

--	--	--	--	--	--	--

DATE : 24/06/2026 **SUBJECT : SCIENCE & TECHNOLOGY (72) PART I (E)**

TIME : 11.00 SYLLABUS : (REVISED COURSE)

DURATION : 2 Hours

TOTAL PAGES : 4

TOTAL MARKS : 40

Note :—

- (i) All questions are compulsory.
- (ii) Use of a calculator is not allowed.
- (iii) The numbers to the right of the questions indicate full marks.
- (iv) In case of MCQs [Q. No. 1(A)] only the first attempt will be evaluated and will be given credit.
- (v) Scientifically correct, labelled diagrams should be drawn wherever necessary.
- (vi) Each new question should be started on the new page.

1. (A) Choose the correct alternative :**5**

- (i) is the functional group of carboxylic acid.
 - (a) —OH
 - (b) —CHO
 - (c) —NH₂
 - (d) —COOH
- (ii) The force acting on any object moving along a circle and directed towards the centre of the circle is called as
 - (a) Frictional force
 - (b) Gravitational force
 - (c) Centripetal force
 - (d) Centrifugal force
- (iii) When electric current is passed through acidulated water of water takes place.
 - (a) Oxidation
 - (b) Reduction
 - (c) Electrolysis
 - (d) Ionisation
- (iv) In India the frequency of alternating current (AC) is
 - (a) 100 Hz
 - (b) 50 Hz
 - (c) 15 Hz
 - (d) 500 Hz
- (v) The angle between the surface of a glass slab and incident ray is 30°. The angle of incidence is
 - (a) 30°
 - (b) 60°
 - (c) 90°
 - (d) None of these

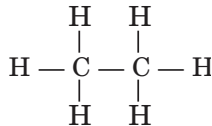
(B) Answer the following questions :**5**

- (i) Find odd one out :
Voltmeter, Ammeter, Galvanometer, Thermometer.
- (ii) Complete the following chart :

Element	Electronic Configuration	Group Number
Na	(2, 8, 1)	Group-1
Al	(2, 8, 3)	

- (iii) State whether true or false :
The weight of an object is constant everywhere.
- (iv) Complete the co-relation :
Cooking of food : Chemical change :: Evaporation of water :

- (v) Identify the hydrocarbon from the given structural formula :

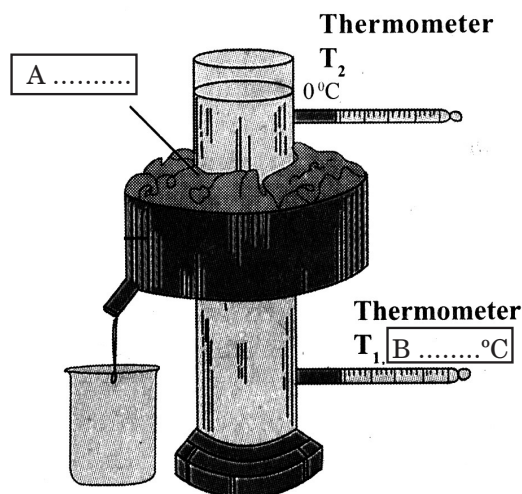


2. (A) Give scientific reasons (any *two*) : 4

- (i) Stars appear to be higher in the sky as compared to its actual position.
- (ii) Elements belonging to the same group have the same valency.
- (iii) Geostationary satellites are not useful for studies of polar regions.

(B) Answer the following questions (any *three*) : 6

- (i) Label the following diagram and name the property can be studied using it :



- (ii) The focal length of a convex lens is 40 cm. What is its power ?
- (iii) (a) Write the chemical formula of acetic acid.
(b) Write any *one* use of vinegar.
- (iv) State the laws :
(a) Right hand thumb rule. (b) Fleming's left hand rule.
- (v) Define :
(a) Ores (b) Gangue.

3. Answer the following questions (any *five*) : 15

- (i) State Kepler's *three* laws.
- (ii) An electric tungsten bulb is connected into a home circuit. The home electric supply runs at 220 V potential difference. When switch on, a current of 0.45 A flows through the bulb :
(a) What must be power (wattage) of the bulb ?
(b) If it is kept on for 10 hours, how many units of electricity will be consumed ?
- (iii) State the factors affecting the rate of chemical reaction. Explain any *one* of it.
- (iv) (a) What is meant by Regelation ?
(b) What is the effect of pressure on melting point of ice ?
(c) Write any *one* example of regelation.

