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**Sixth Semester B.E. Degree Examination, Dec.2018/Jan.2019**  
**Computer Network – II**

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting  
atleast TWO questions from each part.**

**PART – A**

- 1 a. What are the network services and internal network operation of packet switching network? Discuss in brief. (05 Marks)
- b. Why message switching is not suitable for interactive application? Derive the expression for delay in datagram packet switching. (07 Marks)
- c. Define routing. Explain the Bellman Ford algorithm with an example. (08 Marks)
- 2 a. Explain the FIFO and priority queue scheduling for managing traffic at packet level. (07 Marks)
- b. Explain leaky bucket algorithm and Plot the bucket contents and non – confirming packets that arrival at leaky bucket policer at times,  $t = 1, 2, 3, 5, 6, 8, 11, 12, 13, 15$  and  $19$ . Assuming  $I = 4$  and  $L = 6$ . (07 Marks)
- c. Distinguish between end-to-end versus hop-by-hop and implicit verses explicit feedback in closed loop for congestion control. (06 Marks)
- 3 a. What are the advantages of IPv6 over IPv4? Show IPv6 header format. (07 Marks)
- b. What is fragmentation and reassembling in internet protocol? Suppose a router receives IP packet containing 600 data bytes and has to forward the packet to network with MTU 200 bytes. Assume that IP header is 20 bytes long. Show the fragments that the router creates and specify the relevant values in each fragment header (i.e. total length, fragment offset and more bit). (07 Marks)
- c. Write a note on user datagram protocol. (06 Marks)
- 4 a. Explain how TCP establishes the connection using three-way handshake between two hosts. (06 Marks)
- b. Differentiate between RIP and OSPF. (06 Marks)
- c. Write short notes on : i) Mobile IP ii) DHCP. (08 Marks)

**PART – B**

- 5 a. What is DNS? Discuss the two method of DNS mapping. (06 Marks)
- b. What is network management? Explain SNMP and its PDU. (08 Marks)
- c. With neat block diagram, explain DES algorithm. (06 Marks)
- 6 a. What is VPN? Explain two methods of VPN access. (07 Marks)
- b. What is MPLS network? Explain routing in MPLS domain. (07 Marks)
- c. What is the need of overlay networks? (06 Marks)
- 7 a. List and explain the compression methods without loss. (08 Marks)
- b. Write short notes on : i) VOIP ii) SIP iii) H-323. (12 Marks)
- 8 a. Explain the category of wireless routing protocol and discuss DSDV protocol. (07 Marks)
- b. What are the security vulnerabilities of ad-hoc network? Discuss briefly the type of attacks. (07 Marks)
- c. What is WSN? Explain a typical WSN node. (06 Marks)

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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.