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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)**M.Tech I Year I Semester (R16) Regular Examinations May/June 2017****OPTICAL NETWORKS**

(Digital Electronics & Communication Systems)

(For Students admitted in 2016 only)

Time: **3 hours**Max. Marks:**60**(Answer all Five Units **5 X 12 =60** Marks)**UNIT-I**

- 1 a. Explain the working principle of acoustic optical tunable filter 6M
b. Explain the following i. Isolators ii. Circulators 6M

OR

- 2 a. Explain Subcarrier Modulation and Multiplexing. 6M
b. Explain the working principle of high channel count multiplexer using suitable diagrams. 6M

UNIT-II

- 3 a. What are the routing strategies in an optical network? Give examples. 4M
b. . What are the routing strategies in an optical network? Give examples. 8M

OR

- 4 a. Discuss Storage-Area Networks 8M
b. Explain the .i. SONET/SDH Rings ii. MPLS. 4M

UNIT-III

- 5 a. Explain classes of statistical traffic models used in solving the dimensioning problem. 6M
b. Explain about optical cross connectors. 6M

OR

- 6 a. Explain the importance of optical line terminal. 4M
b. Discuss wavelength-routing mesh network that provide light paths to its users, such as SONET boxes and IP routers 8M

UNIT-IV

- 7 a. Explain interoperability between WDM systems from different vendors. 6M
b. Explain Protection in IP network with example. 8M

OR

- 8 a. Discuss Service Classes Based on Protection 4M
b. Describe how protection in the network can be coordinated between all the layers 8M

UNIT-V

- 9 a. List the different types of services that must be supported by an access network.. 6M
b. Draw the access Network Architecture and explain each block. 6M

OR

- 10 a. Define synchronization. 4M
b. Explain the synchronization of two periodic streams by introducing a delay ΔT in the top stream relative to the bottom stream. 8M

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