

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA– SEMESTER –IV EXAMINATION –SUMMER-2019**

**Subject Code:3640002****Date: 16-05-2019****Subject Name: Basic Computer Science-3(Computer Networking)****Time:10.30 am to 1.00 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)** Write the answer in short. **07**
1. Give the definition of network.
  2. How can digital data be transmitted over a wire?
  3. Differentiate repeater and amplifier.
  4. What is guard band?
  5. What is Free Space Optics?
  6. What is machine port?
  7. What is footprint?
- (b)** Write the answer in short. **07**
1. What is redundant bit?
  2. What is autonomous system?
  3. What is slash notation?
  4. Define term zone.
  5. What is selective flooding?
  6. Define term authoritative server.
  7. What is DNS poisoning?
- Q.2 (a)** Draw the seven layers of OSI model and explain the function of each layer in brief. **07**
- (b)** Lists and explain interconnecting devices. **07**
- OR**
- (b)** Explain circuit switching, packet switching and message switching. **07**
- Q.3 (a)** Write the answer in brief.
1. Compare radio waves and micro waves. **04**
  2. Explain properties of channel. **03**
- (b)** Lists and explain usual TCP timers. **07**
- OR**
- Q.3 (a)** Write the answer in brief.
1. What is OFDM? Why was it chosen for 802.11a and 802.11g? **04**
  2. Laser is preferred for long distance communication, while LED is preferred in LANs. Why? **03**
- (b)** What is name resolution? Explain types of resolution. **07**
- Q.4 (a)** Write the answer in brief.
1. Differentiate between UTP and fiber optic cables. **04**
  2. What is total internal reflection? **03**
- (b)** How delayed duplicates are a serious problem and if not managed, the transport layer cannot function properly. **07**
- OR**
- Q.4 (a)** Write the answer in brief.
1. How hamming code is calculated? Give an example of character H. **04**

2. What is MAC layer? Discuss its usefulness in a shared channel? **03**
- (b) Specify the requirements of a good routing algorithm. **07**
- Q.5** (a) Write the answer in brief.
1. Explain the process of Go-Back-N. Why is it named so? **04**
2. Discuss the types of error. **03**
- (b) Explain the principle, implementation and limitation of CSMA/CD. **07**
- OR**
- Q.5** (a) Write the answer in brief.
1. Give the differences between a normal wired or wireless network and MANet with respect to routing. **04**
2. What is name server? Explain it types. **03**
- (b) Compare normal and control frame structure for 802.16 **07**

\*\*\*\*\*