

BASIC SCIENCE

Standard: VIII

Time : 2 ¼ Hour
Total Score : 60

Instructions

- First 15 minutes is given as cool off time. This time is to be spent for reading and understanding the questions.
- Answer the questions based on instructions.
- Answer the questions according to score and time

PHYSICS

One score each for questions 1 to 3.

(1 X 3=3)

1. Analyse the relation between words in first pair and complete the second

Length : m

Mass :

(1)

2. Motion of four different objects are stated below. Choose the odd one.

Also state the reason for choosing it.

(A train starting from the station, A stone thrown up, The motion of a ball rolling down a hill, The motion of a coconut falling from a coconut tree)

(1)

3. Which among the given units is in the correct form?

(metre/s², m per s², m/s², metre per s²)

(1)

Answer any **FOUR** questions from 4 to 8. Each question carries 2 score.

(4 x 2 = 8)

4. Classify the following situations as contact force and non-contact force

a. A magnet attracting a nail *no*

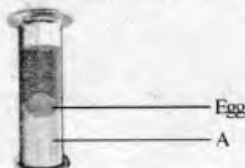
b. Pushing a wall *co*

c. An apple falling from an apple tree *no*

d. A plastic pen rubbed on hair attracts pieces of paper *no*

(2)

5. Diagram of an experiment done using brine solution, Kerosene and egg is given below.



a. Which liquid is labelled as 'A'?

(1)

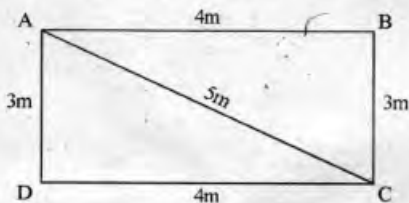
b. Why do the egg remains in the position as in the above diagram?

(1)

6. You might have done the activity for measuring the diameter of a sphere.
Write down the steps involved in the above activity in correct sequence. (2)
7. Write down the following distance in the ascending order of their values
2 m, 5 cm, 1 km, 10 mm (2)
8. a) Choose the appropriate reference body from the given list so that a passenger sitting in a moving train can said to be in motion.
(train, Another passenger next to him in the train, objects outside the train) (1)
- b) What is meant by the term 'reference body'? (1)

Answer any **THREE** questions from 9 to 12. Each question carries 3 score. (3 x 3 = 9)

9. A child starts from A and reaches C through B in 1s.



- a) What is the total distance travelled by the child? (1)
- b) Calculate the speed of the child? (1)
- c) Another child starts from A and reaches C along ADC.
Find out the displacements of each and compare. (1)

10. Match the items in column A with Column B and C

A	B	C
Time	Vector	m/s
Acceleration	speedometer	s
Speed	Sundial	m/s ²

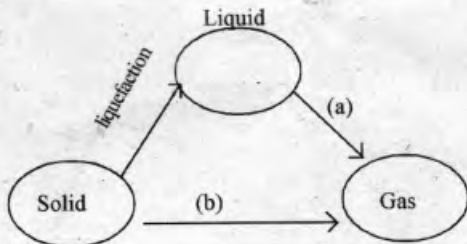
11. Carelessness on the part of drivers as well as pedestrians is the primary reason for road accidents. Write any three precautions to be taken by the pedestrians to avoid road accidents. (3)
12. State whether the given statements are right or wrong. If wrong correct them.
- a) When a body travels along a straight line in the same direction, the magnitude of its distance and displacement will be different (1)
- b) SI units are unified units (1)
- c) Light travels through vacuum with non uniform velocity (1)

Attempt any three of the following question from 1-4 (score 1 each)

1. Which method is used to separate the components of a mixture with slight variation in their boiling points
(Distillation, Chromatography, Fractional distillation, Sublimation)
2. Which among the following does not need any space to occupy
a) Wooden block b) Air c) Light d) Kerosene
3. Choose the correct statement from the following
 - i) The symbol of potassium is P.
 - ii) Sodium is a monoatomic molecule.
 - iii) Carbon dioxide is a mixture.
 - iv) The symbol of the element Titanium is derived from the name of a country.
4. Select the element which got its name from its colour.
a) Curium b) Indium c) Europium d) Polonium

Attempt any three of the following questions from 5-9 (score 2 each)

5.



The figure shows the changes of states. Analyse the figure and find the names of the process (a) and (b)

6. Fill in the blanks

Element	Basis of naming	Symbol
....(A).....	English name	Ca
Copper	Latin name(B).....

