

electronic

- ① Briefly explain the ~~atomic~~ ^{electronic} structure of atoms
- ② Describe the types of atomic bonds
- ③ Write the classification of ~~at~~ molecular bonds & Explain them briefly
- ④ Illustrate energy bands in metals, insulators and semiconductors.
- ⑤ Explain the following and find the co-ordination number
 - ① Simple cubic
 - ② Body centered cubic
 - ③ Face centered cubic
- ⑥ Calculate the atomic packing factor for
 - ① Simple cubic
 - ② Body centered cubic
 - ③ Face centered cubic
- ⑦ Classify crystal defects. Give examples
- ⑧ Enumerate dislocations role in deformation
- ⑨ Write the classification of materials giving examples.
- ⑩ Write the properties & applications of following
 - (i) metals (ii) ceramics (iii) polymers (iv) semiconductors
 - (v) composites.

Explain the following principles

- ① Pauli Exclusion principle
- ② Hund's principle
- ③ Aufbau principle

what are shells, subshells and orbitals