SAMAGRA SHIKSHA, KERALA

E 806

FIRST TERMINAL EVALUATION 2023-24

BASIC SCIENCE

Class: VIII

Time: 2 h

Score : 60

Instructions

- The total cool off time Physics, Chemistry and Biology is 15 minutes. Read the questions carefully and understand them during this time.
- Answers are to be written in the order, Physics, Chemistry and Biology. The time for each section is 40 minutes. The answer books must be returned to the teacher after writing each subject.

Physics

Time: 40 min

Score : 20

Answer any <u>Three questions</u> from 1 to 4 . Each carries 1 score.   (3 x 1 = 3)

1. Choose the scalar quantity from the following   (1)

   (velocity, displacement, speed, acceleration)

2. A child is standing in a field. With respect to the ground, the child is in a state of --------- (rest / motion).   (1)

3. Pick out the correct representations of units from the following data.   (1)

   a. 37.65 m   b. 37 m 65 cm   c. 10 Pa   d. 20 Kg

4. Which of the following does not belong to the group?

   (km, kg, mm, cm)   (1)

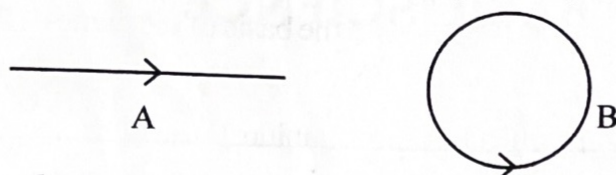Answer any <u>Four questions</u> from 5 to 9. Each carries 2 score.   (4 x 2 = 8)

5. Based on the fundamental physical quantity length, write down the answers to the following questions.

   a)   In which unit is the thickness of plastic carry bags expressed?   (1)

   b)   How many kilometers make one astronomical unit   (1)

6. What is the acceleration of a vehicle which started from rest and acquired a velocity of 50 m/s in 10 s.   (2)

7. Classify the following situations into motions of uniform velocity and non uniform velocity   (2)

   a)   Landing of an aeroplane

   b)   A car that covered equal distances in equal intervals of time along a straight line.

   c)   A train starting and moving out of the station.

   d)   light propagating through vacuum.

8. "Overspeed of vehicles result in accidents"

Write two messages to be written on an awareness board in your school premises to minimise road accidents. (2)

9. Picture A and B shows two paths covered by a body with uniform speed.
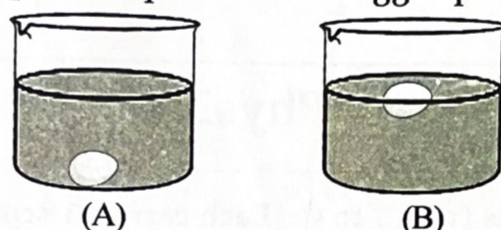

a) Through which path does the body travel with an acceleration? (1)

b) Justify your answer. (1)

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

10. The following picture depicts the position of an egg in pure water and in brine solution.

a) Which beaker contains pure water? (1)

b) Write down the reasons for arriving at this answer. (2)

11. The paths of two cars are as shown below. Car A started from P and reached R through Q and car B started from P and reached R through S.
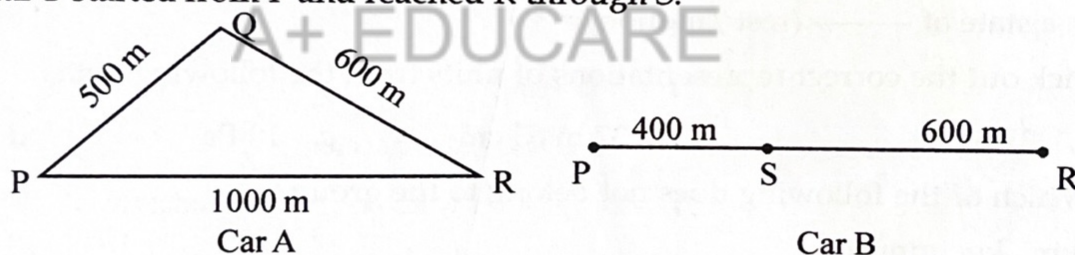
a) What is the total distance covered by the car A? What is its displacement? (1)

b) What is the total distance covered by car B? What is its displacement? (1)

c) In which type of motion does the magnitude of distance travelled by an object and its displacement become equal? (1)

12. The SI unit of volume is m³

a) Why is it called a derived unit? (1)

b) What is the SI unit of time? How is it related to solar day. (2)

13. Suitably match the terms given in columns A, B and C. (3)

A	B	C
Density	$\dfrac{\text{Displacement}}{\text{Time}}$	m/s^2
Velocity	$\dfrac{\text{Change in velocity}}{\text{Time}}$	kg/m^3
Acceleration	$\dfrac{\text{Mass}}{\text{Volume}}$	m/s

