

Third Semester B. Sc. Examination

Paper - II

ELECTRONIC CIRCUIT DESIGN

Time : Three Hours]

[Max. Marks : 50

- N. B. : (1) All questions are compulsory
(2) All questions carry equal marks.

EITHER

1. (A) How is the "Input" categorized in the process of circuit design ? 5

Give a comparison between concepts of black, grey and white box in a circuit design. 5

OR

- (B) Describe any four standard parameters to evaluate 'Sensor'. 10

EITHER

- (A) State and explain the 6 basic procedures involved in drawing a schematic. 6

A low pass filter with cut-off frequency at 50KHz has been designed. Give settings for AC analysis of the circuit. 4



OR 73

- (B) Enlist and explain any 5 function buttons on the tool bar. 10

EITHER

3. (A) Give detail process of simulating 1 bit half adder and give expected truth table. 5

Explain utility and operation of probe tool in digital simulation. 5

OR

- (B) Explain Digital Instruments : Pulsar and Data Sequencer. 7

(Explain stepwise process to add 'SCOPE' in work space. 3

EITHER

4. (A) What is Virtual Instrumentation ? How does it differ from Conventional Instrumentation ? 4

State and explain the basic building blocks of Virtual Instrumentation System. 6

OR

- (B) What are advantages of software processing over Hardware processing ?

How are the virtual Instruments interfaced with Real world ? 6

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5. Attempt any Ten sub questions

(A) In what situation does the presense of a sensor become important ? 1

(B) What is meant by 'Hysteresis' ? 1

(C) What is meant by 'Prototype' ? 1

(D) What is meant by 'Hotkeys' ? 1

(E) SPICE stands for ? 1

(F) Is it possible to have test points at input and output simultaneously ? 1

(G) What is meant by 'Bus Wire' ? 1

(H) What is meant by 'Simulation Speed' ? 1

(I) What is meant by 'Tick' ? 1

(J) Write any two applications of virtual Instrumentation. 1

(K) Write any two advantages of V. I. 1

(L) What is graphical user Interface (GUI) ? 1