

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-V • EXAMINATION – SUMMER • 2015**

**Subject Code: 150702****Date: 05-05-2015****Subject Name: Computer Network****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain following terms with respect to Computer Network **06**  
 (1) Broadcasting (2) Bluetooth (3) Routing  
 (4) Socket (5) IP Address (6) VLAN
- (b) Draw the OSI reference model. Explain the functionality of each layer in brief. **08**
- Q.2** (a) Explain the role of fiber optics in computer networks. How a fiber optic network is formed? **07**
- (b) Explain ALOHA system. How slotted ALOHA works? Differentiate it with pure ALOHA. **07**
- OR**
- (b) What is a Frame? Explain the significance of stuffing. Explain bit stuffing with example. **07**
- Q.3** (a) Describe the working of sliding window protocol. Also explain the piggybacking phenomenon. **07**
- (b) Explain shortest path routing with example. **07**
- OR**
- Q.3** (a) What is MANET? Explain route discovery in AODV protocol with example. **07**
- (b) Explain Distance Vector routing with example. **07**
- Q.4** (a) What is RPC? Draw and explain steps for RPC. **07**
- (b) Explain the concept and need of tunneling with example. **07**
- OR**
- Q.4** (a) Explain Transmission Control Protocol with TCP header fields. **07**
- (b) What is DNS? How resource records are maintained in DNS? **07**
- Q.5** (a) Write a note on HTTP. **07**
- (b) Explain connection oriented and connectionless services. Also differentiate both. **07**
- OR**
- Q.5** (a) List and explain major functionalities provided by E-mail service. **07**
- (b) What is CSMA? Explain persistent and nonpersistent CSMA. **07**

\*\*\*\*\*