Roll No. | | | | | | | | | | | | | Total No. of Pages : 01

Total No. of Questions : 08

M.Tech. (Microelectronics) (Sem.–1)

MICRO & NANO SCIENCES & TECHNOLOGY

Subject Code : ME-801

Paper ID : [E0961]

Time : 3 Hrs. Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT question.
2. Each question carries TWENTY marks.

Q1. a) Describe in detail about density of states in semiconductor devices.

b) Write a brief note on plasma assisted deposition.

Q2. Define packaging. What is the need of packaging? Discuss about the package types in detail.

Q3. a) Explain the process of optical lithography in detail.

b) Write a brief note on control and anisotropic etch mechanism.

Q4. a) Discuss about Czochralski crystal growing process in brief.

b) What is diffusion transport? Also derive the Einstein relation.

Q5. Discuss in brief about relative plasma etching techniques and equipments.

Q6. a) Explain CMOS IC technology in brief.

b) Write a brief note on the concept of growth mechanism and kinetics.

Q7. a) Discuss annealing shallow junction in detail.

b) Discuss in brief the properties of plasma.

Q8. Write short notes on following :

a) Deposition processes

b) Range theory

c) Vapor Phase epitaxy

d) Molecular Beam epitaxy