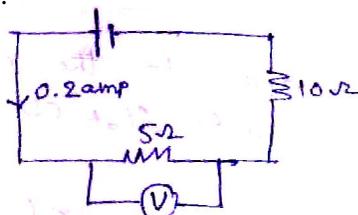


**Section – I (12 × ½ = 6)**

Note: (i) Answer all the questions.

(ii) Each question carries ½ mark.

- Which of the following is true?
  - While condensation, the temperature of substance is increases
  - While freezing the temperature of substance is increases
  - At boiling the temperature of substance remains constant
  - All the above statements are true
- Write Snell's law?
- Which type of image we can see without screen?
- Find the voltmeter reading in given figure?



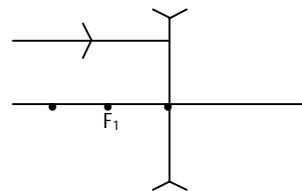
- The unit for consumption of electrical energy?
- Which physical quantity does not change during the refraction?
- The chemical used in antacid tablet?
- Write the 4 quantum numbers for differentiating electron of 'Na' ?
- (i) Na, Na<sup>+</sup> which one have larger in size?
- Among NH<sub>3</sub>, CH<sub>4</sub>, BF<sub>3</sub>, H<sub>2</sub>O which one is odd one?
- Write two Iron ores?
- Write the reaction mixture of esterification?

**Section – II (8 × 1 = 8)**

Note: (i) Answer all the questions.

(ii) Each question carries 1 mark.

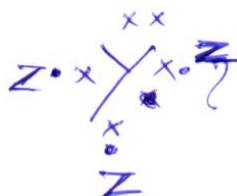
- Why water inside a new clay pot become cool?
- Define critical angle?
- Draw the refracted ray given below diagram and locate the image?
- If the radii of Bi-convex surfaces are equal and the refractive index is 1.5, then find its focal length?
- Write examples of Doberiner triads?
- Arrange the following into order of Ionisation energy?
  - C, N, O
  - Li, Be, B
- Name any two examples of electron deficient molecules?
- IUPAC name of Glycerol?

**Section – III (8 × 2 = 16)**

Note: (i) Answer all the questions.

(ii) Each question carries 2 marks.

- During summer noon, why do the trees and houses on the other side of an open ground appear to be shaking?
- Define presbyopia. How do you correct this defect.
- How do you appreciate the relation between magnetic field and electricity that changed the life style of mankind?
- Mention the uses of optical fibers in our daily life.
- How bleaching powder is prepared and write it's uses?
- (i) Write the no. of valency electrons of 'Y' Z.
- What is thermite process and it's applications?
- What is Homologous series write it's characteristics?



**Section – IV (5×4 = 20)**

29. a) Answer the following questions by using the data given in the table.

Substance	Specific heat (Cal / g <sup>-1</sup> C)
Copper	0.095
Iron	0.115
Aluminium	0.21
Water	1.00

- i) Write the S.I. unit of specific heat?
- ii) Which substance used as bottom of the cooking vessels? Why?
- iii) What is the amount of heat reasured to raise the temperature of 1gm of water through 1<sup>0</sup>C?
- iv) Depending on the above table what are the factors effecting the specific heat.

(OR)

b) Deduce the expression for the equivalent resistance of three resistors connected in parallel.

30. a) Write Bohr's atomic model and it's limitations?

(OR)

b)

Molecule	Tone pairs	Bond Pairs	Bond Angle	Shape	Hybridization
1) BeCl <sub>2</sub>	-	-	180 <sup>0</sup>	-	-
2) -	One	-	-	-	Sp <sup>3</sup>
3) -	-	Two	-	v-shape	-
4) -	-	-	120 <sup>0</sup>	-	-

31. a) Explain the formation of Rainbow.

(OR)

b) How do you verify experimentally that magnetic field lines are closed.

32. a) An organic compound with molecular formula C<sub>2</sub>H<sub>4</sub>O<sub>2</sub> produces brisk effervescence on addition of Sodium Carbonate (or) bicarbonate. Answer the following.

- i) Identify the organic compound
- ii) Write the chemical equation for the above reaction
- iii) Name the gas evolved
- iv) How will you test the evolved gas?

(OR)

b) Define Ionisation energy and write it's factors.

33. a) Draw ray diagrams of image formed by Convex lens when object is placed at

- i) Object placed at centre of curvature (2F)
- ii) Object between focal point and optic centre
- iii) Object placed at beyond centre of curvature (2F)
- iv) Object at Focal point (F)

(OR)

b) Draw the experimental set up required, when metal Carbonates react with acids releases the Carbon dioxide gas.