

# MOTION TALENT SEARCH EXAMINATION

## SESSION - 2024-25

CLASS : 7<sup>th</sup>

### QUESTION PAPER

CANDIDATE'S NAME : \_\_\_\_\_

DURATION: 60 MINUTES

TOTAL QUESTIONS: 31

MAXIMUM MARKS : 124

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| <p>1. The paper consists of five sections :- Physics, Chemistry, Biology, Mathematics and Mental Ability.</p> <p>2. All questions are compulsory and carry four marks each. One mark will be deducted for each wrong answer.</p> | <p>3. There is only one correct answer hence mark one choice only.</p> <p>4. Darken your choice in OMR Sheet with Blue/ Black Ball Point Pen.</p> <p>5. Return the OMR Sheet to the invigilator at the end of the exam.</p> |
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#### PHYSICS

##### Comprehension/Passage (Q.1 to 3):

For a non-point source of light (i.e. an extended source of light), the shadow of an object has two parts, namely, the umbra and the penumbra. The umbra is the darkest inner part of the shadow where no light falls at all. The penumbra is the part which surrounds the umbra. Some rays of light fall on this region and partially illuminate it. Thus, the penumbra is called the region of partial darkness.

- Light causes the sensation of:  
(A) Vision (B) Sight  
(C) Both (A) & (B) (D) None
- The colour of a shadow is:  
(A) Always black and white  
(B) Only black  
(C) Only white  
(D) Same as that of object
- Light travels in:  
(A) Straight line (B) Curved line  
(C) Circle (D) None of these

##### Comprehension/Passage (Q.4 to 6):

The path of flow of electricity from one terminal of the cell and returning to the other is called an electrical circuit.

An electric circuit through which no electric current flows is known as open electric circuit. The electric circuit will be open circuit if the plug of the key is taken out or if the connecting wires break from any point.

An electric circuit through which electric current flows continuously is known as closed circuit.

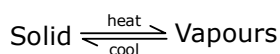
For flow of electricity, the circuit must be made up of conductors. Insulators in the path of electrical circuits makes the circuit incomplete.

- The switch is in the OFF state. It means that:  
(A) The circuit is open  
(B) The circuit is closed  
(C) There is no key in the circuit  
(D) There is no battery in the circuit
- While an electrician repairs an electric switch, he wears rubber gloves to:  
(A) Just for fun  
(B) Save electricity  
(C) Prevent him from shock  
(D) All of these
- A device which is used to stop supply of current in the circuit is called:  
(A) Battery (B) Circuit  
(C) Wire (D) Switch

## CHEMISTRY

### Comprehension/Passage (Q.7 to 9):

The process of sublimation is used to separate those solids from their mixture which directly pass to vapour state upon heating without passing through the liquid state and the vapours on cooling give back the solid again.



The mixture is taken in a China dish and is covered by a glass funnel and heated to separate the sublimate.

7. Which of the following undergoes sublimation?  
(A) Iodine (B) Chlorine  
(C) Sulphur (D) Iron
8. A mixture of salt and camphor is heated. The fumes which are evolved will be of:  
(A) Salt  
(B) Camphor  
(C) Both (A) & (B)  
(D) No vapours are evolved
9. What happens when a mixture containing a sublimate is heated?  
(A) Sublimate is left in China dish  
(B) Non-sublimate is left in China dish  
(C) Sublimate is deposited on the outer end of funnel  
(D) Non-sublimate is deposited on the inner cold surface of the funnel

### Comprehension/Passage (Q.10 to 12):

There are some changes that can be reversed. This means that it is possible to get the new object back into its original form. Such changes are called reversible changes. What happens to the shape of a rubber ball when you squeeze it and then release it? you must have noticed that it quickly regains its original shape. Similarly, when ice cubes are kept outside the freezer, they melt and turn into water. In a reversible change, the internal structure of the substance (which the object is made of) does not usually change. However, there are some changes which cannot be reversed. These altered forms of substances cannot regain their original forms. Such changes are called irreversible changes. In this type of change, a new substance is formed because of the changes in the molecular arrangements that make up the substance. The internal structure has changed at the molecular level.

10. Mark the changes which are reversible in nature.  
(i) Melting of ice candy  
(ii) Dissolving sugar in water  
(iii) Cooking of food  
(iv) Souring of milk  
(A) (i) and (ii) only  
(B) (iii) and (iv) only  
(C) (i), (ii) and (iii) only  
(D) (ii) and (iii) only
11. Which of the following represents an irreversible change?  
(A) Sharpening of a pencil  
(B) Burning of a candle  
(C) Ripening of a mango  
(D) All of these
12. Plaster of Paris becomes hard on adding water to it. Why is it called an irreversible change?  
(A) The structure and composition of plaster of paris is changed  
(B) It cannot be converted back to powder again  
(C) Both (A) and (B)  
(D) None of the above

## BIOLOGY

### Comprehension/Passage (Q.13 to 15):

Most of the ingredients that we use in our food come from plants and animals. Plants are the sources of food ingredients like cereals, pulses, vegetables, fruits, sugar, oil, spices, etc. Animals provide us with milk and milk products (cheese, curd, butter, cream, ghee, meat, eggs, etc.).

