

VII-045

Roll No. _____

Total Printed Pages : **3**

07BEC104

B.TECH (ELECTRONIC & COMM. ENGG.)

VII SEM Examination, Dec.-2017

SUB : IC TECHNOLOGY

Time : 3 Hours]

[Total Marks 60

Use of following supporting material is permitted during examination.

1. _____ Nil _____ Nil

Note: 1. Attempt any five questions selecting one question from each unit.

2. Each question carry equal marks.

UNIT-I

1. What is float-zone growth? How it is different from Czochralski growth? What are the different kind of doping for float-zone growth.

OR

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Contd...

2. a. Explain the different type of crystal defects.

b. What do you understand by metallurgical grade silicon and electronic grade silicon? What are different steps for production of EGS from MGS.

UNIT-II

3. What is MBE? Compare it with CVD. Draw the doping profile obtained by ion-implantation during MBE growth. Explain one method for determine dopant profile in epitaxial layer.

OR

4. Describe atmospheric pressure CVD for dielectric in detail. What is the major drawback of APCVD and how it is overcome.

UNIT-III

5. a. Discuss reactive Ion etching (RIE) with the help of diagram.

b. What is photoresist? What are its basic kind? What requirement a photoresist most full fill.

OR

6. Explain all the lithography steps in detail. Draw a flow diagram of mask generation. Explain any one type of printer.

UNIT-IV

7. Explain the fabrication process steps along with vertical cross-sectional views for CMOS inverter using N-well process.

OR

8. What do you mean by class of a clean room? Give the steps in a standard RCA cycle during water cleaning.

UNIT-V

9. Write a short notes on any three: (4x3=12)

a) SOI

b) LOCOS

c) Metallization

d) Planarization