

GUJARAT TECHNOLOGICAL UNIVERSITY**MCA - SEMESTER– IV EXAMINATION – WINTER 2019****Subject Code: 3640002****Date: 26-11-19****Subject Name: Basic Computer Science-3(Computer 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. Difference between bit rate and baud rate?
 2. Write full form of MIME?
 3. What is multipath fading?
 4. What is the need for AODV?
 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 ECN
 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 ISM.
- Q.2 (a)** **02**
1. Difference between Analog and Digital Signal. **02**
 2. Define the terms Frequency and Amplitude. **03**
 3. Explain different Modulation Techniques with proper examples. **03**
- (b)** **04**
1. Explain Hidden Station and Exposed Station problem and its solution in wireless communication. **04**
 2. Compare UTP cables with Fiber Optics cables. **03**
- OR**
- (b)** **03**
1. Explain CSMA Protocol with its carrier sensing variants. **03**
 2. What is CSMA/CD? Explain how Binary exponential Back off algorithm will be used in case of retransmission. **04**
- Q.3 (a)** **04**
1. Explain in brief network categories based on connection. **04**
 2. Discuss Hub, Switch & Router in brief. **03**
- (b)** **04**
1. Explain in brief duties of Physical layer? **04**
 2. Explain Propagation mode of Fiber Optic cable. **03**
- OR**
- Q.3 (a)** Explain bit stuffing framing techniques with examples and also explain how it works? **07**
- (b)** Explain Link State Routing Algorithm. Explain the importance of Age field. **07**
- Q.4 (a)** Explain 802.11 Frame structure in detail. **07**
- (b)** Define seven different timers used for TCP implementation. Explain their purpose in brief. **07**
- OR**
- Q.4 (a)** Explain about Go-Back N protocol with problem stated in that protocol; also give the solution of this problem. **07**

- (b) Explain in detail MPLS frame structure. **07**
- Q.5** (a) 1. Explain in brief duties of Transport Protocol? **04**
2. Explain blue army problem in connection release in transport layer. **03**
- (b) 1. What is conditional download w.r.t. HTTP? Explain with example **04**
2. Explain in brief HTTP query and response? **03**
- OR**
- Q.5** (a) 1. With reference to TCP, explain Persist Timer and Fin-Wait-2 Timer? **04**
2. Give comparison between a transport layer and data link layer. **03**
- (b) 1. Explain in brief each field of Bluetooth frame structure. **04**
2. Give at least three advantages of hierarchy used in DNS. **03**