CHEMISTRY

Score : 20

Time : 40 Minutes

Answer any 3 questions from 1 to 4. 1 Score each.   (3 x 1 = 3)

1. Which one of the following elements is named on the basis of the name of the scientist?

   (Indium, Curium, Rubedium, Titanium)   (1)

2. In which state of matter the particles remain very close to each other?   (1)

3. Who discovered that water can be split into hydrogen and oxygen by passing electricity?   (1)

4. Find the relation and fill up suitably.   (1)

   | Solid | → | Liquid | : Liquefaction

   | Gas | → | Liquid | : --------------

Answer any 4 questions from 5 to 9. 2 Scores each   (4 x 2 = 8)

5. Water changes to steam on boiling. What changes happen to the following properties of particles?

   a) Energy of particles   (1)

   b) Attraction between particles   (1)

6. Find the correct statements from the following.   (2)

   i) Molecules of compounds contain atoms of same element.

   ii) Molecules are the smallest stable paricles which exist independently.

   iii) Elements like Neon and Argon are seen as monoatomic molecules.

   iv) All atoms of the same element show different properties.

7. Ordinary water contains many minerals dissolved in it.

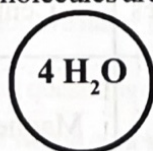   a) Which method is used to remove the minerals to obtain pure water?   (1)

   b) Another mixture which is separated into components by this method is -------   (1)
      (Ethanol and Methanol, Water and Acetone, Petrol and Kerosene)

8. Some samples of molecules are given.

   $4 H_2O$

   Sample A

   $3CO_2$

   Sample B

   a) Which sample contains more atoms?   (1)

   b) How many molecules are present in sample B?   (1)

9. a) Which method is used to separate the components in black ink? (1)

b) Write another occasion where this method is employed. (1)

Answer any 3 questions from 10 to 13. 3 Scores each. (3 x 3 = 9)

10. Two activities are given.

i) A drop of ink is placed on a glass plate.

ii) An incense stick is lit.

a) In which activity does diffusion occur quickly? Write the reason. (2)

b) Write any other example for diffusion from daily life. (1)

11. Complete the table. (3)

Element	Basis of naming	Symbol
Chromium	**(a)**	Cr
Francium	France - country	**(b)**
(c)	Neptune - planet	Np

12 The following represents the formation of ammonia by the reaction between nitrogen and hydrogen.

$$N_2 + H_2 \rightarrow 2NH_3$$
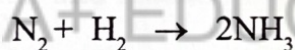
a) Which are the reactants? (1)

b) Balance the chemical equation. (1)

b) Find the total number of atoms on the product side. (1)

13. Match the following. (3)

Mixture/ Situation	Properties of components	Method of separation
Butter from curd	Magnetic property	Filtration
Iron powder and sand	Difference in the size of particles	Centrifugation
Tea dreg from tea	Mass difference	Magnetic separation

**Answer any 3 questions from 1 to 4. Each question carries 1 score.** (3x1=3)

1. Find the odd one out. Write the common feature of others. (1)

   Cyanobacteria, Amoeba, Bacteria, Mycoplasma.

2. Name the cell organelle covered by the characteristic membrane "tonoplast". (1)
   • Mitochondrion   • Golgi complex   • Vacuole   • Chloroplast

3. Identify the word pair relation and fill in the blanks accordingly. (1)

   Connects other tissues : Fibrous tissue

   Conduction of materials, resistance to diseases : ——————————

4. Identify the key character of collenchyma from the following? (1)
   (a) Composed of cells with simple structure.
   (b) Made up of cells with thickening only at the corners of the cell wall.
   (c) Made up of cells with uniform thickening all over the cell wall.
   (d) Tube like structures composed of long cells.

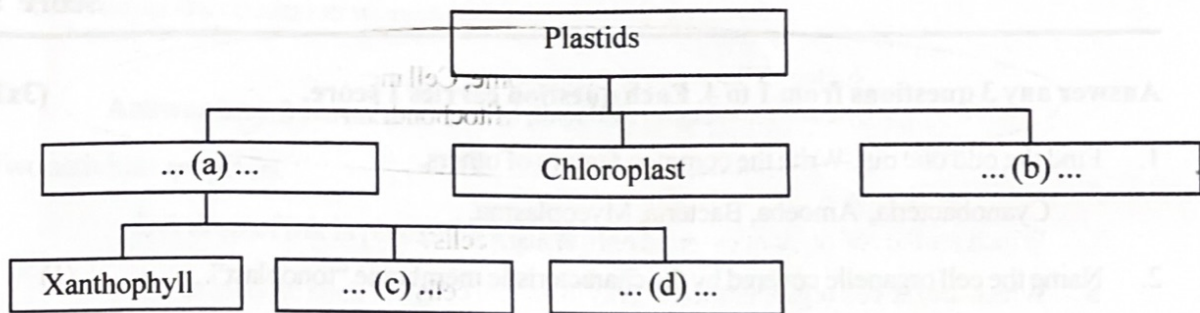**Answer any 4 questions from 5 to 9. Each question carries 2 score.** (4x2=8)

