

GUJARAT TECHNOLOGICAL UNIVERSITY**MCA - SEMESTER-IV • EXAMINATION – WINTER • 2014****Subject Code: 640001****Date: 27-11-2014****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)** Answer the following in short. (Each carry one mark) : **07**
- (i) Advantages of Layering Concept
 - (ii) List down Mobile Network Applications
 - (iii) Define Bandwidth
 - (iv) Define Fourier Component
 - (v) Define Baud Rate
 - (vi) Define Multipath Fading
 - (vii) Define Piggybacking
- (b)** (i) Match the following: **05**
- | | |
|------------------|---------|
| 40-100 Gbps | 802.3ap |
| Gigabit Ethernet | 802.3 |
| Fast Ethernet | 802.3z |
| 10Gb | 802.3ba |
| Classic Ethernet | 802.3u |
- (ii) Fill in the blanks: **02**
- The drawback of Distance Vector Routing Algorithm is _____ and the solution of the problem is _____.
- Q.2 (a)** Explain the terms Repeater, Hub, Bridge, Switch, Router and Gateway in brief. **07**
- (b)** Generate CRC for frame 1111011 using generator 10011. **07**
- OR**
- (b)** Compute the Hamming code for the bit pattern 1101101. Generate error bit at third bit and correct the bit at receiver's end. **07**
- Q.3 (a)** Write a short note on Error Detection and error correction. Explain all the types using examples. **07**
- (b)** Explain Go back n protocol. Also state its merits and demerits. **07**
- OR**
- Q.3 (a)** Explain difference between go back n protocol and selective repeat **07**
- (b)** Explain Selective Repeat protocol. Also state its merits and demerits. **07**
- Q.4 (a)** Write a note on: Binary Exponential Back-off Algorithm. **07**
- (b)** Explain Carrier Sense Multiple Access protocol with persistent and persistent scenarios. What is the use of Network Allocation Vector in CSMA/CA? **07**
- OR**
- Q. 4 (a)** Explain Access Point Primitives. Explain types of frames in network Communication. Also explain Inter Frame Spacing. How to manage PCF and DCF together. **07**
- (b)** White a note on Wireless Broadband. Explain its sub layers. Importance of **07**

Q.5	(a)	What is global synchronization? Explain Congestion, congestion control and Jitter.	07
	(b)	What are the limitations of SMTP? How does IMAP differ from POP3 and SMTP?	07
OR			
Q.5	(a)	Explain all the steps of Link state Routing algorithm in detail. Explain using valid figures and example.	07
	(b)	List and Explain all the Cipher Modes in detail.	07

2/2