MOTION TALENT SEARCH EXAMINATION
SESSION - 2024-25

CLASS : 6th

QUESTION PAPER

CANDIDATE'S NAME : _____

DURATION: 60 MINUTES **TOTAL QUESTIONS: 31** **MAXIMUM MARKS : 124**

1. The paper consists of five sections :- Physics, Chemistry, Biology, Mathematics and Mental Ability.

2. All questions are compulsory and carry four marks each. One mark will be dedcuted for each wrong answer.

3. There is only one correct answer hence mark one choice only.

4. Darken your choice in OMR Sheet with Blue/ Black Ball Point Pen.

5. Return the OMR Sheet to the invigilator at the end of the exam.

PHYSICS

Comprehension/Passage (Q.1 to 3):

Every machine makes some kind of adjustments that helps you in some way. Recall that work is equal to force times distance. Some machines decrease the force required to do a task. A car jack is an example. If you try to lift a car without a machine, you wouldn't be able to supply enough force. But when you use a car jack, the task becomes much easier. The jac decreases the required force by increasing the distance over which the force is applied. When you screw on the lid, you apply the force over more distance as you turn and turn the lid, but you don't have to use much force.

1. Which of the following is not a simple machine?
(A) Pulley (B) Lever
(C) Wedge (D) Automobile

2. A machine can never:
(A) multiply force
(B) change direction of applied force
(C) multiply movement
(D) multiply energy

3. Suppose you twist the lid of a pickle jar to tighten it. What simple machine are you using?
(A) Pulley (B) Wheel and axle
(C) Screw (D) Lever

Comprehension/Passage (Q.4 to 6):

Stars are heavenly bodies that are extremely hot and give out light of their own. Stars are mainly made up of hydrogen. Stars appear to be moving in the sky from east to west due to the rotation of the Earth on its axis from west to east.

Stars twinkle because we look up at the stars through air that is constantly blowing about, so we receive their light as unsteady and thus they seem to twinkle.

Sun appears bigger to us because it is nearest to the Earth. The stars appear to us like points, because they are very far away from the Earth.

The star nearest to the Earth is the Sun itself. The next nearest star is the Alpha Centaury or Proxima Centaury.

4. Which is the nearest Star to the Earth?
(A) Sun (B) Moon
(C) Dhruv (D) None of these

5. Stars appear motionless because:
(A) They move with the same speed as that of the Earth
(B) They do not move at all
(C) They are very far away from the Earth
(D) Their speed is extremely slow

6. A group of stars which are arranged in a pattern resembling some recognizable figure is called a:
(A) Universe (B) Constellation
(C) Galaxy (D) None of these

CHEMISTRY

Comprehension/Passage (Q.7 to 9):

There are many substances which dissolve in water. Those substances which dissolve completely in water, are called soluble substances. Example : Sugar, salt, squash, etc. while substances which do not dissolve in water, are called insoluble substances. Example : chalk, sand, oil, etc., are insoluble substances.

The substance which is dissolved is called a solute and the substance in which the solute dissolves is called a solvent. The mixture of a solute and solvent forms the solution.

Water is a universal solvent as many things get dissolve in water.

7. _____ is a soluble impurity and _____ is an insoluble impurity.
(A) Salt, sand (B) Sand, mud
(C) Salt, sugar (D) None of these

8. Water is called universal solvent because -
(A) It can dissolve all the liquids in the universe
(B) It dissolve all the gases in the universe
(C) It dissolve large number of solids, liquids and gases
(D) None of these

9. When you dissolve a teaspoon full of salt in a glass of water, a salt solution is formed. Here, salt is the _____ and water is the _____.
(A) solvent, solvent (B) solvent, solute
(C) solute, solvent (D) solute, solute

Comprehension/Passage (Q.10 to 12):

Troposphere is the lowest layer of the atmosphere. It extends to a height of about 11 km above the Earth's surface. All weather phenomena, such as clouds, fog, rainfall, snowfall, storms and lightening occur here.

Stratosphere lies above the troposphere and it extends to a height of about 50km above the Earth's surface. The stratosphere contains Ozone, which is at the height of 30 Km, absorbs the harmful ultraviolet radiation of the Sun. Aeroplanes flies in the lower stratosphere to avoid disturbance of troposphere.

10. The atmospheric layer nearest the Earth's surface is the
(A) Stratosphere (B) Ionosphere
(C) Troposphere (D) Mesosphere

11. The ozone layer protects us from the
(A) infrared radiations
(B) ultraviolet radiations
(C) visible light
(D) none of these

12. The layer of earth in which clouds are formed is the
(A) Troposphere (B) Ionosphere
(C) Stratosphere (D) Lithosphere

BIOLOGY

Comprehension/Passage (Q.13 to 15):

The process of taking oxygen into the cells, using it for energy release & then eliminating the waste products like CO_2 & H_2O is known as respiration. It is a very slow process.

