



C14-EC-603

4739

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH / APRIL - 2019

DECE - VI SEMESTER EXAMINATION

OPTICAL FIBER COMMUNICATION

Time : 3 Hours]

[Total Marks : 80

PART - A

3×10=30

Instructions :

- (1) Answer **ALL** questions.
- (2) Each question carries **THREE** marks.
- (3) Answer should be brief and straight to the point and shall not exceed five simple sentences.

- 1 Define the acceptance angle.
- 2 List any three advantages of single mode fiber over multi mode fiber.
- 3 List different types of fiber drawing processes.
- 4 Write any three differences between inter model and intra model dispersion.
- 5 List any six components used in the fiber optic communication.
- 6 What is the need of a coupler/splitter in FOC ?
- 7 Write the salient features of an optical sources.
- 8 Draw the block diagram of Erbium Doped Fiber amplifier.
- 9 Define wavelength division multiplexing.
- 10 List three types of network topologies in Fiber optic networks.

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[Contd...

PART - B**10×5=50**

- Instructions :**
- (1) Answer any **FIVE** questions.
 - (2) Each question carries **TEN** marks.
 - (3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

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| 11 | Explain the structure of optical fiber with diagrams. | 10 |
| 12 | Explain Outside Vapour Phase Oxidation method of optical fiber fabrication. | 10 |
| 13 | (a) Explain intrinsic and Extrinsic losses in optical fiber. | 5 |
| | (b) Distinguish between mechanical splice and fusion splice. | 5 |
| 14 | Explain the working of an optical time domain reflectomete (OTDR). | 10 |
| 15 | (a) Briefly Explain the working of Isolator. | 6 |
| | (b) Write the important features of an optical detector. | 4 |
| 16 | Explain the construction and working of LASER source. | 10 |
| 17 | Draw the block diagram of Fiber optic communication system and explain each block. | 10 |
| 18 | (a) Draw the block diagram of Wavelength division multiplexing system. | 5 |
| | (b) Explain the uses of fiber optic cables as submarine cables. | 5 |