

Code: ECMC1T2

I M.Tech - I Semester - Regular Examinations – March 2014

**FIBER OPTIC COMPONENTS, MEASUREMENTS &
NETWORKS
(MICROWAVE & COMMUNICATION ENGINEERING)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) Explain the brief description on the principle of optical sources. 7 M
b) Draw & explain about Laser diode structures. 7 M
2. a) Discuss about Avalanche multiplication noise. 5 M
b) What are the different noise sources in photo detectors and derive the expression for Signal to noise ratio. 9 M
3. a) Derive the expression for longitudinal misalignment in optical fiber joints. 6 M
b) Explain about various Connectors techniques. 8 M
4. a) Explain in detail about Semiconductor laser amplifiers. 7 M

- b) Explain about WDM couplers. 7 M
5. a) Explain about Opto-electronic integration in detail. 7 M
- b) Write in detail about optical computation. 7 M
6. a) Explain in detail about the Intensity, phase and polarization based sensors. 7 M
- b) Explain the principles of displacement and velocity measurements using optical fibers. 7 M
7. a) What do you understand by couplers/splicers? Explain. 5 M
- b) Write about Wavelength Division Multiplexers and De-multiplexers. 9 M
8. a) Explain in detail about SONET/SDIT. 9 M
- b) Discuss about WDM networks. 5 M