

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER-IV • EXAMINATION – WINTER • 2014

Subject Code: 2640001

Date: 27-11-2014

Subject Name: Fundamentals of Networking

Time: 10:30 am - 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)**
1. Differentiate between OSI and TCP/IP model. **02**
 2. List any two advantages of layering mechanism. **02**
 3. Differentiate between connection-less and connection-oriented transfer. **02**
 4. Framing is the responsibility of _____ layer in OSI Model. **01**
- (b)**
1. What are the differences between Internet and WWW? **02**
 2. LANs are usually broadcast networks. Comment. **02**
 3. A WAN traffic is usually store-and-forward type. Why? **02**
 4. _____ is a device that reshapes a digital signal. **01**
(Amplifier, Repeater)
- Q.2 (a)** Define a Computer Network. Explain its components in detail. **07**
- (b)** What is Modulation? List modulation techniques and explain any one in detail. **07**
- OR**
- (b)** Explain Microwave communication in detail. **07**
- Q.3 (a)** Write a short note on Hidden station and Exposed station problem. **07**
- (b)**
1. Explain Checksum method for error detection. **02**
 2. What is framing? Why is it needed? **02**
 3. Differentiate between error detection and correction. **02**
 4. Ethernet frame contain a field called checksum which can tell if there are any modifications during the transit. (T/F) **01**
- OR**
- Q.3 (a)** Discuss Multimode Optic Fibers and comparison between UTP and Fiber Optic. **07**
- (b)** Explain the following terms. **07**
1. Satellite Orbit
 2. Period
 3. Bent Pipe
 4. Foot Print
 5. Station Keeping
 6. LEO
 7. Van Allen Belts
- Q.4 (a)** Discuss CSMA/CD in details. **07**
- (b)**
1. Differentiate between wired and wireless MAC. **03**
 2. What is Collision Detection and Avoidance? **03**
 3. Upper part of Data Link layer is known as _____. **01**
- OR**
- Q.4 (a)** What are the duties of the Network Layer? **07**
- (b)** Explain Distance Vector Routing Algorithm. **07**
- Q.5 (a)**
1. Discuss Count-to-infinity Problem. **03**
 2. How does the transport layer handle retransmission? **03**
 3. TCP provides reliable, robust and stream-like service. (T/F) **01**
- (b)** Explain DNS in brief. **07**
- OR**
- Q.5 (a)** Write a brief note on HTTP. **07**
- (b)** Discuss Three-way Handshake. **07**
