



**SOF NATIONAL  
SCIENCE OLYMPIAD**

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

**SYLLABUS**

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

**Section – 2 :** Motion and Measurement of Distances, Light, Shadows and Reflections, Electricity and Circuits, Fun with Magnets, Our Environment (Water, Air Around us, Garbage in Garbage out), Sorting and Separation of Materials, Changes Around Us, The World of Living (Characteristics of Living Beings, Parts of Plants, Body Movements in Animals and Adaptation), Food and its Components, Fibre to Fabric.

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

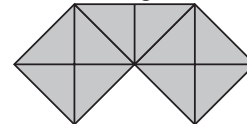
**LOGICAL REASONING**

1. If A stands for addition and B stands for subtraction, then  $4A3B3A2$  equals \_\_\_\_\_.  
(A) 2 (B) 4  
(C) 6 (D) 8

2. Pia walks a distance of 4 metres towards South. Then she turns to the left and walks 3 metres. After this she turns to the right and walks 4 metres. In which direction is she facing now?  
(A) North-East (B) South  
(C) North (D) South-West

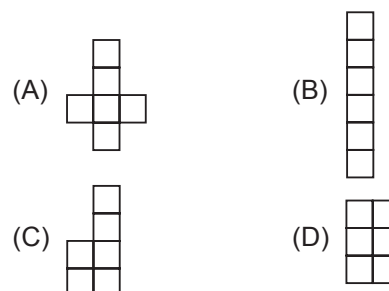
3. Select a figure from the options in which figure (X) is exactly embedded as one of its parts.
- (A) (B) (C) (D) Figure (X)

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



- (A) 25 (B) 20  
(C) 21 (D) 26

5. Which net, when folded, will cover all the faces of a cube?



**SCIENCE**

6. Read the given statements and select the correct option.

**Statement 1 :** The process of separation of lint and seeds from harvested cotton fibres is called ginning.

**Statement 2 :** Process of making yarn from fibres is called spinning.

- (A) Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.  
(B) Both statements 1 and 2 are true but statement 2 is not the correct explanation of statement 1.

- (C) Statement 1 is true and statement 2 is false.  
(D) Both statements 1 and 2 are false.

7. We use different parts of different plants as food source. Refer to the labelled figure of a typical plant and select the option that correctly matches an edible plant part with its example.

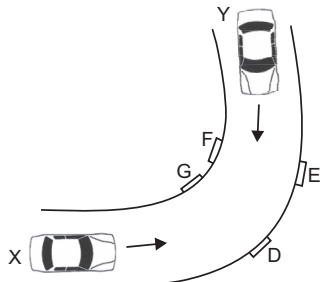


- (A) P - Broccoli, Q - Cinnamon  
(B) R - Cabbage, S - Chilli  
(C) T - Cabbage, U - Spinach  
(D) Q - Clove, T - Lettuce

8. What adaptation does the given organism show?  
 (A) Strong hind leg muscles  
 (B) Hollow bones  
 (C) Webbed feet  
 (D) Both (B) and (C)



9. Two cars X and Y are travelling in opposite directions on a narrow road as shown here.

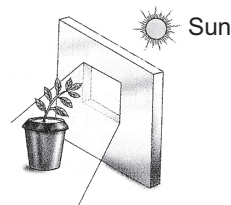


Four possible positions for placing a mirror are labelled D, E, F and G. In order to avoid an accident, a mirror could be placed at position \_\_\_\_\_.

- (A) E (B) D  
 (C) G (D) F
10. Select an incorrect reason for separating components of a mixture.  
 (A) To separate two or more different but useful components  
 (B) To remove undesirable and useless components

- (C) To remove pure or harmless components  
 (D) To obtain pure sample of a substance

11. The given figure shows an example of \_\_\_\_\_.



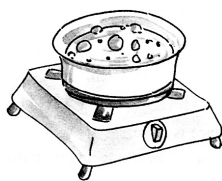
- (A) Phototropism (B) Geotropism  
 (C) Autotropism (D) Photosynthesis

12. Electric switch is a device which is used in  
 (A) Making of an electric circuit  
 (B) Breaking of an electric circuit  
 (C) Both (A) and (B)  
 (D) Neither (A) nor (B)

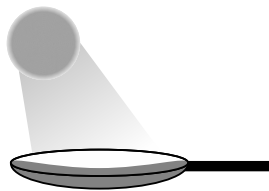
13. We can recycle water by \_\_\_\_\_.  
 (A) Reusing the water from washing clothes to cook  
 (B) Discharging factory waste into canals and seas  
 (C) Discharging sewage and waste materials into the ocean  
 (D) None of these

### ACHIEVERS SECTION

14. Observe the given processes 1 and 2 carefully.



Water boiling in a pan  
 (Process 1)



Water kept in an open  
 shallow pan placed in  
 the sun  
 (Process 2)

Which of the following statements are correct?

- I. Bubbles are formed in process 1 while no bubble formation takes place in process 2.  
 II. Process 1 is slow while process 2 is fast.  
 III. Process 1 occurs at 100°C only while process 2 can occur at any temperature.  
 (A) I and II only (B) II and III only  
 (C) I and III only (D) I, II and III

15. Given below are the four food components (*P-S*) and their corresponding sources.

*P* – Meat, Fish, Egg

*Q* – Butter, Ghee, Margarine

*R* – Bread, Biscuit, Potato

*S* – Amla, Tomato, Orange

Select the incorrect statement regarding them.

- (A) Deficiency of *P* causes marasmus in children whereas deficiency of *Q* causes kwashiorkor in adults.  
 (B) Among *P*, *Q*, *R* and *S*, 1 gram of *Q* produces the maximum energy.  
 (C) Excess of *R* gets stored in body cells and is used for production of energy whenever required.  
 (D) Deficiency of *S* leads to a disease in which gums swell up and bleed.

### ANSWERS

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