

VIII / INST (Fiber Optic Inst.) / 24-05-16  
 QP Code : 732501  
 CBS

(03 Hours)

(Total Marks 80)

**N.B:** 1. Question No. 1 is compulsory.

2. Attempt **any Three** from remaining questions.

3. Assume suitable data wherever necessary.

4. Figure to right indicates full marks.

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|-------|--|----|
| 1. a) | Explain Multi mode interference coupler (MMIC).  | 05 |
| b)    | Describe fiber optic mechanical displacement measurement.                                | 05 |
| c)    | What are the advantages of optical fiber communication over electrical communication?    | 05 |
| d)    | Differentiate LED and LASER.   | 05 |
| 2. a) | Explain different types of optical fiber sensors and explain in detail flow type sensor. | 10 |
| b)    | Explain in details any one application of laser in medical application.                  | 10 |
| 3. a) | Explain Fiber grating and Bragg grating technology.                                      | 10 |
| b)    | What is opto isolator? Draw and explain how it is useful in transmission link.           | 10 |
| 4. a) | What are the different coupling losses? Explain with net diagram.                        | 10 |
| b)    | Explain optical fiber characteristics.   | 10 |
| 5. a) | Explain various platforms used for remote sensing.                                       | 10 |
| b)    | Explain in details splices and connectors.   | 10 |
| 6.    | Write short note on-   | 20 |
| a)    | Types of optical fiber with suitable diagram.  |    |
| b)    | Lensing scheme for coupling improvement.   |    |
| c)    | Differentiate photovoltaic and photoconductive mode of operation of photo detector.      |    |
| d)    | Dispersion measurement.  |    |