

27/5/19 (E)

Exam.Code:0932

Sub. Code: 6940

(11)

1059

B.E. (Electronics and Communication Engineering)

Eighth Semester

EC-803: Optical Networks

Time allowed: 3 Hours

Max. Marks: 50

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

X-X-X

I Answer of the following:-

- a) Discuss the means of reducing the attenuation and dispersion in fiber.
- b) Explain the importance of wavelength converters in networks?
- c) What is the difference between tunable and fixed optical filters?
- d) What is meant by the contention resolution in OPS networks?
- e) What is the principle of operation of OADM? (5x2)

UNIT - I

II a) State the principle of operation of semiconductor laser. Also, discuss the characteristics of laser diode.

b) What are advantages and disadvantages of optical networks? (6,4)

III a) 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.

b) Explain wavelength routed optical WDM network with example. (5.5)

IV a) In which type of network, single hop or multi hops, is a smaller tuning latency more critical? Why?

b) Discuss the differences between semiconductor laser amplifier and Raman amplifier. (5.5)

UNIT - II

V a) What are the header and packet format for slotted network

b) What are the challenges in access networks and explain principle of operation of EPON. (5.5)

VI a) Discuss various issues and solution involved in wavelength routed networks

b) What are the switching schemes for WDM networks? Compare them with OBS. (5.5)

VII a) How traffic grooming can be possible in SONET ring networks. Explain with example.

b) Write short notes on Exhaust routing and Least congested path routing. (5.5)

X-X-X