

APJ Abdul Kalam Technological University
Ernakulam II Cluster
Second Semester M.Tech Degree Examination May 2017

05EC 6026 – VLSI PROCESS TECHNOLOGY

Time: 3 hrs.

Max. Marks: 60

1. a) Describe different kind of vacancies. [6 Marks]
b) Differentiate between linear and parabolic rate coefficients in oxidation. [6 Marks]
2. a) Give an overview of ion implementation. [6 Marks]
b) Describe the working principle of MOCVD. [6 Marks]
3. a) Discuss different Reactive Ion Etching methods. [6 Marks]
b) Explain different Non-optical lithographic techniques with necessary diagrams. [12 Marks]

OR

4. a) Describe the process steps used in photolithography with necessary illustration. [12 Marks]
b) What do you mean by Etching? Discuss various types of Etching methods used. [6 Marks]
5. (a) Describe GaAs technology. Compare it with CMOS and Bipolar technologies. [8 Marks]
(b) Write down the steps used in GaAs DMESFET fabrication process. [10 Marks]

OR

6. (a) What do you mean by isolation in monolithic devices? Describe any two methods used for isolation. [14 Marks]
(b) Describe lift-off process with neat diagram. [4 Marks]