The process of taking in O_2 rich air into the lungs & giving out carbon dioxide rich air is knwon as breathing.

13. When you breathe in air, you bring oxygen into your lungs and blow out:
(A) Carbon dioxide (B) Carbon monoxide
(C) Oxygen (D) Hydrogen

14. _____ is not a good habit for lungs.
(A) Singing (B) Smoking
(C) Exercise (D) Yelling

15. How many lungs do humans have?
(A) Four lungs (B) One lung
(C) Three lungs (D) A pair of lungs

Comprehension/Passage (Q.16 to 18):

All the living things need energy to do work and for growth and repair of the body. Our body uses this energy for doing work. We know the importance of food, it is required for growth, maintenance of the body and also protects us from diseases.

We eat a large variety of foods, and people from different parts of our country have different food habits. Some people prefer rice, others take chapatis or meat and fish.

All living things need food in order to stay alive. The food that we eat provides energy to our body and helps in its growth. Food is edible material which provides energy, many nutrients and substances for the vital processes of an organism.

16. A substance needed by the body for growth, energy, repair and maintenance is called a _____.

(A) nutrient (B) carbohydrate
(C) calorie (D) fatty acid

17. All of the following are nutrients found in food except _____.

(A) plastic (B) proteins
(C) carbohydrates (D) vitamins

18. Fruits and vegetables are usually considered as good sources of:

(A) protein
(B) vitamins & minerals
(C) unsaturated fats
(D) none of these

MATHEMATICS

Comprehension/Passage (Q.19 to 21):

There are seven distinct symbols (numerals) in Roman system. These symbols alongwith their values are given below :

Roma Numerals	Hindu-Arabi Numerals
I	1
V	5
X	10
L	50
C	100
D	500
M	1000

There is no zero in the Roman system. Also, this system has no place-value system.

19. LXV can be written in Hindu Arabic numeral as:

(A) 55 (B) 60
(C) 65 (D) 70

20. The Roman numeral for 79 is :

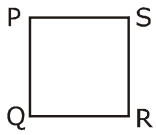
(A) LXXXI (B) XLXXIX
(C) LXXIX (D) LXXXIX

21. The Hindu Arabic numeral for XCVIII is :

(A) 90 (B) 98
(C) 99 (D) 89

Comprehension/Passage (Q.22 to 24):

A square is a simple closed figure made up of four equal line segments.



PQRS is square. Its perimeter can be found by adding the lengths of the four sides.

Perimeter of the square = PQ + QR + RS + SP
= PQ + PQ + PQ + PQ
(Because all the four sides are equal)

This is written in symbols as :

$p = 4 \times s$, Where p is the perimeter of a rectangle and s is length of side.

22. The side of the square whose perimeter is 28 cm, is :

(A) 14 cm (B) 10 cm
(C) 7 cm (D) 5 cm

23. Find area of a square whose side is 5m.

(A) 15 sqm (B) 25 sqm
(C) 20 sqm (D) 50 sqm

24. Find the perimeter of square whose side is 6 cm.

(A) 36 cm^2 (B) 42 cm^2
(C) 18 cm^2 (D) 24 cm^2

MENTAL ABILITY

Comprehension/Passage (Q.25 to 27):

Study the following information carefully and answer the given questions.

(i) B and E are good in Dramatics and Computer Science.

(ii) A and B are good in Computer Science and Physics.

(iii) A, D and C are good in Physics and History.

(iv) C and A are good in Physics and Mathematics.

(v) D and E are good in History and Dramatics.

25. Who is good in Physics, History and Dramatics?

(A) A (B) B
(C) D (D) E

26. Who is good in Physics, History and Mathematics, but not in Computer Science?

(A) A (B) B

(C) C (D) D

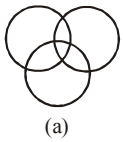
27. Who is good in Computer Science, History and Dramatics?

(A) A (B) B

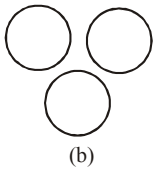
(C) C (D) E

Comprehension/Passage (Q.28 to 31) :

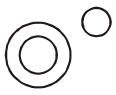
Each question below contains three groups of things. You have to choose from the following five numbered diagrams, the diagram that depicts the correct relationship among the three groups of things in each question.



(a)



(b)



(c)

(d)

(e)

28. Vegetable, Fruit, Brinjal

(A) a (B) b

(C) c (D) d

29. Door, Window, House

(A) a (B) b

(C) e (D) d

30. Honest, Intelligent, Poor

(A) a (B) b

(C) c (D) d

31. Car, Train, automobile

(A) a (B) b

(C) c (D) d