Time: 2 hours **Activity Sheet – March 2024** **Marks: 40**

Q.1. (A) Write the correct alternative. **[5]**

(i) The SI unit of heat is _____ .

(a) Calorie (b) Joule

(c) Kcal/kg °C (d) Cal/g °C

(ii) We can see the sun even when it is little below the horizon because of _____.

(a) Reflection of light (b) Refraction of light

(c) Dispersion of light (d) Absorption of light

(iii) _____ is the functional group of carboxylic acid.

(a) –COOH (b) –CO– (c) –CHO– (d) –OH

(iv) In simple microscope _____ lens is used.

(a) Concave (b) Plano concave

(c) Plano convex (d) Convex

(v) In _____ process a layer of molten tin is deposited on metals.

(a) Anodization (b) Tinning

(c) Galvanizing (d) Alloying

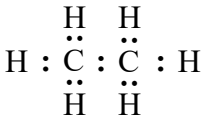
(B) Answer the following questions. **[5]**

(i) Write the name of the atom having the smallest size.

(ii) Write the molecular formula of calcium carbonate.

(iii) Write the use of 'Calorimeter'.

(iv) Identify the hydrocarbon from the given electron-dot structure:



(v) Match the Columns:

Group 'A'	Group 'B'
Refractive index of water	(a) 1.31
	(b) 1.36
	(c) 1.33

Q.2. (A) Give scientific reasons. (Any two) [4]

(i) When the gas formed on heating limestone, is passed through freshly prepared lime water, the lime water turns milky.

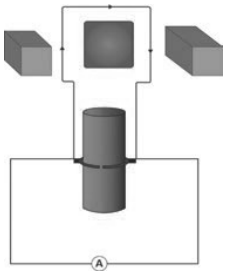
(ii) Tungsten metal is used to make a solenoid type coil in an electric bulb.

(iii) On exposure to air, silver articles turn blackish after some time.

(B) Answer the following questions. (Any three) [6]

(i) State Dobereiner's law of triad. Give one example of it.

(ii) Identify the figure and explain its use :



(iii) What is meant by satellite launch vehicle? Name any one Indian satellite launch vehicle.

(iv) What is free fall? When is it possible?

(v) The focal length of a convex lens is 20 cm. What is its power?

Q.3. Answer the following questions. (Any five) [15]

(i) Select the appropriate options and complete the following paragraph :

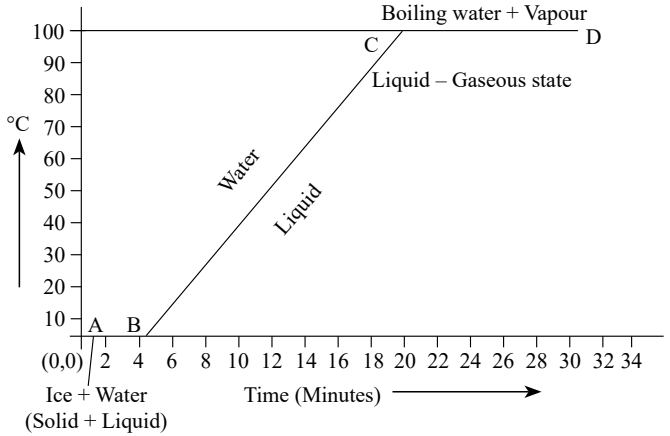
(Metals, non-metals, metalloids, four, seven, s-block, p-block, d-block, f-block).

On the basis of electronic configuration, elements in the modern periodic table are classified into _____ blocks. Group 1 and 2 elements are included in _____ and all these elements are metals (except Hydrogen). Group 13 to 18 elements are included in _____. This block contains metals, non-metals and metalloids. Group 3 to 12 elements are included in _____ and all the elements are _____ elements shown at the bottom of the periodic table i.e. Lanthanides and Actinides constitute _____ and all these elements are metals.

(ii) (a) What are the factors affecting the rate of chemical reaction?

(b) Explain any one factor.

(iii) Observe the following graph and answer the following questions:



(a) What does the graph represent?

(b) What does the line AB represent?

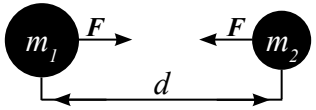
(c) What does the line BC represent?

(iv) Complete the following table by observing the given figures:

Points ↓ \ Figure →		
(a) Name of the defect	_____	_____
(b) Position of the image	_____	_____
(c) Lens used to correct the defect	_____	_____

(v) Write any three general properties of ionic compounds.

(vi) Observe the figure and answer the questions :



(a) State Newton's universal law of gravitation.

(b) If the distance between the two bodies is tripled, how will the gravitational force between them change?

(c) What will happen to gravitational force, if mass of one of the object is doubled?

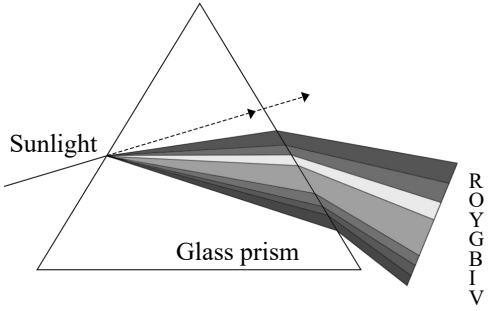
(vii) The orbit of a satellite is exactly 35780 km above the earth's surface and its tangential velocity is 3.08 km/s.

How much time the satellite will take to complete one revolution around the earth? (Radius of earth = 6400 km.)

(viii) What is a solenoid? Draw a neat diagram and name its various components.

Q.4. Answer any *one* of the following questions. [5]

(i) Observe the given diagram and answer the questions :



(a) Name the process shown in the figure.

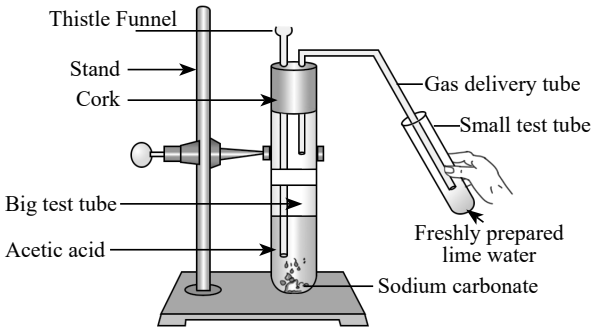
(b) Name the colour that deviates the most.

(c) Name the colour that deviates the least.

(d) Name any one phenomenon in the nature which is based on the above process.

(e) Define 'spectrum'.

(ii) Observe the diagram given below and answer the questions :



(a) Name the reactants in this reaction.

(b) Which gas comes out as effervescence in the bigger test tube?

(c) What is the colour change in the lime water?

(d) In the above experiment instead of sodium carbonate which chemical can be used to get same products?

(e) Write the use of acetic acid.

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