13. The plant products used as ingredients for making tea are:  
(A) sugar and tea leaves only  
(B) tea leaves and water only  
(C) salt and leaves of tea plant only  
(D) sugar, tea leaves, water and milk
14. Which of these food is obtained from plants?  
(A) Honey (B) Curd  
(C) Rice (D) Egg
15. Which of these food is obtained from animals?  
(A) Pulses (B) Cheese  
(C) Cereals (D) Sugar

## Comprehension/Passage (Q.16 to 18):

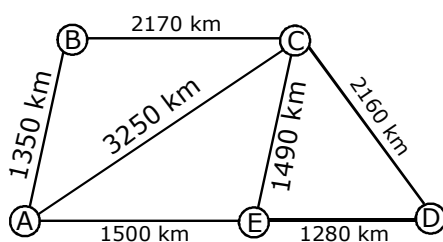
Flower is the most attractive part of flowering plants. Flowers are very important plant parts as they help plants to produce more of their kinds. In different plants, flowers vary in shape, size and colour. A typical flower consists of a stalk called pedicel which joins it to the stem. The uppermost part of pedicel is wider and is known as thalamus. On the top of thalamus, the different parts of flower are arranged in four whorls.

16. Select the incorrect statement.  
 (A) All the flowers possess sepals, petals, stamens and carpels  
 (B) The number of sepals is equal to the number of petals in all the flowers  
 (C) Stamens are always less than the pistils in a flower  
 (D) All of these
17. Which of these is the male part of a flower?  
 (A) Sepal (B) Petal  
 (C) Stamen (D) Pistil
18. Which of the following parts turn into a fruit?  
 (A) Thalamus (B) Anther  
 (C) Ovary (D) Ovule

## MATHEMATICS

## Comprehension/Passage (Q.19 to 21):

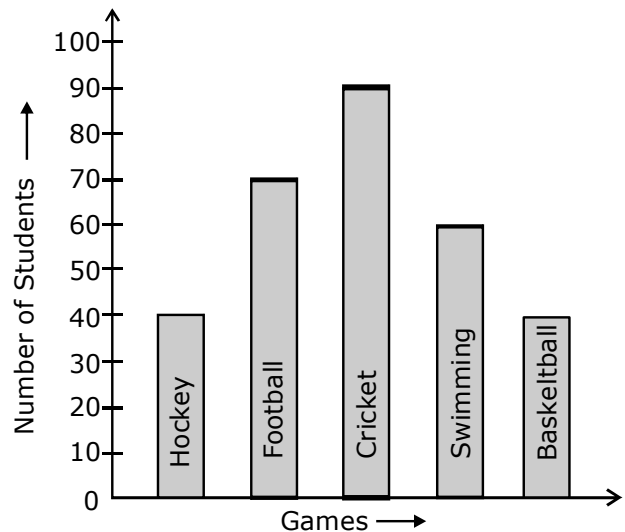
In the adjacent figure, find the distances in kilometres.



19. From A to D through E.  
 (A) 2990 km (B) 2160 km  
 (C) 2780 km (D) 2170 km
20. From C to B through E and A.  
 (A) 2170 km (B) 4340 km  
 (C) 4600 km (D) 2160 km
21. From A to B through E, D and C.  
 (A) 7000 km (B) 6850 km  
 (C) 3250 km (D) 7110 km

## Comprehension/Passage (Q.22 to 24):

Read the bar graph given below and answer the questions that follow.



22. How many students play cricket?  
 (A) 90 (B) 95  
 (C) 94 (D) 100
23. How many more number of students play football than basketball?  
 (A) 30 (B) 40  
 (C) 45 (D) 50
24. The ratio of number of students playing hockey and swimming is:  
 (A) 40:70 (B) 1:1  
 (C) 2:5 (D) 2:3

## MENTAL ABILITY

## Comprehension/Passage (Q.25 to 27):

Six persons P, Q, R, S, T and U are sitting in a circle facing on another front to front. P is sitting in front of Q. Q is sitting to the right of T and left of R. P is to the left of U and right of S.

25. Who is sitting opposite to R ?  
 (A) P (B) Q  
 (C) S (D) U
26. Who is sitting opposite to S ?  
 (A) U (B) T  
 (C) R (D) can't be determined
27. Who is sitting between P and R ?  
 (A) S (B) T  
 (C) U (D) Q

## Comprehension/Passage (Q.28 to 31) :

Each of the following questions is based on the following alphabet series:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

28. Which letter will be sixth to the left of the nineteenth letter from the right end of the alphabet?  
 (A) M (B) N  
 (C) X (D) None of these
29. Which of the following is the twelfth letter to the left of the seventeenth letter from the left end?  
 (A) E (B) F  
 (C) G (D) T
30. Which letter is seventh to the right of the eighteenth letter from the right end of the alphabet?  
 (A) K (B) O  
 (C) P (D) R
31. If the above alphabet are divided into two equal halves - from A to M and N to Z, which letter in the later half would be corresponding to the letter J?  
 (A) Q (B) V  
 (C) X (D) W