Roll No. | | | | | | | | | | | | |

Total No. of Pages : 01

Total No. of Questions : 08

M.Tech.(ECE) (Sem.–2)

OPTICAL COMMUNICATION SYSTEMS

Subject Code : EC-507

Paper ID : [E0566]

Time : 3 Hrs. Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

Q1. a) Explain the photo detectors and their characteristics.

b) Discuss the Raman amplifier in detail.

Q2. Discuss in detail problems faced due to Nonlinear Optical effects in fiber optical communications. How are they handled? Also, discuss its applications.

Q3. a) How responsivity depends on the wavelength of a photodiode? Explain with suitable mathematical treatment.

b) List & explain optical & current confinement.

Q4. Discuss the semiconductor lasers and explain their characteristics.

Q5. a) Explain the design of dispersion shifted fibers.

b) Difference between TDM and CDM in multichannel systems.

Q6. Explain the principle of dispersion decreasing fiber and fiber Bragg grating.

Q7. a) Find the relation between 3-dB optical bandwidth and 3-dB electrical bandwidth of an LED.

b) Discuss EDFA in detail.

Q8. What are the types of Solitons based on the various aspects? How are they generated? Give its mathematical treatment and conditions to be satisfied.