--	--	--	--	--	--	--

(v) Complete the following table :

S.No.	Polymer	Name of the monomer	Occurrence
1	Polysaccharide	Glucose	Starch
2.	Cellulose		Wood (cell walls of plant cells)
3.	Proteins	α amino acids	
4.		Nucleotide (deoxyribose phosphate)	
5.	R.N.A.		Nucleus and cytoplasm of cell
6.	Rubber	Isoprene $\begin{array}{c} \text{CH}_2=\text{C}-\text{CH}=\text{CH}_2 \\ \\ \text{CH}_3 \end{array}$	

(vi) Read the following passage and answer the questions given below :

Space Debris and its management

In addition to the artificial satellite, some other objects are also revolving around the earth. It includes, non-functional satellites, parts of the launcher detached during launching and debris generated due to collision of satellite with other satellite or any other object in the space. According to one estimation made in 2016, there are about 2 crore pieces of length more than 1 cm, revolving around the earth! All this is nothing but the debris in space.

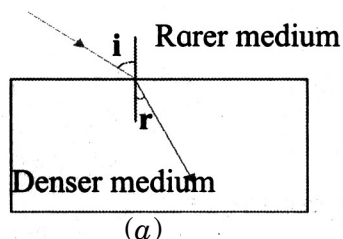
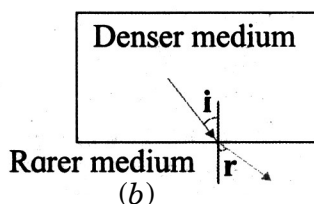
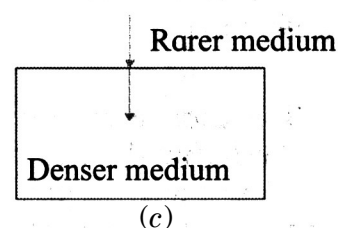
This debris can be harmful to the artificial satellites. It can collide with these satellites or spacecrafts and damage them. This debris is increasing day by day. Soon, it will be difficult to launch new spacecrafts. It is, therefore, very essential to manage the debris. Some studies and experiments are being done with this in view.

(a) What is meant by space debris ?

(b) How it can be harmful to the artificial satellites ?

(c) What efforts are being taken to manage it ?

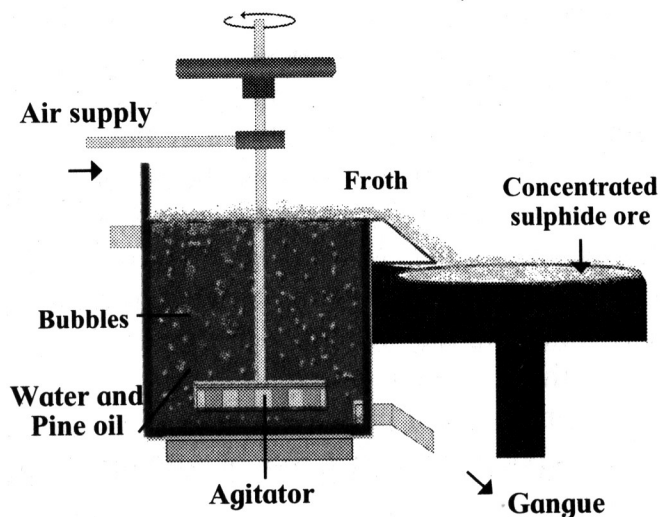
(vii) Observe the following diagrams and state the rules of refraction of light in different media using it.



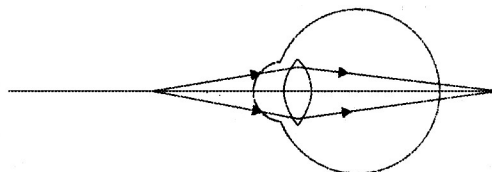
(viii) Write demerits of Mendeleev's periodic table.

4. Answer the following questions (any one) :

(i) Observe the figure and answer the questions :



- (a) Name the method shown in the above figure.
 - (b) For what purpose the above method is used ?
 - (c) Write *two* properties which are used in the method.
 - (d) What is the use of agitator ?
 - (e) Name any *one* ore which is concentrated by this method.
- (ii) Observe the following figure and answer the questions given below :



- (a) Name the defect of vision represented in the above figure.
- (b) State the reasons for this defect.
- (c) How is it corrected ?
- (d) Draw the diagram to show the correction of this defect.

1

1

1

2