F 3185 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Seventh Semester

Branch : Electronics and Communication Engineering

OPTICAL FIBRE COMMUNICATION SYSTEMS (L)

(Regular / Supplementary / Mercy Chance)

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*

Each question carries 4 *marks.*

1. Define critical angle. What is its significance?
2. What is meant by index profile?
3. Compare the characteristics of single mode and multi-mode fibres.
4. What is pulse Spreading?
5. What are the characteristics of LED?
6. Write a note on lensing schemes used.
7. What is WDM? What are its advantages?
8. What are the characteristics of SLAs?
9. Explain the principle of operation of OTDR.
10. Discuss the importance of the measurement of the Cut-1 off wavelength of fibres.

(10 × 4 = 40 marks)

Part B

Answer **all** *questions.*

Each question carries 12 *marks.*

11. What are the parameters of an optical fibre? Explain how they affect the propagation of wave.

Or

12. Explain the effect of index profile on wave propagation through a cable.
13. Explain the different types of attenuation in optical fibres.

Or

14. Describe the different types of optical couplers. Compare their characteristics.

15. Explain with diagrams, the construction, principle of operation and characteristics of APD.

Or

16. Explain with diagrams the methods of launching power from source to fibre.

17. Explain with diagrams the protection techniques used in FOC systems.

Or

18. Write an account on optical fibre networks.

19. Explain with diagrams the measurements of (a) bandwidth; and (b) fibre attenuation.

Or

20. Explain with diagrams an application of fibre optic systems.

(5 × 12 = 60 marks)