AD-3241
Third Year B. Sc. (Sem. VI) Examination
March/April – 2015
Generic Elective for Electronics
(Integrated Circuit Technology)

Instructions:

(1) Fill up strictly the details of signs on your answer book.

(2) Figures to the right indicate full marks.

(3) Assume data wherever necessary.

(4) Use suitable examples.

1 Write very short answers:

(1) Give full form of VLSI and IC.
(2) What is EGS and MGS with respect to IC technology?
(3) What is the meaning of epitaxial growth?
(4) Give the physical dimensions of SSI, MSI, LSI, VLSI.

2 (A) What is the meaning of seed crystal? How is it used to pull the ingot using the CZ method?

(B) Discuss the CVD (Chemical Vapour Deposition) Method

OR

AD-3241] [Contd...
2  (A) Design using planer technology a circuit of your choice.  
    (B) Describe the method to dope silicon wafer by ion-implantation.

3  (A) How are monolithic diodes and bipolar junction transistors integrated.  
    (B) How are monolithic resistors integrated what are the limitations of integrating a resistor on a chip.

    OR

3  (A) Give the steps to process planer IC. Give the layers and the thickness of planer technology.  
    (B) Write a brief description of diffusion growth process

4  Write Short Notes:

    (1) Photolithography
    (2) X-ray and ion beam lithography
    (3) Oxidation of wafer
    (4) Epitaxial growth