

2023  
M. Tech. (Micro-Electronics)  
First Semester  
✓ MIC-102: Integrated Circuit Technology

Time allowed: 3 Hours

Max. Marks: 50

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Answer the following:-
- a) Point defects
  - b) Diffusion
  - c) Metal film deposition
  - d) Name water cleaning techniques
  - e) Oxidation
  - f) Etching
  - g) Name one MOS device fabrication.
  - h) Twin well process
  - i) One problem in CMOS process
  - j) Regression (10x1)

**UNIT - I**

- II. Explain Chemical vapour deposition technique in detail (10)
- III. Differentiate between p-channel and n-channel. What is ion- Implantation (10)
- IV. Explain oxidation diffusion and metallization process in detail. (10)

**UNIT - II**

- V. Explain Bipolar and MOS device fabrication techniques. (10)
- VI. Write the differences between p MOS and n MOS with CMOS Technologies. (10)
- VII. Explain the following:-
- a) Dry and Wet Etching.
  - b) Nonlinear Regression
  - c) Linear model with nonzero Intercept (10)

x-x-x