CBCS SCHEME

USN | | | | | | | | | | |

15EC64

Sixth Semester B.E. Degree Examination, June/July 2019
Computer Communication Networks

Time: 3 hrs. Max. Marks: 80

Note: ***Answer any FIVE full questions, choosing ONE full question from each module.***

Module-1

1 a. Compare and contrast byte – stuffing and bit stuffing. **(06 Marks)**

b. With a neat diagram, explain encapsulation and decapsulatioin in protocol layering. **(04 Marks)**

c. With a layer diagram, explain the responsibilities of each layer in TCP/IP protocol suite. **(06 Marks)**

OR

2 a. Discuss the ARP operation and show how ARP sends request and reply message with an example. **(08 Marks)**

b. Explain stop and wait protocol and show how adding sequence numbers can prevent duplicates with the help of flow diagram. **(08 Marks)**

Module-2

3 a. Explain the behaviour of CSMA protocol with a neat diagram and show the vulnerable time in CSMA. **(08 Marks)**

b. A pure ALOHA network transmits 200-bit frames on a shared channel of 200kbps. What is through put if the system (all stations together) produces?

i) 1000 frames per second?

ii) 500 frame per second? **(04 Marks)**

c. Explain reservation as a controlled access method. **(04 Marks)**

OR

4 a. Explain the format of standard Ethernet frame. What are the minimum and maximum frame lengths? **(07 Marks)**

b. Identify if the following Ethernet MAC addresses are unicast, multicast or broadcast

i) 47 : 20 : 1B : 2E : 08 : EE

ii) EE : FF : 10 : 01 : 11 : 00

iii) FF : FF : FF : FF : FF : FF **(03 Marks)**

c. What are the two effects of the bridges on an Ethernet LAN? Explain with a neat diagram. **(06 Marks)**

Module-3

5 a. With a neat diagram, explain two types of networks defined in Bluetooth. **(04 Marks)**

b. What is hidden station problem in wireless LAN's? Give solution for it. **(06 Marks)**

c. Describe VLAN. How is it used in grouping of stations? **(06 Marks)**

OR

6 a. Explain the occupation of the address space in classful addressing. **(04 Marks)**

b. A block of addresses is granted to a small organization. We know that one of the addresses is 167·199·170·82/27. What is the first address, last address and total number of address of the block? **(06 Marks)**

c. With a neat diagram, explain how can a NAT help in address translation. **(06 Marks)**

Module-4

7 a. With a neat diagram explain 1PV4 datagram format? **(08 Marks)**

b. What is the two addresses approach in mobile host? Explain the significance of home agent and foreign agent with a diagram. **(08 Marks)**

OR

8 a. With relevant diagrams describe Distance Vector Routing. What is two node instability in DVR? **(10 Marks)**

b. Explain operation of Border Gateway Protocol (BGP) with a diagram. **(06 Marks)**

Module-5

9 a. Explain connection less and connection oriented service showing the movement of packets using time line. **(08 Marks)**

b. Explain why the size of the send window in Go back N must be less than 2^m? **(08 Marks)**

OR

10 a. Explain TCP connection establishment and connection termination using three way hand shaking. **(10 Marks)**

b. Describe slow start algorithm for handling congestion in TCP. **(06 Marks)**

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