

05/12/12

Advanced networking technology

VIII / R / Electronics / R

25 : 2nd half, 12-shilpa(e)

Con. 9997-12.

(REVISED COURSE)

KR-4950

(3 Hours)

[Total Marks : 100

- N.B. :** (1) Question No. **1** is **compulsory**.
(2) Answer any **four** out of remaining **six** questions.

1. Answer the following :- 20
 - (a) Explain BSS and ESS as defined by 802.11 and also explain how 'hidden station' problem is overcome in 802.11.
 - (b) Compare Frame relay and ATM.
 - (c) Bring out the salient differences between TCP/IP and OSI Model.
 - (d) What is the need for fragmentation in IPV4 ? How is it implemented ? Explain with an example.

2. (a) Explain IPV4 datagram format in detail. What are the strategies for transition from IPV4 to IPV6 ? Explain. 10
(b) For the following Network Components, bring out the functions of each : Hubs, Repeaters, Bridges Switches, Routers. 10

3. (a) Briefly explain subnetting and superntting, with an example. How do the subnet mask and supernet mask differ from a default mask in classful addressing ? 10
(b) Explain the steps for completing the Access-Network design in detail. 10

4. (a) Differentiate between CSMA/CD and CSMA/CA. Why CSMA/CD is not implemented in WLAN ? With a neat process flow-chart, explain how CSMA/CA is implemented in WLAN. 10
(b) Explain ATM cell format. Also describe the different functional layers of ATM and bring out the significance of AAL layer. 10

5. (a) Explain DWDM technology with a neat schematic diagram of DWDM architecture, bringing out the main functions of the DWDM system components. 10
(b) Describe frame format of Frame Relay and explain how congestion control is implemented in frame relay. 10

6. (a) What is a firewall ? What are the capabilities and limitations of firewall ? Explain different types of firewalls, their advantages and weaknesses. 10
(b) Explain the different security threats and safeguards. 10

7. Write short notes on :- 20
 - (a) RMON
 - (b) SONET functional Layers
 - (c) Differences between IPV4 and IPV6
 - (d) Layer - 7 filtering.