



विश्वजीवनामृतं ज्ञानम्

Atal Bihari Vajpayee Indian Institute of Information Technology & Management, Gwalior

EE404: Integrated Circuit Technology

Minor Examination (Session 2023–24)

Maximum Time: 1 Hour

Max Marks: 25

Note: Attempt all questions. Figures must be neat and labelled.

1. Multiple Choice Questions (1 mark each): (a) The most commonly used material for IC fabrication is: (i) Germanium (ii) Gallium Arsenide (iii) Silicon (iv) Diamond (b) Photolithography is mainly used for: (i) Etching (ii) Doping (iii) Wafer slicing (iv) Metallization (c) Which oxidation technique produces the best-quality oxide? (i) Dry oxidation (ii) Wet oxidation (iii) Plasma oxidation (iv) None
2. State True or False with justification (2 marks each): (a) MOSFET is a majority-carrier device. (b) Diffusion is a faster process than ion implantation.
3. Draw the process flow diagram for MOS capacitor fabrication. (5 Marks)
4. Differentiate between bipolar and MOS IC technologies. Mention one application of each. (5 Marks)
5. Write short notes on any two: (a) Cleanroom classifications (b) Epitaxial growth (c) Thin film deposition techniques (6 Marks)