Second Semester M. E. (Electronics and Telecommunication) Examination

OPTICAL NETWORK

Paper - 2 ENTC 05

P. Pages : 3

Time : Three Hours] [Max. Marks : 80

Note : (1) Separate answer book must be used for each section in the subject Geology, Engineering material of civil branch and separate answer-book must be used for Section A & B in Pharmacy and Cosmetic Technology
(2) Due credit will be given to neatness and adequate dimensions.
(3) Assume suitable data wherever necessary.
(4) Illustrate your answer wherever necessary with the help of neat sketches.
(5) Use pen of Blue/Black ink/refill only for writing the answer book.

SECTION A

1. (a) Explain evolution and standardization of SONET and SDH in terms of 'Multiplexing simplification' and Interopertability. 7

   (b) Discuss the attractive features of SONET/SDH by comparing it with T1/E1 technology. 7

OR

2. (a) Explain in detail multiplexing hierarchy in SONET. 8

   (b) Explain benefits of SONET/SDH and contrast it with public network. 6

3. (a) Compare in–band and out–of–band control signaling. 7

   (b) Explain the generic frame procedure format. 6

OR

4. (a) What are the problems in second generation digital transport SONET and SDH ? Explain how they overcome. 7

(b) Explain the relationship of control plane to data plane. 6

5. (a) Explain TDM and WDM topologies. 8

(b) Discuss conventional optical ethernet. 5

OR

6. Explain in detail, why deployment of redundant facilities on rings, point to point systems or even meshed networks is well accepted and supported by network customer. 13

SECTION B

7. (a) Explain why label switching is of such keen interest in the industry. 7

(b) What are the objectives of traffic engineering in MPLS environment. 6

OR

8. (a) Explain in detail relationship of MPLS and optical networking. 7

(b) Explain types of MPLS nodes with the functions they perform. 6

9. (a) Discus in detail ODUK general communication channel. 7

(b) Explain optical control and data planes for third generation optical transport network. 7

OR

10. (a) Explain in detail the framework for IP over optical network. 7

(b) Discuss the basic functions of the link management protocol. 7

11. (a) Give summary of the evolution of switching technologies. 7

(b) Explain recovery and use of protection path. 6

OR

12. (a) Explain procedure for message exchange during control channel management operation which establish and maintain link connectivity between adjacent nodes. 7

(b) Discuss functional view of the optical router. 6