Code No: **R41026** **R10** **Set No.1**

IV B.Tech I Semester Supplementary Examinations, February/March - 2018

INSTRUMENTATION

(Open Elective)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
****

1 a) Explain in briefly the measuring system with neat block diagram. [8]
b) Distinguish between static and dynamic characteristics of an instrument. [7]

2 a) Describe the following signals with suitable plots:
(i) Continuous time periodic signals
(ii) Aperiodic signals [8]
b) Explain
(i) Modulated signal
(ii) pulse modulation [7]

3 a) Discuss with neat sketch, the principle operation of LVDT and its applications. [8]
b) Explain the following
(i) Synchros
(ii) photo diodes [7]

4 a) Explain with a neat block diagram of a successive approximation digital voltmeter. [8]
b) Describe the working of digital phase angle meter with neat sketch. [7]

5 a) The lissajous pattern in measurement of phase difference between two voltages of same frequency is an ellipse. How is the phase difference computed? [8]
b) Write short note on
(i) Time base generator
(ii) Vertical amplifiers [7]

6 a) Distinguish the principles of working of a spectrum analyzer and wave analyzer. Draw the block diagram of spectrum analyzer. [8]
b) Explain the working of vector impedance meter with neat schematic. [7]

7 a) Explain the measurement of torque using magneto-strictive transducer method. [8]
b) Compare the advantages and disadvantages of DC tachometer generation and AC tachometer generator. [7]

8 a) Explain with neat diagram the method you would adopt to measure level of a liquid. What are the precautions you would take for accuracy? [8]
b) Explain the different methods used for measurement of temperature. [7]