

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA - SEMESTER- IV • EXAMINATION – WINTER 2016**

**Subject Code : 640001****Date: 20/10/ 2016****Subject Name: Fundamental 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.
1. Differentiate Connectionless Vs Connection Oriented Communication. **03**
  2. What is window advertisement? **01**
  3. What is congestion? Explain. **01**
  4. Explain any two resource record types of DNS database. **02**
- (b)**
1. Write the difference between Radio Waves and Micro Waves. **03**
  2. Write the difference between Fiber Optics and Satellite Communication **03**
  3. Explain the term 'baud rate'. **01**
- Q.2 (a)**
1. Write the difference between Repeater and Amplifier. **03**
  2. Explain FDM & TDM. **03**
  3. Explain the term 'Hamming Distance'. **01**
- (b)** Explain the functionality of 1. Data link 2. Network and 3. Transport Layer of OSI layer in detail. **07**
- OR**
- (b)** On which principle of physics Fiber Optics works? Explain different types of FO in detail. Why LED is used majorly instead of LASER to transmit the data in FO? Explain. **07**
- Q.3 (a)**
1. Explain Hidden station and Exposed station problem along with their solutions. **04**
  2. Explain Binary Exponential Back-off algorithm. **03**
- (b)** Explain Link state routing protocol in detail. **07**
- OR**
- Q.3 (a)** What is delayed duplicates problem? Explain Three-way handshake method to establish a connection. **07**
- (b)** Write the advantages of hierarchy of domain namespace. **07**
- Q.4 (a)** Explain IEEE 802.11 frame structure in detail. **07**
- (b)** Generate hamming Code for 1100 100 data bits. **07**
- OR**
- Q.4 (a)** Explain distance vector routing detail. **07**
- (b)** Explain any four TCP timers in detail. **07**
- Q.5 (a)**
1. Explain the following.
    - a) Frame Bursting in Gigabit Ethernet **02**
    - b) Four service classes defined in IEEE 802.16 **04**
  2. Explain the term : NAV **01**
- (b)** Explain iterative and recursive name resolution in DNS. **07**
- OR**

<b>Q.5</b>	<b>(a)</b>	1. Explain (a) Admission Control and (b) Explicit Congestion Notification algorithm to manage the congestion in the network.	<b>06</b>
		2. Explain the term : Attenuation	<b>01</b>
	<b>(b)</b>	1. Explain Selective repeat protocol in detail.	<b>04</b>
		2. Explain Phase Modulation in details. How Phase modulation is better than other modulation techniques? Explain with reason.	<b>03</b>

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