



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

(An Autonomous Institution affiliated to VTU, Belagavi)

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

**Semester End Examination; Dec - 2017/Jan - 2018**

**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 Internet. Explain with a neat diagram.  | 10 |
|      | b. Explain different types of guided transmission media.                             | 10 |
| 2 a. | What is delay? Narrate various types of delay.                                       | 10 |
|      | b. With a neat figure, explain the functions of each layer of TCP/IP protocol model. | 10 |

### UNIT - II

- |      |  |    |
|------|--|----|
| 3 a. | Explain general format of HTTP request message.  | 10 |
|      | b. Explain how FTP moves files between local and remote file systems? Give pictorial representation. | 10 |
| 4 a. | Explain the services provided by DNS.  | 10 |
|      | b. Explain the interaction of the various DNS services.  | 10 |

### UNIT - III

- |      |   |    |
|------|---|----|
| 5 a. | List and explain the duties of Transport layer.                     | 10 |
|      | b. Explain multiplexing and de-multiplexing in Transport layer.     | 10 |
| 6 a. | Explain the typical sequence of TCP states visited by a client TCP. | 10 |
|      | b. Explain congestion control in TCP.                               | 10 |

### UNIT - IV

- |      |   |    |
|------|---|----|
| 7 a. | Discuss virtual-circuit networks.                   | 10 |
|      | b. With neat diagram, explain IPV4 datagram format. | 10 |
| 8 a. | Explain Distance-Vector routing algorithm.          | 10 |
|      | b. Explain the broadcast along a spanning tree.     | 10 |

### UNIT - V

- |       |   |    |
|-------|---|----|
| 9 a.  | Explain the services offered by a link-layer protocol.        | 10 |
|       | b. Explain the Frame structure of Ethernet.                   | 10 |
| 10 a. | Explain the differences between wired link and wireless link. | 6  |
|       | b. Explain IEEE 802.11 LAN architecture.                      | 6  |
|       | c. Briefly explain the Frame format of 802.11.                | 8  |