K. J. Somaiya College of Engineering, Mumbai-77 (Autonomous College Affiliated to University of Mumbai) Semester: July 17 – October 17

Max. Marks: 30 Class: TY(B.Tech)

Duration: 1hr.15 min.

Branch: COMP

Semester: V Test 1

Full name of the course and code: Data Networks

Course Code: UCEC 502

| Q. No | Questions | Marks | CO Mapped |
|-------|---|-------|--------------|
| Q.1 | Why can't we use MAC protocols defined for wired networks in wireless scenario? Elaborate in detail the problems faced. What is the remedy? Explain. | 08 | C01 |
| Q.2 | An ISP is granted a block of addresses starting with 150.80.0.0/16. The ISP wants to distribute these blocks to 2600 customers as follows: a. The first group has 200 medium-size businesses; each needs approximately 128 addresses. b. The second group has 400 small businesses; each needs approximately 16 addresses. Design the subblocks and give slash notation for each subblock. | 06 | CO2 |
| Q.3 | The topology of a network is as shown below. Show the routing table of Router R1 and the forwarding process if packet arrives at R1 with destination address 180.70.65.140. 180.70.65.128/25 201.4.16.0/22 m1 m2 R1 201.4.22.0/24 180.70.65.192/26 180.70.65.194/26 Rest of the Internet | 08 | CO2 |

| Q. 4 a. Ex | plain in detail ICMP Error Messages. | 05 | CO2 |
|------------|---|----|-----|
| b. An | ICMP message has arrived with header (in hexadecimal): 05 00 11 12 11 0B 03 02 | 03 | 22 |
| | i. What is the type of message?ii. What is the code? | | |
| | iii. What is the purpose of message? | | |

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a. The first group is 200 grottom-size businesses; each