

USN

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10EC/TE71

Seventh Semester B.E. Degree Examination, Dec.2015/Jan.2016

Computer Communication Networks

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART - A

- 1 a. With a neat diagram explain TCP/IP reference model. How do the layers of TCP/IP model correlate to the OSI models? (10 Marks)
b. Name the major components of a telephone networks. (04 Marks)
c. What is ADSL? Explain the operation of ADSL using discrete multitone modulation with a neat diagram. (06 Marks)
2 a. Explain normal response mode (NRM) and Asynchronous Balanced Mode (ABM) in HDLC. (04 Marks)
b. What is ARQ? In stop and wait ARQ system the bandwidth of the line is 1Mbps and it takes 20ms to make roundtrip. What is the bandwidth delay product? If the system data frames are of 1000bit length, what is utilization percentage of the link? (04 Marks)
c. What are sliding window protocols? Explain Go back - N protocol for noisy channel. (12 Marks)
3 a. Explain 1 - persistent, non - persistent and p - persistence with flow diagram. (06 Marks)
b. With a flow diagram explain CSMA/CA protocol. (08 Marks)
c. What are the reasons for poor channel utilization in ALOHA system? How the same is improved in CSMA? (06 Marks)
4 a. Explain frame format of 802.3 MAC frame. (06 Marks)
b. Define the type of the following destination addresses. i) 4A : 30 : 10 : 21 : 10 : 1A ii) FF : FF : FF : FF : FF : FF iii) 47 : 20 : 1B : 2E : 08 : EE. (06 Marks)
c. What is a Fast Ethernet? Mention the goals of fast Ethernet. Explain autonegotiation. (08 Marks)

PART - B

- 5 a. A system with four LAN's and five bridges is shown in Fig. Q5(a). Choose B1 as the root bridge. Show the forwarding and blocking ports, after applying the spanning tree procedure.

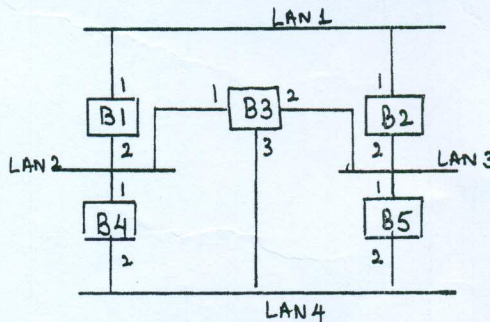


Fig. Q5 (a)

(10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50 will be treated as malpractice.



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- b. What are virtual LAN's? Enumerate the advantages of having VLAN's. (10 Marks)
- 6 a. Find the class of the following IP address :
i) 237.14.2.1 ii) 129.14.6.8 iii) 208.35.54.12 iv) 114.34.2.8 (04 Marks)
- b. Compare IPV4 and IPV6 packet headers. (06 Marks)
- c. What is NAT? Explain how NAT help in address depletion. (10 Marks)
- 7 a. With suitable diagram explain distance vector routing. (10 Marks)
- b. Explain the different forwarding techniques used to forward the packets from source to destination. (10 Marks)
- 8 a. Explain with diagram the TCP segment format. (10 Marks)
- b. Write short notes on :
i) Domain name system (DNS)
ii) Resolution. (10 Marks)

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