

Model Question paper

Solid state - I 2

11th Standard

Chemistry

Reg.No. :

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I. Answer all the questions.

II. Use blue pen only.

Time : 00:45:00 Hrs

Total Marks : 30

5 x 1 = 5

Part - A

- 1) An amorphous solid is:
(a) NaCl (b) CaF_2 (c) glass (d) CsCl
- 2) Each unit cell of NaCl consists of 4 chlorine ions and:
(a) 13 Na atoms (b) 4 Na atoms (c) 6 Na atoms (d) 8 Na atoms
- 3) In a body centred cubic cell, an atom at the body of centre is shared by:
(a) 1 unit cell (b) 2 unit cell (c) 3 unit cell (d) 4 unit cell
- 4) In the sodium chloride structure, formula per unit cell is equal to
(a) 2 (b) 8 (c) 3 (d) 4
- 5) In a face centred cubic cell, an atom at the face centre is shared by:
(a) 4 unit cell (b) 2 unit cells (c) 1 unit cells (d) 6 unit cells

Part - B

2 x 2 = 4

- 6) What is meant by 'unit cell' in crystallography?
- 7) How many types of cubic unit cell exists?

Part - C

2 x 3 = 6

- 8) Mention the number of sodium and chloride ions in each unit cell of NaCl
- 9) Mention the number of cesium and chloride ions in each unit cell of CsCl

Part - D

3 x 5 = 15

- 10) Draw a neat diagram of sodium chloride structure and describe it accordingly.
- 11) How many atoms are there per unit cell in (i) simple cubic arrangement of atoms, (ii) body centred cubic arrangement of atoms, and (iii) face-centred cubic arrangement of atoms?
- 12) How do the spacings of the three planes (010), (110) and (111) of fcc lattice vary?
