24/05/2017

B.E. SEM VIII / INST / CBGS / MAY 2017

Q.P. Code :13027

(3 Hours)

[Total Marks: 80]

N.B.:
(1) Question **No.1** is **compulsory**.
(2) Attempt any **three** from the remaining questions.
(3) Assume suitable data wherever required and state the assumptions.

1. Answer the following (any four):- [20]
   a. What are different types of mechanical misalignments?
   b. Explain the term splice and what are the different losses occurred due to it?
   c. Write the concept of optical amplifier.
   d. What are the reliability considerations of optical detectors?
   e. Differentiate between single mode and multimode.

2. a) Explain in detail Outside vapour phase deposition method of fiber fabrication. [10]
   b) What is population inversion? Describe fabry perot laser diode. [10]

3. a) Explain the method of measuring pressure and temperature using fiber optic. [10]
   b) What is fiber Bragg gratings? Describe the distributed optical fiber sensing technique with neat diagram. [10]

4. a) Explain the Beam Splitter. [10]
   b) How the Measurement of attenuation using cut-back method is achieved in optical fiber? [10]

5. a) Write down the various laser applications in industry and explain any one. [10]
   b) Give the classification of transmission characteristics of fiber in detail [10]

6. Write short notes on : [20]
   a. Controlled fracture technique
   b. Electromagnetic Radiation
   c. Active and passive remote sensing
   d. Holography technique and its applications

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