

Bachelor of Science B.Sc. Semester—III (C.B.S.) Examination
ELECTRONICS (Electronic Circuit Design)
Paper—II

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) All questions are compulsory and carry equal marks.

(2) Draw neat diagram wherever necessary.

EITHER

1. (A) Give a comparison between concepts of black, grey and white box on a circuit design. Explain difference in approach for 'New Design' and Re-design. 5+5

OR

- (B) What are the different processes involved in design and development of Digital System ? Explain any five of them. 10

EITHER

2. (A) Explain use of following options in analog analysis setup :

- (i) DC
- (ii) AC
- (iii) Transient/ Fourier
- (iv) Parameter sweep.

2½×4=10

OR

- (B) State various file extensions used in circuit maker. Explain 6 basic procedures involved in drawing schematic. 3+7

EITHER

3. (A) Explain three options for Digital Logic Simulation. State difference between analog and digital Simulation. 6+4

OR

- (B) How is probe tool useful to detect the state of logic in digital circuit ? Explain digital instruments Pulser and Pattern Editor. Write the steps of simulating a half-adder circuit. 1+6+3

EITHER

4. (A) Draw the block diagram of PC-based data Acquisition System and explain the function of each block in brief. Explain the role of DAQ software. 8+2

OR

- (B) Explain 'Virtual Instrumentation System' with the help of suitable block diagram. Explain the role of software in VI. 6+4

5. Answer any **TEN** questions in short :—

- (A) Define the term Hysteresis.
- (B) What is meant by 'Actuator' ?
- (C) What is meant by 'Data Sheet' ?
- (D) State the utility of 'IC' tag.
- (E) What is meant by 'Workspace' ?
- (F) SPICE stands for ?
- (G) What is meant by Bus Wire ?
- (H) State the utility of Run/Pause Button.
- (I) Define cycle with respect to tick.
- (J) State two applications of Virtual Instrumentation.
- (K) What is GUI ?
- (L) Define 'Flexibility and Scalability' in VI.

10×1=10