Exam.Code:0932
Sub. Code: 33699

2056

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. I which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

a) Explain the significance of optical switches in optical networks.

b) Describe the principle of operation of OXC.

c) Explain briefly the challenges of optical WDM EPON networks.

d) Differentiate between slotted and unslotted networks.

e) What are the specifications of Gigabit Ethernet in optical access networks? (5x2)

UNIT - I

II. a) What are wavelength routed optical WDM network? Explain its importance in networks.

b) Explain Raman amplifier with suitable diagram. Give its applications. (2x5)

III. a) Explain the concept of multi-hop networks. Also compare single-hop with multi-hop networks.

b) Explain various switching elements of OADM optical networking. (2x5)

IV. a) What type of optical transmitters are mostly preferred in optical networking? Explain briefly.

b) Differentiate between broadcast and select optical WDM networks on the basis of performance parameters. (2x5)

UNIT - II

V. a) Differentiate PON, EPON and WDM EPON optical access networks.

b) Explain signaling and routing protocols for OBS networks. (2x5)

P.T.O.

VI. a) Explain the traffic grooming in SONET ring. How it is different from traffic grooming in WDM ring?

b) What is contention resolution in OPS networks? Explain the architecture of OPS networks. (2x5)

VII. Write short notes on:-

(a) Fixed routing and fixed alternate routing algorithms.

(b) MEMs based switching. (2x5)

x-x-x