

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]