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BIELE-002

**B. TECH.-VIEP-ELECTRONICS AND
COMMUNICATION ENGINEERING
(BTECVI)**

Term-End Examination

June, 2019

BIELE-002 : MICRO ELECTRONICS TECHNOLOGY

Time : 3 Hours

Maximum Marks : 70

Note : Attempt any seven questions. Assume missing data suitably, if any. Use of scientific calculator is permitted.

1. Explain the oxide growth kinetics with suitable model. 10
2. Explain the process of photolithography. 10
3. What is reactive plasma etching ? How is it different from the wet etching ? Explain. 10
4. How is ion-implantation done ? What is the role of acceleration voltage and the size of ion-implantation ? 10
5. Describe the different steps used for fabricating ideas NMOS IC. 10

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6. Discuss the difference between chemical assisted ion beam etching and ion assisted chemical etching. 10
7. Explain in detail how sand is transformed to single crystal silicon wafer. 10
8. (a) Why epitaxial layer of Si is necessary to grow ? What are the functions of this layer in IC ? 4
- (b) What is Autodoping ? What are the disadvantages of autodoping and how can it be minimized ? 6
9. Explain advantages and its application in ICs. 10
10. (a) Discuss the orientation dependent properties of silicon. 5
- (b) Explain CZ method in brief. 5