Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–VI • EXAMINATION – SUMMER • 2014

Subject Code: 640001 **Date: 22-05-2014**

Subject Name: Fundamentals of Networking (FON)

Time: 10:30 am - 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) Attempt the following **07**

1. An _____is a communication standard between two immediate layers, while _____describe the communication between peers.
2. The range of frequencies transmitted without being strongly attenuated is called the_____.
3. _____is a device which can control the data transmission from multiple devices.
4. _____and _____are two popular error detection mechanisms.
5. _____is an extension to DNS that makes it better secured.

(b) Discuss the duties of Physical Layer. **07**

Q.2 (a) 1. Explain: 1. Frequency & Band 2. Modulation **04**

2. Discuss the concept of Switching and Routing. **03**

(b) Discuss the concept of Multiplexing. Explain TDM **07**

OR

(b) Explain: **1**. ISM Bands **2**. Free Space Optics. **07**

Q.3 (a) Discuss the OSI layers in detail. **07**

(b) Discuss GO Back N & Selective Repeat Protocols. **07**

OR

Q.3 (a) 1. Explain why the performance of ALOHA was very low? **04**

2. Define Ethernet with its Generation. **03**

(b) Describe frame structure of 802.11 frames. **07**

Q.4 (a) What is congestion? Discuss congestion control techniques. **07**

(b) What is multicast routing? How is it different than broadcasting? **07**

OR

Q.4 (a) 1. What is virtual circuit? **04**

2. Define IPv6 **03**

(b) 1. Discuss the duties of Transport Layer. **03**

2. Difference between Connection-oriented **Vs** Connectionless Forwarding. **04**

Q.5 (a) Explain how connection can be managed at transport layer? **07**

(b) What is DNS? What is the primary purpose of DNS? **07**

OR

Q.5 (a) List the types of resource records. What do these resource records contains? **07**

(b) Write a note on: 1. HTTP 2. Bluetooth **07**

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