

Time : 3 hrs
Total Marks: 100

1. i) Differentiate single mode and multimode fiber?(8)
ii) Derive an expression for numerical aperture in optical fiber?(12)
OR
2. Explain the following with necessary diagrams and expressions
i) Intramodal dispersion in optical fiber
ii) Intermodal dispersion in optical fiber
3. Explain the working principle of PIN and Avalanche Photo Detector?
OR
4. i) Differentiate stimulated emission and spontaneous emission.(8)
ii) Explain in detail about semiconductor injection LASER diode? (12)
5. Mention the functioning of optical switches and couplers
OR
6. Explain non linearity through four wave mixing and self phase modulation
7. Explain the working principle of semiconductor LASER amplifier?
OR
8. Explain the necessity of pumping in EDFA amplifier
9. How chirping is addressed in soliton based optical transmission

Wishing you All the Best