

**Sixth Semester B.E. Degree Examination, June/July 2015**  
**Computer Networks – II**

Time: 3 hrs.

Max. Marks: 100

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

**PART – A**

- 1 a. Explain datagram and virtual circuit packet switching with delay calculation diagrams. (08 Marks)
- b. With neat diagram, explain the generic packet switch. (04 Marks)
- c. Consider the network in Fig.Q.1(c).



Fig.Q.1(c)

- i) Use the Dijkstra's algorithm to find the set of shortest paths from node 4 to other nodes.
  - ii) Find the set of associated routing table entries. (08 Marks)
- 2 a. Discuss the priority and weighted fair queuing. (06 Marks)
  - b. Explain the concept of Random Early Detection (RED). (04 Marks)
  - c. Give the classification of congestion control algorithms. Explain the leaky bucket and token bucket traffic shaper with neat diagram. (10 Marks)
- 3 a. Describe the various fields of IP version 4 header. (06 Marks)
  - b. i) A small organization has a class C address for seven networks each with 24 hosts. What is an appropriate subnet mask?
  - ii) Perform CIDR aggregation on the /24 IP address, 200.96.86.0/24, 200.96.87.0/24, 200.96.88.0/24, 200.96.89.0/24. (06 Marks)
  - c. Why transition from IPV4.0 to IPV6.0 is required? Explain the IPV6 network addressing. (08 Marks)
- 4 a. Explain the TCP 3 way handshake for establishing a TCP connection. (06 Marks)
  - b. What are the classification of internet routing protocols? Explain in detail routing information protocol (RIP). (08 Marks)
  - c. Write note on: i) Reverse path multicasting ii) Mobile IP. (06 Marks)

**PART – B**

- 5 a. Explain the remote login protocols. (06 Marks)
- b. What are the elements of network management? Discuss the interaction between SNMP management station and SNMP agent. (08 Marks)
- c. Write RSA algorithm. For RSA algorithm of 4 bit message 1001, choose  $a = 3$  and  $b = 11$ , find the public keys and private keys for this and show the cipher text. (06 Marks)

Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any scribbling of identification, applied to evaluate and for evaluation written as 4218-50, will be treated as malpractice.

## 10CS64

- 6 a. Describe the various types of resource allocation schemes. (06 Marks)  
 b. Define VPN. Discuss the concept of tunneling and point to point protocol in VPN. (06 Marks)  
 c. What is MPLS network? Explain MPLS operation. (08 Marks)
- 7 a. Explain the JPEG compression for still images. (06 Marks)  
 b. Explain the following: (08 Marks)  
   i) Huffman encoding  
   ii) Lempel – Ziv – Welch encoding with an example. (08 Marks)  
 c. Briefly explain with neat diagram, how Content Distribution Network (CDN) interaction with DNS (Domain Name System). (06 Marks)
- 8 a. Explain DSDV, TORA routing protocols for mobile adhoc networks. (08 Marks)  
 b. What are the classifications of sensor networks? Explain with relevant diagram DEEP clustering protocol in sensor network. (06 Marks)  
 c. Describe the direct or multihop intracluster routing protocols with neat diagram. (06 Marks)

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