

**SYLLABUS**

**Section – 1 :** Verbal and Non-Verbal Reasoning.

**Section – 2 :** Crop Production and Management, Microorganisms, Synthetic Fibres and Plastics, Metals and Non-metals, Coal and Petroleum, Combustion and Flame, Conservation of Plants and Animals, Cell, Reproduction and Endocrine System, Force and Pressure, Friction, Sound, Chemical Effects of Electric Current, Some Natural Phenomena, Light, Stars and the Solar System, Pollution of Air and Water.

**Section – 3 :** Higher Order Thinking Questions - Syllabus as per Section – 2.

Total Questions : 50

Time : 1 hr.

PATTERN & MARKING SCHEME			
Section	(1) Logical Reasoning	(2) Science	(3) Achievers Section
No. of Questions	10	35	5
Marks per Ques.	1	1	3

**LOGICAL REASONING**

1. A dice has numbers 1, 2, 3, 4, 5 and 6 on its faces. Four positions of the dice are as shown below. The number on the face opposite to the face with number 2 is \_\_\_\_.



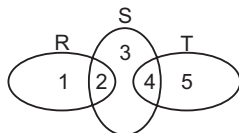
- (A) 6  
(B) 5  
(C) 4  
(D) 1

2. Find the number of triangles in the given figure.



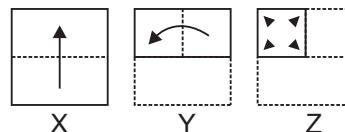
- (A) 12  
(B) 13  
(C) 16  
(D) 10





3. In the given diagram, R represents businessmen, S represents rich men and T represents honest men. Which number will represent honest rich men ?



- (A) 2  
(B) 3  
(C) 5  
(D) 4

4. There is a set of three figures X, Y and Z, showing a sequence in which a paper is folded. Fig.(Z) shows the manner in which the folded paper has been cut. Select a figure from the options which would most closely resemble the unfolded form of Fig.(Z).



- (A)  (B)   
(C)  (D) 

5. In a certain code language, if CKT is written as ENX, then how will BMP be written in that code language?

- (A) PDS  
(B) DPT  
(C) CPS  
(D) DTP

**SCIENCE**

6. What is the major difference between a human skin cell and a human egg cell?  
(A) The egg cell has twice as many chromosomes as the skin cell.  
(B) The egg cell has half as many chromosomes as the skin cell.  
(C) The skin cell has no genetic information in its chromosomes.  
(D) Only the egg cell has a nucleus.
7. Arrange the following planets in increasing order of time required to complete one revolution around Sun.  
(i) Earth (ii) Uranus  
(iii) Mars (iv) Jupiter  
(A) (i), (ii), (iii), (iv)  
(B) (i), (iii), (iv), (ii)  
(C) (iv), (iii), (ii), (i)  
(D) (ii), (iii), (i), (iv)

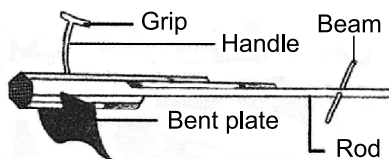
8. When a glass rod is rubbed with a piece of silk cloth
- Both cloth and the rod acquire positive charge
  - Rod becomes positively charged while the cloth has a negative charge
  - Rod becomes negatively charged while the cloth has a positive charge
  - Both cloth and the rod acquire negative charge.

9. Which of the following exert pressure?
- Solids
  - Liquids
  - Gases
  - All of these

10. The oxide of sulphur (which can be further oxidised) when dissolved in water gives
- $H_2S$
  - $H_2SO_3$
  - $H_2SO_4$
  - $H_2$

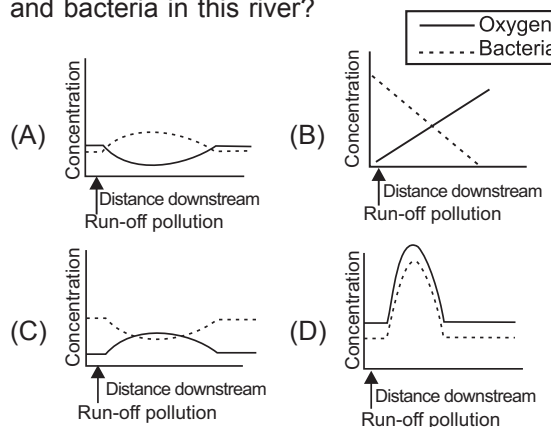
11. Which of the following represents an incorrect match?
- Coal gas – Methane + Hydrogen
  - LPG – Propane + Butane
  - Producer gas – Carbon + Nitrogen
  - CNG – Compressed methane

12. Identify the given agricultural tool.



- Combine
- Hoe
- Cultivator
- Seed drill

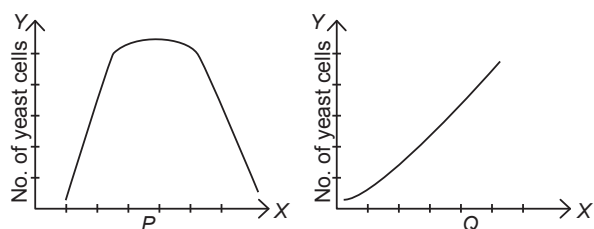
13. Run-off pollution of a particular river resulted from overuse of chemical fertilizers by a nearby farm. Which of the following graphs correctly shows the resulting changes in levels of oxygen and bacteria in this river?



### ACHIEVERS SECTION

14. Anuj performed an experiment to compare the strength of different fibres. He arranged the set-up as shown in the figure : Arrange the threads in order of their increasing strength.
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- Nylon < Silk < Cotton
  - Silk < Cotton < Nylon
  - Cotton < Nylon < Silk
  - Cotton < Silk < Nylon

15. Swati was studying growth of yeast under different conditions of environment. She plotted two graphs but forgot to label the X axes of the graphs. Analyse the given graphs and select the correct option.



- The environmental factor studied in graph P can be pH and in graph Q can be temperature.
- The environmental factor studied in graph P can be temperature and in graph Q can be sugar concentration in medium.
- The environmental factor studied in graph P can be temperature and in graph Q can be pH.
- The environmental factor studied in the graph P can be sugar concentration in medium and in graph Q can be pH.

### ANSWERS

1. (B) 2. (C) 3. (D) 4. (D) 5. (B) 6. (B) 7. (B) 8. (B) 9. (D) 10. (B) 11. (C) 12. (B) 13. (A) 14. (D) 15. (B)