

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA - SEMESTER-IV • EXAMINATION – WINTER - 2018**

**Subject Code: 2640001****Date: 16/11/2018****Subject Name: Fundamentals of Networking****Time: 10:30 AM TO 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)** Answer the following questions **07**
- 1) Name two layers not present in TCP/IP model and present in OSI
  - 2) What is a time out event?
  - 3) Represent 1010 using amplitude modulation
  - 4) What is a network interface card?
  - 5) What is a composite signal?
  - 6) What is an electromagnetic spectrum?
  - 7) What is a flag byte?
- (b)** Answer the following questions **07**
- 1) Write one important difference between selective repeat and go back n
  - 2) What is a DCF mode in wireless communication?
  - 3) What is the full form of RED?
  - 4) What is the job of DNS?
  - 5) Framing is the responsibility of \_\_\_\_\_ layer in OSI Model.
  - 6) \_\_\_\_\_ is a device that reshapes a digital signal. (Amplifier, Repeater)
  - 7) Ethernet frame contain a field called checksum which can tell if there are any modifications during the transit. (T/F)
- Q.2 (a)** What is delayed duplicates problem? Explain Three-way handshake Method to establish a connection. **07**
- (b)** Explain Hidden Station and Exposed Station problem. What is its solution in wireless communication? **07**
- OR**
- (b)** Define Total internal reflection principal. Explain how fiber optic cable uses it to transmit data. **07**
- Q.3 (a)** What is resource record? Discuss types of resource records. **07**
- (b)** Differentiate: 802.11 and 802.16 Physical layers. **07**
- OR**
- Q.3 (a)** Explain the Layers of Bluetooth Protocol Stack. **07**
- (b)** Compare UTP and Fiber Optic. **07**
- Q.4 (a)** What is Collision? How to restore transmission after a collision occurs? **07**
- (b)** Differentiate Distance Vector Vs. Link State Routing **07**
- OR**
- Q.4 (a)** Explain BGP in Detail **07**
- (b)** How Gigabit Ethernet Works? Explain in detail. **07**
- Q.5 (a)** Explain OSI reference model in detail. **07**
- (b)**
- 1) Compare Selective Repeat and Go back n **03**
  - 2) Compare Data link layer and transport layer **04**

**OR**

- Q.5** (a) What is multiplexing? Explain types of multiplexing in detail. **07**  
(b) 1) Compare Byte Stuffing And Bit Stuffing **04**  
2) How connection management is performed at transport layer? **03**

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