7. The Apparatus shown in the figure is used to separate the components from a mixture.



- Name the apparatus shown here.
- From the given mixtures which one can be separated by using this apparatus.
(Muddy water, Ammonium chloride and sand, Mixture of ethanol and methanol, Mixture of water and kerosene)

8. Oxygen is a diatomic molecule. By using the symbol of Oxygen how can you represent two oxygen atoms and one oxygen molecule?
9. By using the given materials, design an experiment to show that air needs space to occupy. [Materials: Beakers (large and small), Water]

Attempt any three of the following questions from 10-13 (score 3 each)

10. Complete the table.

	change of solid into liquid	change of gas into liquid	change of liquid into solid
Ability for movement of particles(a).....	Decreases(b).....
Space between the particles	Increases(c).....(d).....
Energy of particles(e).....(f).....	Decreases

11. Analyse the given molecules and answer the following questions



- Find the number of molecules in A and B
 - Find the total number of atoms in 7NH_3
 - Find the total number of Oxygen atoms in $5\text{H}_2\text{O}$
12. Black ink in a sketch pen is a mixture.
- Which method is used to separate components from this mixture?
 - Write the procedure for this experiment.
 - Suggest another example where this method is used to separate the compounds of a mixture.
13. $4\text{Na} + \text{O}_2 \rightarrow 2\text{Na}_2\text{O}$
- Write the names of the reactants present in this chemical reaction.
 - Find out monoatomic and diatomic elements in this equation.
 - Which is the compound present in this chemical equation?

BIOLOGY

Time : 40 Minutes

Score : 20

Answer all questions from 1 to 3. Each question carries 1 score. (3 x 1 = 3)

1. Scientists who made remarkable contributions in cell Biology are given below.

Who among them proposed 'cell theory'?

(i) Robert Hooke

(ii) Rudolf Virchow

(iii) M.J. Schleiden

(iv) Theodor Schwann

(a) i, iii (b) iii, iv (c) i, iv (d) i, ii

2. When mango ripens, its colour changes to yellow. What is the reason behind this ?

3. Function of an animal tissue is given in the box.

Enables to respond identifying the changes inside and outside the body

- Identify and write the name of the animal tissue.

Answer any 4 questions from 4 to 9. Each question carries 2 score. (4 x 2 = 8)

4. Analyse the given indicators and complete the table.

Function and peculiarities	Cell Organelle
• Centre of protein synthesis	(a)
• (b)	Mitochondrion
• Collects cell secretions like enzymes, hormones, mucous etc. in small vesicles.	(c)
• (d)	Vacuole

5.

Bacteria, Amoeba, Frog, Mycoplasma, Mango tree

(a) From the organisms given in the box, find out those **without nucleus**.

(b) Name the category of organisms to which they belong.

6. From the following statements, select those related to sclerenchyma.

- a) Composed of cells with simplest structure. b) Composed of cells that are uniformly thick all over the cell. c) Helps in photosynthesis d) Provides strength and support to plants.

7. 'Tissues combine to form organs'. Considering intestine as example, justify the statement.

8. Observe the figure and answer the following questions.



(a) Identify and write the name of the plant tissue.

(b) Write the peculiarity that help to identify this tissue when observed through a microscope.

'A Giant leap in stem cell research'

Write any two relevant points in a Science seminar related to this topic.

Answer any 3 questions from 10 to 13. Each question carries 3 score. (3 x 3 = 9)

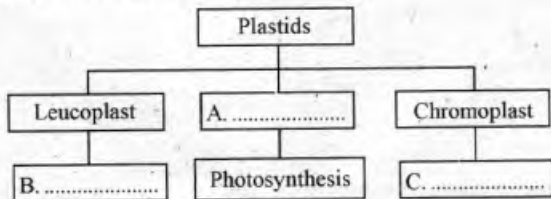
10. Copy the given diagram.



Identify, name and label the parts, by the hints given below.

- (a) They are seen as a network in the nucleoplasm.
- (b) Play a major role in the synthesis of ribosomes.

11. Complete the illustration related to plastids.



12. Statements related to plant cells are given below.

- Comparatively thin cell wall
- Less amount of cytoplasm
- Comparatively large nucleus
- Thick secondary wall

Arrange them suitably in the given table and give title.

.....
•	•
•	•

13. Some cell components are given in the box. Pickout the suitable cell components and complete the illustration.

