

SE (IT) Sem - IV

Networking Technologies, Digital

Devices : 17/12/12

55 : 2nd half-12-(f) JP

Con. 7839-12.

KR-7517

(3 Hours)

[Total Marks : 100

- N.B.:** (1) Question No. 1 is **compulsory**.
(2) Attempt any **four** questions from remaining **six** questions.

1. (a) A pure ALOHA network transmits 200 bit frames on a shared channel of 200 kbps. 10
What is the throughput if the system (all stations together) produces ?
 - (i) 1000 frames per second
 - (ii) 500 frames per second
 - (iii) 250 frames per second.
- (b) Explain the life cycle of CORBA. 10
2. (a) What is routing in network ? Write the difference between adaptive and 10
non-adaptive routing. Write any one algorithm of adaptive routing.
- (b) What is RPC ? How RPC is implemented ? How are the stubs generated ? 10
3. (a) A company is granted the site address 201.70.64.0. The company needs six subnets. 10
Design the subnets.
- (b) The following is a dump of TCP header in hexadecimal format 10
05320017 00000001 00000000 500207FF 00000000
 - (i) What is the source port number ?
 - (ii) What is the sequence number ?
 - (iii) What is the acknowledgement number ?
 - (iv) What is the length of header ?
 - (v) What is the window size ?
4. (a) Calculate the maximum bit rate for a channel having bandwidth 1600 Hz. If : 10
 - (i) S / N ratio 0 dB
 - (ii) S / N ratio is 20 dB.
- (b) Differentiate between :— 10
 - (i) Star topology and Bus topology
 - (ii) Circuit switching and Message switching.
5. (a) Explain the network performance major metrics. 10
- (b) Explain hubs, gateways and bridges. 10
6. (a) Explain IPV₄ datagram format. 10
- (b) What is multiplexing ? Explain different types of multiplexing. 10
7. Write short notes on :— 20
 - (a) SNMP
 - (b) QPSK
 - (c) DNS
 - (d) CSMA / CD.