

Exam.Code:0932
Sub. Code: 6933

1108
B.E., (Electronics and Communication Engineering)
Eighth Semester
EC-803: Optical Networks

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) Explain the importance of optical switches in networks.
- b) What do you understand by electronic bottleneck?
- c) What new recommendations are needed to meet requirements for greater distances in the access network?
- d) Explain the importance of wavelength converters in networks?
- e) Explain how dispersion in a fiber can be reduced. (5x2)

UNIT - I

- II. a) Write short note on evolution of optical networks
b) What are the advantages of optical network? (2x5)
- III. a) What is the difference between semiconductor Laser amplifier and Raman amplifier.
b) In a WDM network node, if two signals on the same wavelength arriving from different input ports need to go to the same output port, then a conflict may occur. Describe two methods for resolving this conflict. (2x5)
- IV. a) In which type of network, single hop or multi hop, is a smaller tuning latency more critical? why?
b) Discuss various switching elements in brief. (2x5)

UNIT - II

- V. a) Discuss the contention resolution in OPS networks.
b) What are the switching schemes for WDM networks? Compare all with OBS. (2x5)
- P.T.O.

(2)

- VI. a) explain principle of operation of WDM EOPN access network.
b) How traffic grooming can be possible in SONET ring networks. Explain with example. (2x5)
- VII. a) Discuss the issues in wavelength routed networks and how theses can be handled?
b) Explain: Exhaust routing and least congested path routing. (2x5)

x-x-x