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12SCN23

Second Semester M.Tech. Degree Examination, June / July 2014
Optical Networks

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. Explain the key nodes used in optical networks. (06 Marks)
b. Write a note on evolution of optical systems. (08 Marks)
c. Explain North American multiplexing hierarchy. (06 Marks)
- 2 a. List and define the key performance properties of fiber and explain attenuation performance of silica based optical fiber. (10 Marks)
b. Explain the different methods of achieving synchronization between machines (clock exchange). (10 Marks)
- 3 a. Explain SONET frame structure. (07 Marks)
b. Explain the optical network layered architecture. (07 Marks)
c. Write a note on GFP (Generic Framing Procedure). (06 Marks)
- 4 a. Explain the relationship of SONET/SDH to WDM. (06 Marks)
b. Write a note on WDM amplifier. (06 Marks)
c. Explain with neat diagram the WADM input and output ports. (08 Marks)
- 5 a. Write a note on BLSR with protection switching. (07 Marks)
b. Explain with figure passive optical networks. (07 Marks)
c. What do you mean by metro optical networking? Explain in brief. (06 Marks)
- 6 a. What is label switching? Explain the reasons, why label switching is more important in the industry. (06 Marks)
b. Write a note on MPLS support virtual private networks (VPNs). (07 Marks)
c. What do you mean by multi protocol lambda switching? Explain with examples. (07 Marks)
- 7 a. Write a note on MPLS, IP and optical network data and control planes. (08 Marks)
b. Explain the generalized MPLS (GMPLS) use in optical networks. (06 Marks)
c. Write a note on G.709. (06 Marks)
- 8 a. Explain the fields of LMP message header. (06 Marks)
b. Write a note on control channel management. (06 Marks)
c. With figure, explain the functional view of optical router. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.