# Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058, India

(Autonomous College Affiliated to University of Mumbai)

## End Semester Examination
May-2/05/2018

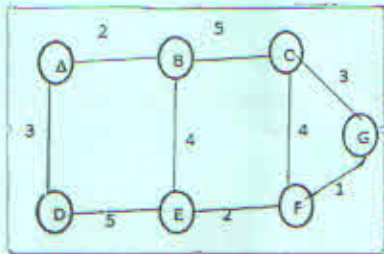| | |
|---|---|
| Max. Marks: 100 | Duration: 3 Hr |
| Class: T.E. | Semester: VI |
| Course Code: ETC603 | Branch: Electronics and Telecommunication |
| Name of the Course: Computer Communication Telecom Networks | |

**Instruction:**
- (1) All questions Q1-Q5 are compulsory
- (2) Assume suitable data if necessary
- (3) Draw neat diagrams

| Q No. | | Max. Marks | CO |
|---|---|---|---|
| Q.1 ( a) | What is the role of transport layer in OSI model? | 5 | CO1 |
| Q.1 ( b) | Differentiate between layering architecture and TCP/IP protocol suit | 10 | CO1 |
| | **OR** | | |
| Q.1 (b) | Show the communication at application layer for the simple private internet  | 10 | CO1 |
| Q.1 ( c) | Explain the working principle of basic model of FTP | 5 | CO1 |
| Q.2 ( a) | Describe the steps of connection establishment in 3 way handshaking in TCP | 10 | CO4 |
| Q.2 ( b) | Compare the TCP header and the UDP header. List the fields in the each TCP header that are not part of the UDP header. Give the reason for each missing field. | 5 | CO4 |
| | **OR** | | |
| Q.2 ( b) | Explain the steps of checksum calculation using UDP protocol with example. | 5 | CO4 |

| 153.18.8.105 | | | |
| 171.2.14.10 | | | |
| All 0s | 17 | 15 | |
| 1087 | | 13 | |
| 15 | | All 0s | |
| T | E | S | T |
| I | N | G | PAD |

| | | | |
|---|---|---|---|
| Q.2 ( c) | In what way token bucket algorithm is superior to leaky bucket? | 5 | CO4 |
| Q.3 ( a) | Explain the phases of mail transfer with suitable diagram . | 10 | CO5 |

<div align="center">OR</div>

| | | | |
|---|---|---|---|
| Q.3 ( a) | What is role of DNS in Internet? Explain the types of resolver. | 10 | CO5 |
| Q.3 ( b) | What is socket programming? State and Explain the client server model | 5 | CO5 |
| Q.3 ( c) | Find the value of flags(in hexadecimal) field in DNS for a query message requesting an address and demanding a recursive answer. | 5 | CO5 |
| Q.4(a) | Find the shortest path tree for node B using Dijkstra's algorithm. | 10 | CO3 |



| | | | |
|---|---|---|---|
| Q.4 ( b) | List the features of OSPF. How bidirectional connection establish by OSPF? | 10 | CO3 |

<div align="center">OR</div>

| | | | |
|---|---|---|---|
| Q.4 ( b) | What do you mean by 2 node instability in DVR ? How it is over-come? | 10 | CO3 |
| Q.5 ( a) | Classify the physical media for computer networks. Comment on ADSL and HFC technology | 10 | CO2 |
| Q.5 ( b) | Explain working principle of satellite communication. List the advantage of satellite communication | 5 | CO2 |

<div align="center">OR</div>

| | | | |
|---|---|---|---|
| Q.5 (b) | In the standard Ethernet, If the maximum propagation time is 25.6 microseconds what is the minimum size of the frame. | 5 | CO2 |
| Q.5 (c) | What are the Hidden node and Exposed node issue in CSMA/CD | 5 | CO2 |