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C14-EC–504

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BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2021

DECE - FIFTH SEMESTER EXAMINATION

OPTICAL FIBRE COMMUNICATIONS

Time : 3 hours] [*Total Marks* : 80

PART—A

4×5=20

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **four** marks.

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. List three generations of optical fibres.

2. Define multimode fibre (MMF).

3. List various losses in optical fibres.

4. Define wave guide dispersion.

5. State the need for connectors in OFC.

6. List different optical couplers.

7. Mention two types of detectors used in OFC.

8. State the need for repeater/regenerator in FOC.

9. Define optical time domain multiplexing.

10. Distinguish between wide band WDM and narrow band WDM.

PART—B

15×4=60

Instructions : (1) Answer *any* **four** questions.

(2) Each question carries **fifteen** marks.

(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Explain the total internal reflection in optical fibre.

12. Explain intrinsic and extrinsic losses in optical fibre.

13. Describe the characteristics of loose buffered cable.

14. Explain the working of an optical coupler.

15. Explain the working of isolator.

16. Explain the construction and working of LED.

17. Draw the block diagram of fibre optic communication system and explain each block.

18. Explain star and ring topologies used in fibre optic network.

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