(Pages : 2)

E – 3060

Reg. No. : .....

Name : .....

Sixth Semester B.Tech. Degree Examination, June 2018
(2008 Scheme)
08.602 : COMPUTER NETWORKS (F)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions. **Each** question carries **4** marks.

1. What is described in IEEE 802.6 standard ?

2. How do processes at various network layers handle arbitrarily long messages ?

3. Give three examples where presentation layer functions are implemented in other layers.

4. A channel has a bit-rate of 4 kbps and propagation delay of 20 msec. For what range of frame sizes does stop-and-wait protocol give an efficiency of at least 50% ?

5. How does a source-routing bridge operate ? How can it result in severe congestion ?

6. Is the traffic load on the line taken into account when line cost is measured in link-state routing ? Why ?

7. A computer on a 6 Mbps network is regulated by a token bucket which is filled at a rate of 1 Mbps. The bucket is initailly filled to capacity with 8 megabits. How long can the computer transmit at the full 6 Mbps ?

8. What are the changes required to ARP (used along with IPv 4) so as to adapt it to be used along with IPv 6 ?

9. A TCP host is sending windows of 65535 bytes over a 1 Gbps channel that has a 10 msec one-way delay. What is the line efficiency and maximum throughput possible ?

10. List a typical H.323 call flow for a successful call.

P.T.O.

PART – B

Answer **any one full** question from **each** Module. **Each** question carries **20** marks.

Module – I

11. a) What are the design principles governing the OSI model ? Do all the seven layers satisfy the design principles ? Explain. **13**

    b) When bit stuffing is used, is it possible for the loss, insertion, or modification of a single bit to cause an error not detected by the checksum ? Why ? **7**

12. a) Why is it necessary to make a distinction between a service primitive and a protocol ? **5**

    b) Write the detailed pseudocode for a sliding window protocol using go-back-n. How can the protocol be adapted to handle the trade-off between bandwidth and buffer space ? **15**

Module – II

13. a) Derive an expression for channel efficiency under heavy and constant load for IEEE 802.3 protocol using binary exponential back off. **8**

    b) What are the congestion control policies adopted at data link, network and transport layers ? How is each one implemented ? **12**

14. a) What causes count-to-infinity problem ? Give any two solutions to the problem. **10**

    b) Show how Token Bucket algorithm performs better traffic shaping than Leaky Bucket algorithm. **10**

Module – III

15. a) How does IPv 6 deal with fragmentation of packets ? **8**

    b) What is management information base in SNMP ? How is it organized ? **12**

Module – IV

16. a) What is SIP ? How does it manage voice-over-IP ? **10**

    b) Explain the IGMP architecture and operations in detail. **10**
