

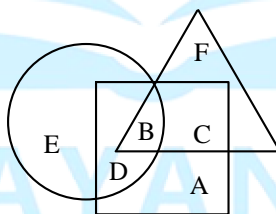
2. Z, U, Q, ?, L  
 (A) I (B) K  
 (C) M (D) N

**Directions: These three elements may or may not have some linkage. Each group of the elements may fit into one of the diagrams at (A), (B), (C) and (D). You have to indicate which groups of elements in each of the questions fit into which of the diagrams given below. The letter indicating the diagram is the answer.**



3. Table, Chair, Furniture

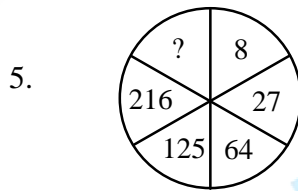
**Directions: In the following diagram, three classes of the population are represented by three figures. The triangle represents the school teachers, the square represents the married persons and the circle represents the persons living in joint families.**



4. Married persons living in joint families but not working as school teachers are represented by  
 (A) C (B) F  
 (C) D (D) A

Space for Rough Work

**Directions: Find the missing character in each of the following:**



- (A) 4 (B) 305  
(C) 343 (D) 729

**Directions: In the following questions, various terms of an alphabet series are given with one or more terms missing. Choose the missing terms out of the given alternatives.**

6. ADG, GJM, MPS, \_\_\_\_\_, YBE  
(A) SVX (B) SYX  
(C) SWX (D) SVY

**Direction: In the following questions, there is a certain relationship between two given words on one side of :: and one word is given on another side of :: while another word is to be found from the given alternatives, having the same relation with this word as the words of the given pair bear. Choose the correct alternative.**

7. Circle : Circumference :: Square : ?  
(A) Volume (B) Area  
(C) Diagonal (D) Perimeter

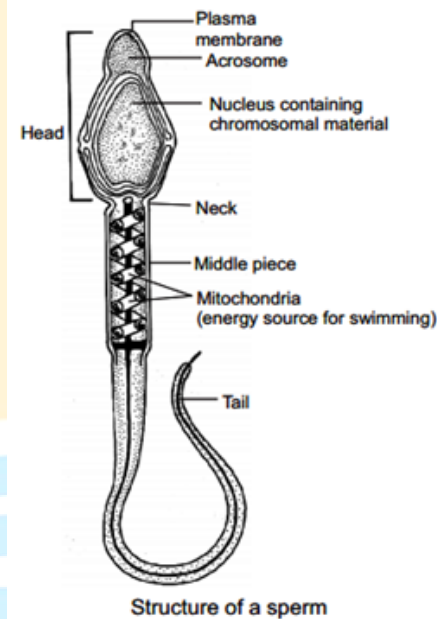
## BIOLOGY

8. Exchange of gases in lung alveoli occurs through:  
(A) Active transport (B) Osmosis  
(C) Simple diffusion (D) Passive transport
9. Air is breathed through:  
(A) Trachea → Lungs → Larynx → Pharynx → Alveoli  
(B) Nose → Larynx → Pharynx → Bronchus → Alveoli → Bronchioles  
(C) Nostrils → Pharynx → Larynx → Trachea → Bronchi → Bronchioles → Alveoli  
(D) Nose → Mouth → Lungs

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10. The pH of the pancreatic juice is about:  
(A) 6.4 (B) 8.4  
(C) 12.0 (D) 7.0
11. The enzymes responsible for the digestion of starch in food of man are present in:  
(A) The salivary and gastric secretions (B) The salivary and pancreatic secretions  
(C) The gastric and pancreatic secretions (D) The gastric and duodenal secretions
12. Which of the following hormones is responsible for both the milk ejection reflex and the fetal ejection reflex?  
(A) Oestrogen (B) Prolactin  
(C) Oxytocin (D) Relaxin
13. Which one of the label parts utilizes fructose as a source of energy?



- (A) Head (B) Tail (C) Acrosome (D) Middle piece

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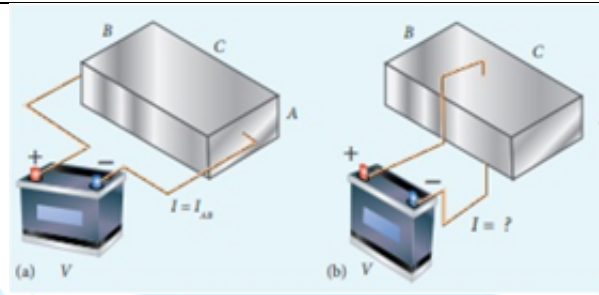
14. Mendelian ratio 9:3:3:1 is due to:  
(A) Law of segregation (B) Law of purity of gametes  
(C) Law of independent assortment (D) Law of unit characters
15. The first event in photosynthesis is:  
(A) Synthesis of ATP  
(B) Photo excitation of chlorophyll and ejection of an electron  
(C) Photolysis of water  
(D) Release of oxygen
16. Photophosphorylation is a process in which:  
(A) Light energy is converted into chemical energy through production of ATP  
(B) NADP is formed  
(C) Chemical energy is used to produce ATP  
(D) CO<sub>2</sub> is reduced to carbohydrate
17. The role of chlorophyll in photosynthesis is:  
(A) Absorption of CO<sub>2</sub>  
(B) Absorption of light  
(C) Absorption of light and photochemical decomposition of water  
(D) Absorption of water