5. Identify the picture and answer the following questions.
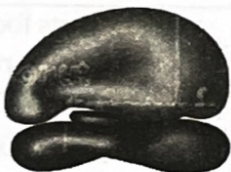
   a) Name the cell organelle shown in the figure. (1)
   b) Write the function of this cell organelle. (1)

6. A student observed the cross section of a root only after adjusting the concave mirror of a compound microscope.
   a) What may be the reason that the student adjusted the concave mirror ? (1)
   b) In which situation we have to adjust the plane mirror? (1)

7. Answer the following questions about animal tissue.
   a) Name the tissue which controls and coordinates physiological functions? (1)
   b) Give another function of this tissue? (1)

8. A concept map of plastids is given. Complete it suitably. (2)

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                        ┌──────────────┐
                        │   Plastids   │
                        └──────────────┘
        ┌───────────────────┬───────────────────┐
  ┌───────────┐      ┌──────────────┐      ┌───────────┐
  │ ... (a) ... │      │ Chloroplast │      │ ... (b) ... │
  └───────────┘      └──────────────┘      └───────────┘
                ┌─────────┬─────────┐
          ┌───────────┐ ┌───────────┐ ┌───────────┐
          │Xanthophyll│ │... (c) ...│ │... (d) ...│
          └───────────┘ └───────────┘ └───────────┘
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9. Observe the illustration and answer the following questions.

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┌──────────────┐     ⟶    ⎛                ⎞   ⟶   ┌──────────────────────┐
│  Stem cells  │          ⎝ ......... (i) ......... ⎠      │ Different kinds of cells │
└──────────────┘                                    └──────────────────────┘
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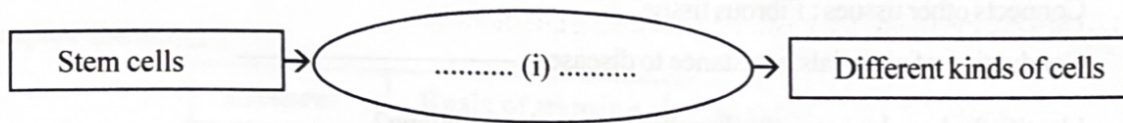
   a) What is the process that indicate (i)? (1)
   b) Why is stem cell research gaining importance? (1)

Answer any 3 questions from 10 to 13. Each question carries 3 score. (3x3=9)

10. Arrange columns B and C according to the column A. (3)

A	B	C
Xylem	Composed of cells with the simplest structure.	Transports food to various parts.
Phloem	Tubes formed from elongated cells.	Helps in photosynthesis.
Parenchyma	Composed of tubular inter - connected cells.	Transports water and minerals to the leaves.

11. Answer the following questions based on the given statements.

> • The body of all organisms is made up of cells.
>
> • Cells are the structural and functional units of organisms.

   a) By which name are these findings summarised? (1)
   b) Name the scientists who summarised this theory? (1)
   c) Write any two functions performed by cells? (1)

12 . Answer the following questions based on the given parts of a cell.

> Nucleus, Chloroplast, Centrosome, Cell membrane, Lysosome, Vacuole, Cell wall, Mitochondrion

    a)   Which are the cell organelles found only in plant cells?   (1)

    b)   Which are the cell organelles found only in animal cells?   (1)

    c)   Which are the cell organelles found both in plant and animal cells?   (1)

13. Observe the figure and answer the following questions.

Comparitively large nucleus

Thin primary wall

Excess cytoplasm

(X)
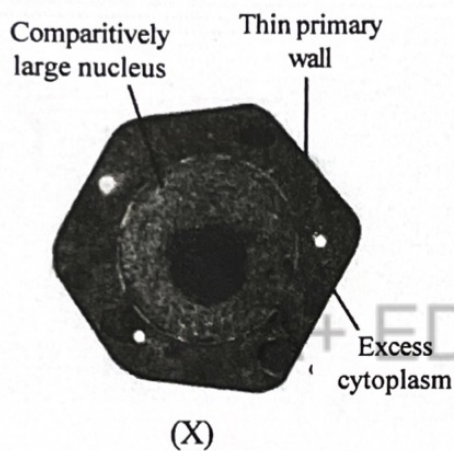
(Y) Mature cell

    a)   What does X indicate?   (1)

    b)   What are the changes happening to X to become a mature cell?   (2)