

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**
