

(3 Hrs)

Marks : 80

Note :

- Question no. 1 is compulsory.
- Solve any three questions out of remaining.
- Make suitable assumptions whenever necessary.
- Figures to the right indicates full marks

- Q.1 [a] What is hidden terminal problem? Describe the common method used in alleviating the hidden terminal problem at the MAC layer. 05
- Q.1 [b] Differentiate between proactive and reactive protocols. Write examples for each. 05
- Q.1 [c] Explain the concept of slow start mechanism of TCP. 05
- Q.1 [d] Discuss the ethernet design rules for an Enterprise LAN. 05
- Q.2 [a] Discuss design best practices of campus area network design. 10
- Q.2 [b] An engineering college has 4 departments viz. computer, IT, Civil & Mechanical with 5 labs in each department. Each lab has 20 nodes. The labs are to be connected via a single LAN. Each department and lab has to be identified by a unique subnet id. Give the design details for the backbone/core layer, distribution layer and access layer of the campus network. Design the IP addressing and subnetting using class C addressing. 10
- Q.3 [a] Compare the characteristics of RIPv1, RIPv2, OSPF and EIGRP routing protocols. 10
- Q.3 [b] What are the issues of resource reservation? What are the various approaches of resource reservation? 10
- Q.4 [a] Explain dynamic source routing (DSR) protocol in detail along with its advantages and disadvantages. 10
- Q.4 [b] What is SDN? Discuss the architecture in brief? How does it overcome the limitations of traditional networks? 10
- Q.5 [a] Explain the Random Early Detection method of congestion avoidance? What is the significance of an Average Queue length in this method. 10
- Q.5 [b] Explain MACA-BI and state differences between MACAW. 10
- Q.6 [a] WAN transport technologies 10
 [b] Data Center Virtualization technologies 10
 [c] IPv6 Addressing 10