

# GUJARAT TECHNOLOGICAL UNIVERSITY

MCA – SEMESTER – IV • EXAMINATION – SUMMER 2018

**SubjectCode:3640002**

**Date: 22-May-2018**

**Subject Name: Basic ComputerScience-3(ComputerNetworking)**

**Time: 10.30 am to1.00 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)** Answer the following questions. **07**
1. Difference between bit rate and baudrate?
  2. Write full form of AODV?
  3. What is multipath fading?
  4. What is the need for MIME?
  5. Write one difference between TDM and FDM.
  6. What is a composite signal?
  7. Explain the term: attenuation.
- (b)** Write any seven in one or two sentences **07**
1. Explain the term: Non-line of sight
  2. Give the full form of ISM
  3. What is the role of an access point in 802.11?
  4. What is a proxy in SMTP?
  5. What is a tag in MPLS?
  6. What is a dotted decimal notation?
  7. What is Jitter?
  8. What is flooding?
  9. Write the full form of ECN.
- Q.2 (a)** What is OSI Model? Explain the functions and protocols and services of each layer? **07**
- (b)** What is delayed duplicates problem? Explain Three-way handshake method to establish a connection. **07**
- OR**
- (b)** Explain Aloha and Slotted Aloha in detail. **07**
- Q.3 (a)** 1. Explain Adhoc and Infrastructure mode in brief. **04**  
2. What are the duties of Data Link Layer? Explain in brief with example. **03**
- (b)** 1. What is congestion? How the congestion is detected at transport layer? **04**  
2. Write six advantages of Hierarchical Name Space. **03**
- OR**
- Q.3 (a)** 1. Explain different types of TCP timers in detail. **04**  
2. Explain Binary Exponential Back-off algorithm. **03**
- (b)** 1. Explain the process of classless routing. **04**  
2. Write the difference between Radio Waves and Micro Waves. **03**
- Q.4 (a)** 1. Explain Connection-oriented and Connection-less services. **04**  
2. What are the desired properties of DNS? **03**
- (b)** 1. Explain the role of cookies in HTTP. **04**  
2. Explain two army problem of TCP disconnection? **03**
- OR** **(PTO)**

- Q.4** (a) 1. How PCF and DCF Modes are managed together in WirelessNetwork? Explain. **04**  
2. Write any three duties of transport layer and explain. **03**
- (b) 1. Write the functions of application layer. **04**  
2. Explain how phase modulation can be used for data communication. **03**
- Q.5** (a) Write applications of sensor networks. **07**  
(b) Explain the duties of Physical Layer. **07**
- OR**
- Q.5** (a) What is Bluetooth? Explain its architecture. **07**  
(b) Explain Hidden Station and Exposed Station problem and its solution in wireless communication. **07**

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