

Instructions: Read the question paper carefully. Write neatly and legibly. Do not over write. Pay special attention to spelling. Read the answers before submitting the answer sheet.

Section A (Physics) 5 Marks

I. Choose the correct answers.

2

(i) When a ray of light from air enters a denser medium, it:

- a) bends away from the normal c) bends towards the normal
b) goes undeviated d) is reflected back

(ii) Name the colour of white light which is deviated the most.

- a) red b) violet c) green d) yellow

(iii) A small air bubble in a glass block when seen from above to be raised because of:

- a) refraction of light c) reflection of light
b) reflection and refraction of light d) none of these

(iv) The critical angle for glass-air interface is:

- a) 24° b) 42° c) 48° d) 45°

II. Answer the following questions: Any 3

3

i) Name the factors on which the refractive index of a medium depends?

ii) What is lateral displacement? Draw a ray diagram showing the lateral displacement.

iii) How does the angle of deviation produced by a prism change with increase in the angle of incidence. Draw a curve showing the variation in the angle of deviation with the angle of incidence at a prism surface.

iv) Draw a ray diagram to show the appearance of a stick partially immersed in water.

v) Explain the term critical angle with the aid of a labelled diagram.

Section B (Chemistry) 5 Marks

I. Name:

2

1. Two coloured metal ions

2. The salt solution which does not react with ammonium hydroxide

3. A metallic hydroxide soluble in excess of NH_4OH

4. A yellow monoxide that dissolves in hot and concentrated caustic alkali

II. Answer the following: Any 2

3

1. What do you observe when caustic soda is added to Lead nitrate $Pb(NO_3)_2$, first a little and then in excess. Write balanced equation for the reaction.

2. What do you understand by amphoteric oxide? Give the balanced equations for the reaction with two different amphoteric oxides with a caustic alkali.

3. What happens when ammonia solution is first added drop wise and then in excess to the Copper sulphate $CuSO_4$.

Section C (Biology) 5 Marks

I. Complete the following statements.

1

1. Active transport is one in which the ions outside the root move in by utilizing _____.

2. Hypotonic solution is one in which the solution kept outside the cell has _____ solute concentration than inside the cell.

II. Define :- 1. Imbibition

2. Osmosis

2

III. The diagram given below represents an experiment setup to demonstrate a certain process. Study the same and answer the questions:-

2

1. Mention two advantages of the process the plants.

2. Name the process.