### PHYSICS

18. The equivalent resistance, when resistors  $2\Omega$ ,  $4\Omega$ , and  $6\Omega$  are connected in parallel is  
(A)  $15/12\ \Omega$  (B)  $12/11\ \Omega$  (C)  $11/12\ \Omega$  (D)  $13/12\ \Omega$
19. The resistance of a wire of length  $l$  m and area of cross-section 'A' is  $x$  ohm. If the wire is stretched to double its length, its resistance would become:  
(A)  $2x$  ohm (B)  $0.5x$  ohm (C)  $4x$  ohm (D)  $6x$  ohm
20. Consider a rectangular block of metal of height A, width B, and length C as shown in the figure. If a potential difference of V is applied between the two faces A and B of the block (figure (a)), the current  $I_{AB}$  is observed. Find the current  $I_{BC}$  that flows if the same potential difference V is applied between the two faces B and C of the block (figure (b)).

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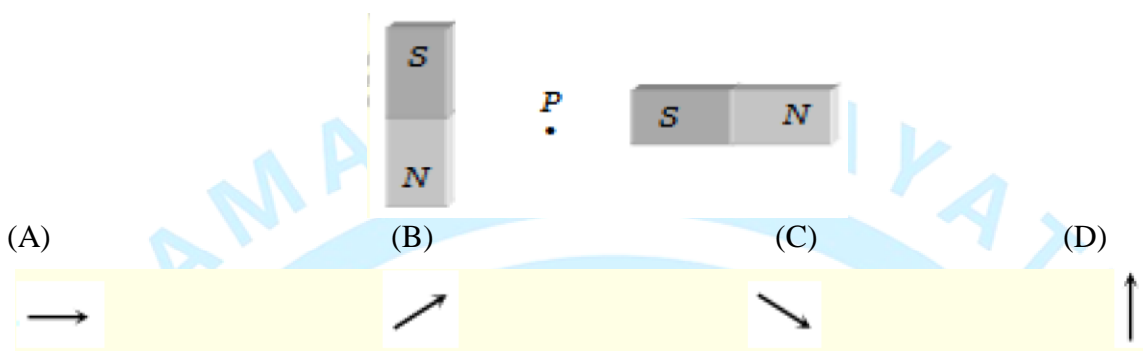


- (A)  $I_{BC} < I_{AB}$       (B)  $I_{BC} > I_{AB}$       (C)  $I_{BC} = I_{AB}$       (D) None of these

21. The back surfaces of automobile headlights are curved  
 A) Because inverted, real images of filaments shine brighter  
 B) To concentrate light in one direction  
 C) For structural reasons not related to optics  
 D) To get multiple images of the filament
22. If the absolute refractive indices of water, benzene and sapphire are 1.33, 1.50, and 1.77, respectively, then which medium pair has the maximum relative refractive index?  
 (A) Sapphire relative to benzene      (B) Sapphire relative to water  
 (C) Benzene relative to water      (D) Water relative to benzene
23. When an iron piece is placed in a magnetic field  
 (A) The magnetic lines of force will bend away from their usual paths in order to go away from the piece  
 (B) The magnetic lines of force will bend away from their usual paths in order to pass through the piece  
 (C) The magnetic field will not be affected  
 (D) The iron piece will break

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24. Two equal bar magnets are kept as shown in the figure. The direction of the resultant magnetic field, indicated by the arrowhead at that point P is (approximately)



25. A ray of light strikes a transparent rectangular slab of refractive index  $\sqrt{2}$  at an angle of incidence of  $45^\circ$ . The angle between the reflected and refracted rays is  
 (A)  $75^\circ$  (B)  $90^\circ$  (C)  $105^\circ$  (D)  $120^\circ$

26. Variable focal length of the eye is responsible for:  
 (A) Accommodation of eye (B) Persistence of vision  
 (C) Color blindness (D) Least distance of distinct vision

### CHEMISTRY

27. A balanced chemical equation does not tell about changes such as  
 (A) Precipitation  
 (B) Change in colour  
 (C) Evolution of heat, light, and sound energy  
 (D) All of the above

28. The chemical combination reactions are also known as  
 (A) Analysis reaction (B) Decomposition reaction  
 (C) Catalytic reaction (D) Synthesis reaction

29. Which of the following oxide is neutral?  
 (A) CO (B)  $\text{SnO}_2$   
 (C) ZnO (D)  $\text{SiO}_2$

30. The difference of water molecules in gypsum and plaster of paris is  
 (A)  $5/2$  (B) 2  
 (C)  $1/2$  (D)  $3/2$

Space for Rough Work

31. Which gas is released when a metal reacts with an acid?  
(A)  $\text{Cl}_2$  (B)  $\text{O}_2$   
(C)  $\text{H}_2$  (D)  $\text{SO}_2$
32. An Alkyne has 4 hydrogen atoms. What will be the number of carbon atoms in it?  
(A) Two (B) Three  
(C) Four (D) Five
33.  $\begin{array}{c} \text{O} \\ || \\ \text{---C---} \end{array}$  Group is present in  
(A) Ketones only (B) Aldehydes only  
(C) Carboxylic acid only (D) All of these
34. Name the neutral atom in the periodic table which has the same number of electrons as  $\text{K}^+$  and  $\text{Cl}^-$   
(A) Helium (B) Argon  
(C) Neon (D) Krypton
35. An element X has a mass number 40 and contains 21 neutrons in its atom to which group of the periodic table does it belong?  
(A) Group 1 (B) Group 4  
(C) Group 2 (D) Group 3



THE NARAYANA GROUP

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