(DEC 324)

B.Tech. DEGREE EXAMINATION, MAY - 2015

(Examination at the End of Third Year)

ELECTRONICS & COMMUNICATIONS

Paper - IV : Electronic Measurements & Instrumentation

Time : 3 Hours **Maximum Marks : 75**

Answer question No.1 is compulsory ***(15)***

Answer ONE question from each unit ***(4 × 15 = 60)***

1) a) Define the terms Hysterisis, Dead zone & Drift.

b) What is digital frequency meter?

c) What is deflection sensitivity?

d) What is piezo-electric effect?

e) Give the differences between AC & DC bridges.

f) Give short notes on ECG & EEG.

g) What are the advantages & disadvantages of thermo couples.

UNIT - I

2) a) Explain clearly the differences between accuracy & precision with an example.

b) Define the terms limiting error, calibration error, probable error, mean, standard deviation & variance.

OR

3) Derive the expressions for series type & shunt type ohm meter's.

UNIT - II

4) a) Draw the block diagram of a sampling oscilloscope, its working with necessary waveforms.

b) What do you mean by Graticules & explain them in detail.

OR

5) a) Explain the successive approximation conversion technique.

b) Calculate the value of distributed capacitance of a coil when the following measurements are made.

At frequency, f_1 = 2MHz, the tuning capacitor is set at 410PF.

At frequency, f_2 = 5MHz, the tuning capacitor is tuned at 50PF.

UNIT - III

6) a) Discuss in detail the operation of LVDT & RVDT.

b) Write short notes on capacitive transducer.

OR

7) a) Explain the principle of operation of strain guage? Derive the guage factor expression.

b) Write short notes on thermocouple.

UNIT - IV

8) Draw the block diagram of digital data acquisition system & explain each block clearly.

OR

9) a) Write short notes on Electro myograph.

b) Write short notes on digital recording techniques.

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