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VI SEMESTER
MID SEMESTER EXAMINATION

Roll. No.....
B.TECH (EP)
March-2019

EP-308 Laser and Instrumentation

Time: 1:30 Hours

Max. Marks: 25

Note: Answer All questions.
Assume suitable missing data, if any

- Q1. Describe the LASER properties, construction and the rate equation of Three-level system. 05
- Q2. The coherence time for the red cadmium line ($\lambda=6438\text{\AA}$) is about 10^{-9} s. Estimate the monochromaticity of the line. 05
- Q3. What is the use of scanning electron microscopy (SEM) in material characterization? Describe the working principle of conventional SEM with the schematic diagram. 05
- Q4. Describe the working principle of spectrophotometer and types of photometer with schematic diagrams. Also discussed the use of spectrophotometer in scientific field. 05
- Q5. Write short notes on any Two of the following: 05
- (a) Raman Effect
 - (b) Photomultiplier tube
 - (c) Bragg's Law
 - (d) Collisional Broadening