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10TE81

Eighth Semester B.E. Degree Examination, June/July 2018
Optical Networking

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. With the help of a diagram, explain the different parts of a public networks. (06 Marks)
b. With the help of diagrams, explain the evaluation of optical transmission system. (10 Marks)
c. Briefly explain solitons. (04 Marks)
- 2 a. With the help of diagrams, explain the principle of operation of Isolators and circulators. (10 Marks)
b. Explain multilayer, dielectric Thin film filter and show how the same filter can be used as multiplexer and Demultiplexer. (10 Marks)
- 3 a. What are the main considerations in building large switches? Compare the different types of switch architectures. (10 Marks)
b. Explain the principle of operation of EDFA's and explain how gain flatness can be achieved. (10 Marks)
- 4 a. With the help of a block diagram, explain various components of WDM link. (08 Marks)
b. Explain in brief the following :
i) Power penalty
ii) Transmitter
iii) Receiver. (06 Marks)
c. Describe in detail the interchannel and intrachannel crosstalk. (06 Marks)

PART – B

- 5 a. With the neat diagram explain the different elements of a SONET/SDH infrastructure. (10 Marks)
b. Explain a layered view of network consisting of a second generation optical network layer and also explain with Figure the four sub layers of SONET/SDH layers. (10 Marks)
- 6 a. What are the different types of wavelength conversion techniques in a wavelength add/drop multiplexer, explain with neat sketch. (10 Marks)
b. Explain the features of optical layers. (10 Marks)
- 7 a. Explain combined SONET/WDM Network design problem. (10 Marks)
b. Explain the different types of protection techniques for point to point links that comes under fault management. (10 Marks)
- 8 a. Explain synchronization (10 Marks)
b. Explain OTDM (10 Marks)

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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.