

Exam.Code:0932

Sub. Code: 6933

1058

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 Section.

x-x-x

Q1)

- Explain how the attenuation and dispersion in fiber can be reduced.
- Explain the importance of optical switches in networks.
- What is difference in tunable and fixed optical filters.
- What new recommendations are needed to meet requirements for greater distances in the access network?
- What is the principle behind wavelength converter in optical networking.

(2*5)

SECTION -A

Q2) a. What are the advantages of optical network? (5)

b. Explain wavelength routed optical WDM network with example. (5)

Q3) a. What is the difference between semiconductor Laser amplifier and Raman amplifier (5)

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. (5)

Q4) a . Explain various switching elements like OADM , OXC. (5)

b. In which type of network, single hop or multi hop, is a smaller tuning latency more critical? why? (5)

SECTION -B

Q5) a. Clarify the difference between slotted network and an unslotted network. (5)

b. What are the switching schemes for WDM networks. Compare all with OBS . (5)

Q 6) a. What are the challenges in access networks and explain principle of operation of EPON. (5)

b. How traffic grooming can be possible in SONET ring networks. Explain with example. (5)

Q7) a . Discuss the issues in wavelength routed networks and how theses can be handled? (5)

b. Explain any two routing and wavelength assignment methods. (5)

x-x-x