

GUJARAT TECHNOLOGICAL UNIVERSITY**PDDC SEMESTER VIII– EXAMINATION – SUMMER 2017****Subject Code: X81101****Date: 27/04/2017****Subject Name: Data Communication and Networking****Time: 10.30AM to 01.00PM****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 OSI model for computer network with necessary diagram. **07**
(b) Define following Terms **07**
[1] Computer Network [2] DNS [3] Frame Relay
[4] Gateway [5] Protocol [6] IP Address
[7] Physical Address
- Q.2** (a) Explain difference between TDM, FDM and CMDA **07**
(b) Explain Sliding window protocol with necessary diagram. **07**
OR
(b) Explain bit stuffing and byte stuffing with suitable diagram **07**
- Q.3** (a) Explain public switch telephone network with necessary diagram. **07**
(b) Explain difference between CSMA/CD and CSMA/CA. **07**
OR
- Q.3** (a) Write short note on Bluetooth. **07**
(b) Give difference between Router, Switch, Hub, Bridges, Gateway. **07**
- Q.4** (a) What is routing? Explain shortest path routing algorithm with suitable example. **07**
(b) List the design issues of transport layer and explain each issue in short. **07**
OR
- Q.4** (a) Explain the channel allocation problem. Also explain its solution in short. **07**
Q.4 (b) Explain TCP/IP protocol with suitable figures. **07**
- Q.5** (a) Explain SMTP and HTTP protocol in brief. **07**
(b) What is cryptography? Explain public key algorithm. **07**
OR
- Q.5** (a) Explain in brief. **07**
1) Firewall 2) Web security.
(b) Define World Wide Web. Draw and Explain architectural overview of the World Wide Web. **07**
