C14–EE–**504**

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BOARD DIPLOMA EXAMINATION, (C–14)
OCT/NOV—2016
DECE—FIFTH SEMESTER EXAMINATION

OPTICAL FIBRE COMMUNICATION

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

PART—A　　　　　　　　　3×10=30

Instructions : (1) Answer **all** questions.

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

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

1. List the advantages of SMFs over MMFs.

2. Define cone of acceptance.

3. List four types of fibre drawing processes.

4. List various losses in optical fibres.

5. List various fibre optic components.

6. State the use of optical attenuators.

7. List two types of sources used in OFC.

8. List the salient features of an optical detector.

9. Define optical time domain multiplexing.

10. List three types of network topologies.

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

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

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

11. *(a)* Explain the structure of optical fibre.   5

(b) Explain total internal reflection in optical fibre.   5

12. *(a)* Explain group velocity dispersion.   5

(b) Explain intrinsic and extrinsic losses.   5

13. *(a)* Describe the characteristics of tight buffered cable.   5

(b) Distinguish between inter modal and intra modal dispersion.   5

14. Explain the working of Optical Time Domain Reflectometer (OTDR).   10

15. Write different types of optical coupler and explain the working of an optical coupler.   10

16. *(a)* Explain the construction and working of an LED.   6

(b) Write the merits and demerits of an LED.   4

17. *(a)* Explain the principle of EDFA.   4

(b) Explain the construction and working of PIN photo diode.   6

18. *(a)* Distinguish between wideband WDM and narrowband WDM (DWDM).   4

(b) Explain the use of fibres in local telephone (FTTH).   6

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