KNT/KW/16/5127

Bachelor of Science (B.Sc.) Semester—III (C.B.S.) Examination

ELECTRONICS

Paper—II

(Electronic Circuit Design)

Time : Three Hours] [Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory.

(2) All questions carry equal marks.

EITHER

1. (A) Explain difference in approach for 'New Design' and 'Re-design'.

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

OR

(B) Define and explain the following terms with respect to 'sensor' :—

(i) Sensitivity

(ii) Resolution

(iii) Accuracy

(iv) Response time

(v) Range. 10

EITHER

2. (A) State and explain various file extensions used in Circuit Maker.

Write steps to construct series RC circuit with DC bias of 5V having RC combination of 150 Ω and 1μF. 6+4

OR

(B) Draw the structure of analog analysis set-up window and explain the function of any four tools in analog analysis setup. 10

EITHER

3. (A) Explain Digital Instruments : Pulsar and Pattern editor. Give the procedure of changing digital waveform order. 6+4

OR

(B) Explain the use of the following tools in digital logic simulation :—

(i) Probe tool

(ii) Trace button

(iii) Run/Pause button

(iv) Step button. 10

EITHER

4. (A) Draw the block diagram of Data Acquisition System and explain function of each block. What is graphical user interface ? How does it differ from the control panel ? 6+4

OR

(B) Explain basic components of Virtual Instrumentation with the help of suitable diagram. Explain role of software in Virtual Instrumentation. 6+4

5. Answer any **TEN** questions :—

(A) How to screen the ideas for system design ?

(B) What is the necessity of techno-commercial feasibility ?

(C) What is a prototype of a design ?

(D) Explain utility of 'IC' tag.

(E) SPICE Stand for.

(F) What is meant by 'Workspace' ?

(G) State the utility of 'Tile Window' button.

(H) Define cycle with respect to tick.

(I) State the use of X-magnification option.

(J) What is meant by PC based DAQ ?

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

(L) What is the importance of A/D converters in virtual instruments ? 1×10=10