

Con/3099-07.

(REVISED COURSE)
(3 Hours)

ND-1852
[Total Marks : 100

- N.B. : (1) Question No. 1 is compulsory.
(2) Attempt any four questions from the remaining questions.
(3) Assumptions made must be clearly stated.

1. (a) What are special addresses ? Explain in brief. 20
(b) What is the need of fragmentation in IP ? Explain all the fields of fragmentation.
(c) Explain how the flow control is achieved in TCP.
(d) Explain different timers used in RIP.
(e) Discuss the type of resolutions in Domain Name System.
2. (a) What is the requirement for subnetting and supernetting ? How these methods help in addressing the problems associated with classful addressing ? 12
(b) An ISP is granted a block of addresses starting with 150.80.0.0/16. The ISP wants to distribute these blocks to 1000 customers as follows : 8
 - (i) I group has 200 businesses; each needs 128 addresses.
 - (ii) II group has 400 businesses; each needs 16 addresses.
 - (iii) III group has 2000 house holds; each needs 4 addresses.Design sub blocks and give slash notation function for each sub block. Find out how many addresses are still available after these allocation.
3. (a) Explain in detail the options available in IP datagram w.r.t. option field. 10
(b) Discuss different error reporting messages in ICMP with message format. 10
4. (a) Explain how the checksum calculation is carried out in UDP. 8
(b) Discuss different fields associated with segment of TCP. 12
5. (a) What are the different OSPF packets ? Explain linkstate update packet. 12
(b) Explain the transition states of DHCP with a neat diagram. 8
6. (a) Explain how the privacy for LAN's that communicate through global internet is achieved by VPN. 6
(b) What is NAT ? Why it is required ? Explain port mapped NAT. 6
(c) Explain the characteristics of real time audio video communication. 8
7. (a) Explain in detail about the extension headers of IPV6. 8
(b) Write short notes on : (any three) 12
 - (i) RTCP
 - (ii) MBONE
 - (iii) Firewalls
 - (iv) SIP
 - (v) IP Sec.