Bachelor of Science (B.Sc.) Semester–IV (C.B.S.) Examination

ELECTRONICS

(Electronic Instrumentation)

Paper—II

Time : Three Hours] [Maximum Marks : 50

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

(2) Draw neat and labeled diagrams wherever necessary.

EITHER

1. (A) Draw and explain block diagram of an electronic instrumentation system. What are analogue and digital instrumentation systems ? What is calibration ? Explain different standards for calibration. 3+2+2+3

OR

(B) What is a system ? What are versatile and stand alone systems ? Explain concept of PC based instrumentation system. 6+4

EITHER

2. (A) What is transducer ? What are the important characteristics of a transducer ? Explain in brief. 10

OR

(B) Explain features and working of LM35. Explain measurement of temperature in degree centigrade using LM35. 10

EITHER

3. (A) Explain characteristics of NTC type thermistor. Explain temperature measurement using thermistor. 10

OR

(B) Explain the design and working of Lux meter using LDR. What are the factors affecting accuracy of LDR. 10

EITHER

4. (A) Draw and explain block diagram of man instrumentation system. Draw and explain block diagram of EEG measurement system. 5+5

OR

(B) What are the electric-shock-hazards ? List safety precautions for it.

(D) List and explain different physiological parameters of human body. 5+5

5. Solve any **ten** :

(A) What is a real time system ?

(B) What is error and accuracy ?

(C) What is sensor ?

(D) What is active transducer ?

(E) What is piezo-electric effect ?

(F) What is operating principle of LDR ?

(G) List two applications of thermistor.

(H) What is EMG ?

(I) What is resting potential ?

(J) State advantages of LDR.

(K) What is in vitro and in vivo measurement ?

(L) What is bio-medical instrumentation ? 1×10