

QP Code :732500



[3 hours]

[80Marks]

N.B.: (1) Q.No. 1 is compulsory

(2) Attempt any three from remaining questions

1. Answer the following (any four):- [20]
 - a) List out the lensing schemes and defects used in power launching.
 - b) Define the following terms:
 - i) Skew rays, Meridional rays
 - ii) Acceptance angle, critical angle
 - c) Explain the term fiber joint and also explain why it is required?
 - d) Give the classification of fiber optic sensors.
 - e) What are the reliability considerations of optical detectors?
2. Answer the following :- [20]
 - a) Optical fiber uses core and cladding. Each made up of glass/plastic with different refractive indices. How these differences are caused? Explain in detail modified chemical vapour deposition fiber fabrication with the neat diagram.
 - b) Explain Avalanche photodiode in detail.
3. Answer the following:- [20]
 - a) Explain the method of measuring temperature and flow using fiber optic.
 - b) How the Measurement of attenuation using cut-back method is achieved in optical fiber?
4. Answer the following :- [20]
 - a) Explain the various types of losses in optical fibers.
 - b) Explain the Opto-isolator.
5. Answer the following :- [20]
 - a) Define Holography? Explain holographic interferometry.
 - b) What is splicing? Explain its types.
6. Write short notes on : (any 4) [20]
 - a) Application of Laser in medicine
 - b) Directional couplers
 - c) Electromagnetic Radiation
 - d) Distributed fiber sensing.
 - e) Fiber scattering loss measurement
 - f) Active and passive remote sensing