

**M.Tech. IN ADVANCED INFORMATION
TECHNOLOGY – NETWORKING AND
TELECOMMUNICATION (MTECHTC)**

Term-End Examination

December, 2014

00154

**MINI-025 : SPECIAL TOPICS IN NETWORKING AND
TELECOMMUNICATIONS**

***Important Instruction* : This question paper should be attempted only by those candidates who have registered for July, 2011 Batch only.**

Time : 3 hours

Maximum Marks : 100

Note :

- (i) *Assume suitable data wherever required.*
- (ii) *Draw suitable sketches wherever required.*

SECTION I

*Solve any **four** questions from this section :*

1. (a) Which optical fiber is suitable for long haul networks ? Justify your answer. 6
- (b) Compare Gigabit Ethernet network with ATM network with respect to technology used, distance of transmission, reliability, quality of service, cost, etc. 7

2. (a) What are the advantages and disadvantages of DWDM technology? 6
- (b) Explain DWDM technology, with the help of a neat diagram. 7
3. What are the challenges for IP (Internet Protocol) over WDM (Wavelength Division Multiplexing) network? Why is label switching required? 7+6
4. (a) What are the drawbacks of running ATM over WDM? 4
- (b) Explain what are OEO and OOO technologies? 4
- (c) What are the main sections of WDM optical switch? Explain any one of them. 5
5. Explain the working of all optical add/drop multiplexer (OADM) without wavelengths conversion or with wavelength conversion (illustrate with the help of a neat diagram). 13
6. (a) What are the salient features of FDDI network? 6
- (b) Compare multi-mode fiber and single-mode fiber in terms of advantages, limitations, features, applications, etc. 7

SECTION II

*Solve any **four** questions from this section :*

7. (a) Explain the remote server administration with various tools. 6
- (b) What precautions does an administrator need to take while managing remote server? 6
8. (a) Explain DHCP handshaking process. 5
- (b) XYZ airport is implementing DHCP server in their premises. How will you implement DHCP server? Give the complete planning and implementations steps. 7
9. Write down the procedure to implement file server. The company has following requirements : 12
- (i) Each user should get 1 GB space on Server
- (ii) Registered user should download file at 25 kb/s
- (iii) Restrict anonymous users
- (iv) Restrict download from 192.168.50.0 source network.

10. Nokia company wants to secure their server farm. As a sever expert, what are the policies you will suggest to them to implement ? 12
 11. Explain the disaster management to address the server safety and data recovery. 12
 12. Write a UNIX bash shell program to monitor remote server availability. It should also print total server downtime. 12
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