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## BMS College of Engineering, Bangalore-560019

(Autonomous Institute, Affiliated to VTU, Belgaum)

**MAY/JUNE 2014 Semester End Main Examinations**

**Course:** Computer Networks

**Duration : 3 hours**

**Course Code:** 10CI6GCCON

**Max Marks: 100**

**Date: 10.06.2014**

Instructions: Answer five full questions choosing one from each unit.

### UNIT 1

- |   |    |   |    |
|---|----|---|----|
| 1 | a. | Explain Virtual circuit packet switching with delays  | 08 |
|   | b. | Explain the structure of a packet switch              | 04 |
|   | c. | Differentiate between                                 | 08 |
|   |    | i) Source routing versus Hop-by-hop routing           |    |
|   |    | ii) Link state routing versus distance-vector routing |    |

### UNIT 2

- |   |    |  |    |
|---|----|--|----|
| 2 | a. | With an example illustrate count to infinity problem. Suggest remedies to avoid this problem.                                | 10 |
|   | b. | With neat figures, demonstrate the delay incurred while transmitting a message that is broken into separate three packets in | 10 |
|   |    | i) Datagram Packet switching    ii) Virtual packet switching    and  |    |
|   |    | iii) Cut through packet switching.   |    |

### OR

- |   |    |   |    |
|---|----|---|----|
| 3 | a. | Differentiate between leaky bucket Traffic Shaper and Token bucket Traffic Shaper.  | 06 |
|   | b. | Describe the format of IPV6 basic header and also the extension headers   | 10 |
|   | c. | A host in an organization has an IP address 150.32.64.24 and a subnet mask 255.255.240. Build the address of subnet for the same and the range of IP address that a host can have on this subnet? | 04 |

### UNIT 3

- |   |    |   |    |
|---|----|---|----|
| 4 | a. | Briefly explain structure of management information.            | 05 |
|   | b. | Explain Diffie-Hellman algorithm for key generation.            | 05 |
|   | c. | Write ESP format.   | 05 |
|   | d. | Write RSA algorithm and show encryption and decryption process. | 05 |

**OR**

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|---|---|----|
| 5 | a. Explain classification of Resource-Allocation Schemes. | 06 |
|   | b. With block diagram explain differentiated service.     | 04 |
|   | c. What are the organizational benefits provided by VPNs. | 04 |
|   | d. Explain MPLS operation.                                | 06 |

**UNIT 4**

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|---|--|----|
| 6 | a. Derive the Shannon's coding theorem for rate of data compression. | 10 |
|   | b. Illustrate the H.323 call setup and termination                   | 10 |

**UNIT 5**

- |   |  |    |
|---|--|----|
| 7 | a. With an example explain the Dynamic Source Routing protocol | 08 |
|   | b. Explain wireless Sensor node structure                      | 07 |
|   | c. Write short notes on Zigbee Technology.                     | 05 |

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