

C 41238

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Name

Reg.



**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, MAY 2013**

EC/PTEC 09 605—OPTICAL COMMUNICATION

(2009 Admission onwards)

Time : Three Hours

Maximum : 70 Marks

Part A

1. Differentiate between single mode and multimode fibers.
2. What is responsivity ?
3. What is shot noise ?
4. State any two characteristics of optical amplifiers.
5. What is the effect of dispersion in single mode amplifier.

(5 × 2 = 10 marks)

Part B

Answer any four questions.

6. Explain about polarization.
7. Explain about phase noise and switching in LED.
8. Explain the merits of heterodyne systems.
9. Explain the multiplexing in SONET.
10. Explain about Quantum efficiency.
11. Write a note on erbium doped fibers.

(4 × 5 = 20 marks)

Part C

12. (a) Discuss about dispersion in single mode and multimode fibers.

Or

(b) Explain the (i) features of different types of fibers and (ii) attenuation in optical fibers.

13. (a) Discuss the working of photodiode and LED.

Or

(b) Describe the structure of LASER diode and explain its operation.

Turn over

14. (a) Discuss about heterodyne system structures and the effects of degradation on it.

Or

(b) Discuss low various noise and affecting the performance of IM direct systems ? How it is overcome ?

15. (a) Discuss the working of optical networks.

Or

(b) Explain in detail about Raman amplifier and DWDM networks.

(4 × 10 = 40 marks)