III B. Tech I Semester Examination, November 2015

**COMPUTER NETWORKS**

Time: **3** hours (CSE & IT) Max. Marks: **60**

# SECTION – A

# (Short Answer Questions)

**Answer all ten questions 10×1M=10M**

1. Your company has a LAN in its downtown office and has now set up a LAN in the manufacturing plant in the suburbs. To enable everyone to share data and resources between the two LANs, what type of device(s) are needed to connect them? Choose the most correct answer.
2. Modem b) Cable c) Hub d) Router
3. A \_\_\_\_\_ is a device that forwards packets between networks by processing the routing information included in the packet.
4. Bridge  b) Firewall c)Router d) All of the mentioned
5. CRC stands for
6. cyclic redundancy check b) code repeat check c)  code redundancy check d) cyclic repeat check
7. A master clock is available to divided the time into discrete intervals is called………………  
    a) Continuous time b) Slotted time c) Carrier sense d) No Carrier sense
8. A station in a network forwards incoming packets by placing them on to its all out going lines. What routing algorithm is being used?

a) hot potato routing b) flooding c) Static routing d) Delta routing

1. You have a class a network address 10.0.0.0 with 40 subnets, but are required to add 60 new subnets very soon. You would like to still allow for the largest possible number of host IDs per subnet. Which subnet mask should you assign?

a) 255.240.0.0 b) 255.248.0.0 c) 255.252.0.0 d) 255.254.0.0

1. UDP and TCP are both ......... layer protocols.

a) Data link b) network c) transport d) interface

8. A \_\_\_\_\_ is a TCP name for a transport service access point.  
 a) port b) pipe c) node d) none of the mentioned

9. To map a name on to an IP address, an application program calls a library procedure called …….

a) DNS b) Resolver c) Name server d) IP

10. The first line of HTTP request message is called \_\_\_\_

a) Request line b) Header line c) Status line d) Entity line

**SECTION – B**

**Answer all five questions 5×2M= 10M**

11. **What is the number of network IDs in a Class C network?**

**12.** **You need to connect two computers for file sharing. Is it possible to do this without using a hub or router?**

**13.** **What is the difference between** Carrier sense **and No** Carrier sense**?**

**14.** **How can you identify the IP class of a given IP address?**

**15.** **What is DNS?**

**SECTION – C**

**Answer all four questions 4×5M = 20M**

16. What is OSI Model? Explain the functions and protocols and services of each layer?

**(OR)**

17. Define computer networks? Discuss various types of networks topologies in computer network. Also discuss various advantages and disadvantages of each topology.

18. Describe byte stuffing technique of data link layer?

**(OR)**

19. Why can CRC detect more errors than simple Checksum?

20. Differentiate between data gram versus virtual circuit subnets.

**(OR)**

21. Explain shortest path routing algorithm with an example?

22. Draw an IPV4 header format. Explain about each field.

**(OR)**

23. Compare Routing Information Protocol (RIP), Open Shortest Path First (OSPF) and Border Gateway Protocol (BGP). Mention the advantages and disadvantages of each of the routing protocols.

**SECTION – D**

**Answer all two questions 2×10M= 20M**

24. How congestion is controlled in TCP? How does TCP achieve reliability?

**(OR)**

25. Write a short note on UDP. Describe about its application - RPC?

26. What is DNS? Explain about resource records in detail.

**(OR)**

27. How aliases are used in DNS? What are the three basic types of web documents? Also explain the advantages and disadvantages of each type.