

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**PDDC - SEMESTER-VIII EXAMINATION – SUMMER 2016**

**Subject Code: X81101****Date: 10/05/2016****Subject Name: Data Communication & Networking****Time: 10:30 AM TO 01:00 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) Give the classification of different methods of multiple accesses. Explain any one in detail. Ethernet uses which multiple access method? **07**
- (b) What are the advantages of layered structure in reference to networking? Explain TCP/IP model. **07**
- Q.2** (a) What is framing? Differentiate bit oriented & byte oriented protocol in data link layer. **07**
- (b) What is ARQ? Explain stop & wait-ARQ. **07**
- OR**
- (b) Write a short note on HDLC. **07**
- Q.3** (a) What are the functions of network layer? What is an IP address? Explain the different classes of IP addresses. **07**
- (b) What are different network topologies? Compare any two of them. **07**
- OR**
- Q.3** (a) Enlist the different routing algorithms. Explain any one of them. **07**
- (b) Which are the different generations of Ethernet? Give reasons for maximum and minimum frame size limitations in Ethernet. **07**
- Q.4** (a) Differentiate packet switching and data switching. Write short note on ADSL. **07**
- (b) What is congestion? List different congestion control algorithms at network layer. Explain any one of them. **07**
- OR**
- Q.4** (a) Compare connection less and connection oriented services. How transport layer provides both services in TCP/IP model? **07**
- (b) Explain RSA in context to public key cryptography. **07**
- Q.5** (a) What is cryptography? Explain substitution and transposition ciphers with example **07**
- (b) Write a short note on Domain Name System. **07**
- OR**
- Q.5** (a) Write short note on symmetric key algorithm. **07**
- (b) What is World Wide Web? Explain architectural overview of WWW. **07**

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