

(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. | |



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