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APJ Abdul Kalam Technological University

Ernakulam II Cluster

Second Semester M.Tech Degree Examination April/May 2018

**05EC 6026 – VLSI PROCESS TECHNOLOGY**

Time: 3 hrs.

Max. Marks: 60

I 12 Marks

- a) Explain the silicon EGS preparation process with neat illustration [8]
- b) Describe Fick's laws of diffusion. [4]

II 12 Marks

- a) Describe the working principle of APCVD. [8]
- b) What are the different problems associated with epitaxial growth? [4]

III 18 Marks

- a) Mention the diffraction effect in lithographic exposure system. [8]
- b) With neat sketches discuss the concept of different optical printing methods. [10]

**OR**

IV 18 Marks

- a) Explain the process steps used in Photolithography with neat illustration. [12]
- b) Briefly explain different automated mask making techniques. [6]

V 18 Marks

- a) Describe the features of GaAs technology. Also write down the steps used in GaAs DMESFET fabrication process. [14]
- b) Explain the term Latch up in CMOS devices. [4]

**OR**

VI 18 Marks

- a) Write down the fabrication process of BJT with neat diagrams. [12]
- b) Write short note on Lift off process in Metallization. [6]