M. Tech.-III (Electronics V.L.S.I.) (CBCS – 2015 Course) :
WINTER - 2018
SUBJECT : SELF STUDY PAPER – I : IC FABRICATION TECHNOLOGY

Day : Saturday
Date : 08/12/2018

W-2018-3217

Time : 11.00 AM TO 02.00 PM
Max. Marks : 60

N. B. :

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in **SEPARATE** answer books.
4) Draw neat and labeled diagram **WHEREVER** necessary.
5) Assume suitable data, if necessary.

SECTION – I

Q. 1 Describe different steps for wafer cleaning preparation including cleaning steps. **(10)**

OR

Describe wafer fabrication process. **(10)**

Q. 2 Describe thermal oxidation in detail. **(10)**

OR

Discuss oxide growth, high pressure oxidation, plasma oxidation and rapid thermal oxidation. **(10)**

Q. 3 Describe X-ray lithography in detail. **(10)**

OR

Describe ion-beam lithography in detail. **(10)**

SECTION –II

Q. 4 Describe low pressure CVD reactor used to deposite silicon dioxide and silicon nitrate. List advantages and disadvantages of it. **(10)**

OR

Describe types of chemical vapour deposition. List the uses of CVD. **(10)**

Q. 5 Describe sputter deposition method. **(10)**

OR

Describe electron –beam evaporation. **(10)**

Q. 6 Describe the method of operation of RIE. **(10)**

OR

Describe plasma deposition reactor. List its disadvantages. **(10)**

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