

## **Question bank - UNIT 4**

1. Describe the following processes for electronic devices:  
i) Thermal oxidation ii) Diffusion iii) Rapid thermal processing
2. Discuss the advantages, limitations and applications of following post heat treatment processes: i) Solder reflow, ii) Diffusion process and iii) Rapid thermal processing
3. Describe the following heat treatment processes for ferrous materials  
i) Full annealing ii) Normalizing iii) Tempering
4. Explain in detail the steps to construct Time Temperature Transformation diagram
5. With the help of TTT diagram explain hardening and Martempering processes
6. Differentiate: i) Annealing and Normalising ii) Martempering and Austempering
7. Describe the following special heat treatment processes:  
i) carburising ii) Nitriding iii) flame hardening iv) induction hardening
8. Describe the defects in the heat treatment process.
9. Define heat treatment and write the purpose of heat treatment
10. Discuss the process variables of heat treatment.