Electronic Science :-

1. What is meant by effective mass of a carrier ?
2. What are the drawbacks of free electron theory which lead to the birth of Band theory ?
3. Give one distinctive property which distinguishes a semi-conductor from a conductor
4. A semi-conductor is an insulator at 0°K. Justify
5. Why is Silicon prefer for power electronic devices. ?
6. Why is silicon not prefer for opti-electronic devices. ?

(7) Explain with neccessary diagram the formation of conduction and valence band in a solid. How do you Distinguish between a conductor, a semi-conductor and an insulator

(8) What is meant by Direct and indirect band gap semi-conductor

(9) Find expression for drift velocity of a carrier.

(10) Define Mobility of a carrier.

(11) Explain the drift and diffusion mechanism of Charge transport

(12) ~~Explain~~ Define 'Fermi-level.

(13) Explain the variation of electron and hole concentration in a

semi-conductor with position of fermi-level.

(19) Show that the fermi-level is invariant across a ~~semi-conductor~~ junction at equilibrium.