



## P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

**Third Semester - Master of Computer Applications (MCA)**

**Semester End Examination; Dec. - 2015**

**Computer Networks**

*Time: 3 hrs*

*Max. Marks: 100*

*Note: Answer FIVE full questions, selecting ONE full question from each unit.*

### UNIT - I

- |      |  |    |
|------|--|----|
| 1 a. | Define Topology. Explain the categories of Topology.                           | 10 |
|      | b. Define Network. Explain the categories of Networks.                         | 10 |
| 2 a. | With neat diagram, narrate the functions of each layer of OSI Reference Model. | 14 |
|      | b. Illustrate types of Transmission modes.                                     | 6  |

### UNIT - II

- |      |  |    |
|------|--|----|
| 3 a. | Narrate types of Guided transmission medium.           | 12 |
|      | b. What is transmission impairment? Explain its types. | 8  |
| 4 a. | Explain the frame format of 802.3.                     | 10 |
|      | b. Illustrate the working of Token Ring.               | 10 |

### UNIT - III

- |      |  |    |
|------|--|----|
| 5 a. | Explain networking and internetworking devices.                        | 10 |
|      | b. With the help of figure, narrate Distance vector routing algorithm. | 10 |
| 6 a. | Explain IPV4 header format.  | 10 |
|      | b. What is subnetting? Explain.  | 6  |
|      | c. Write a note on ICMP.   | 4  |

### UNIT - IV

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|------|--|----|
| 7 a. | Explain the duties of Transport Layer.   | 12 |
|      | b. Narrate the services of session layer.                                      | 8  |
| 8 a. | Illustrate RSA encryption Method.  | 10 |
|      | b. Define data compression. Explain the different methods of Data Compression. | 10 |

### UNIT - V

- |       |  |    |
|-------|--|----|
| 9 a.  | Explain Client - Server model.                         | 10 |
|       | b. Explain Dynamic Host Configuration Protocol.        | 10 |
| 10 a. | Write short notes on :                                 | 10 |
|       | i) Domain name system                      ii) Telnet. | 10 |
|       | b. Explain Simple Mail Transfer Protocol.              | 10 |