

College of Engineering, Pune
END SEMESTER EXAM 2011-12
Year (S Y B.Tech)
(IE 212)- (Electronics Instrumentation)

Date- 07/05 /2012
Timing- 09.00AM to 12.00 Noon

Max. Marks-50
Duration - 3 Hrs

Instructions:

1. All questions are compulsory
2. Number given at right indicates marks.
3. Use of programmable calculator is not allowed.

- Q. 1 A. Design an instrument to measure frequency range of 0.1Hz to 10Hz with a minimum error of 0.01%. Prove accuracy of designed system. 8
- B. What are disadvantages of average responding instruments? Draw a basic circuit for thermocouple type True RMS meter and explain its working. 7
- Q. 2 A. What is virtual instrumentation? What are its advantages? Suggest a strategy for virtual instrumentation of venturi flow meter. 10
- B. Write a note on Arbitrary Waveform Generator. 5
- Q. 3 Solve any four 20
- A. Explain how transistor can be used as voltage regulator.
- B. Define the following terms
 1)Bit Rate 2) Baud Rate 3) Master
 4) Transmitter 5)Amplitude shift keying
- C. Explain how frequency range changing is done in low frequency signal generator.
- D. Write a note on Telemetry.
- E. List down the applications of FFT analyzer.
- F. Two capacitors ($C_1=C_2=100\text{pF}$) and two inductors ($L_1=L_2=100\text{uH}$) are available to use in the Hartley and colpitts oscillator. Determine the oscillating frequency in each case.