

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER-IV • EXAMINATION – SUMMER 2015

Subject Code:640001**Date:11/05/ 2015****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)** Explain the following Keywords. (Each carry one mark) **07**
1. Cryptanalysis
 2. Hamming Distance
 3. Footprint
 4. Critical angle
 5. Piggybacking
 6. NAV
 7. Delay Duplicate
- (b)**
1. Differentiate : Hub Vs Switch **03**
 2. Differentiate : LED Vs LASER (wrt Fiber Optics) **03**
 3. Write the full form of SMTP **01**
- Q.2 (a)** Answer the following question in short. (each carry one mark) **07**
1. What is piconet? Explain.
 2. What is mono-alphabetic substitution?
 3. What is static and dynamic routing algorithm?
 4. What is isochronous property (wrt telephonic conversation)?
 5. What is the relation between frame sequence number and receiver's window size in Selective Repeat protocol?
 6. Write the functions of repeater (wrt computer networks).
 7. Explain DNS poisoning.
- (b)** Write a short note on Link State routing. **07**
- OR**
- (b)** What is problem in Distance Vector Routing? Explain it and discuss the solution to the problem also. **07**
- Q.3 (a)** Explain any three Cipher modes. **07**
- (b)**
1. Write the difference between Infrastructure mode and Ad-hoc modes of Wireless LAN. **02**
 2. Explain the terms: Flow Control and Congestion Control. **02**
 3. Explain Bit stuffing and Byte Stuffing. **03**
- OR**
- Q.3 (a)**
1. Explain the following terms with respect to Satellite communication. **05**
 - (i) Transponder, (ii) geosynchronous orbit (iii) maximum number of satellites allow in geosynchronous orbit (iv) features of LEO and (v) features of GEO satellite.
 2. Write a short note on Hidden and Exposed Station Problem. **02**
- (b)** Write a short note on Fiber Optic cable. **07**
- Q.4 (a)**
1. Explain the frame structure of IEEE 802.3 and DIX frame. Why minimum frame size was kept 64 bytes in Classic Ethernet? **05**
 2. Write a short note on Binary Exponential Back-off Algorithm. **02**
- (b)**
1. Explain the following terms with respect to Congestion Control. **05**

Explicit Feedback, Implicit Feedback, Admission Control and Jitter Control.

2. Explain the duties of Transport Layer (any four). **02**

OR

Q.4 (a) Explain symmetric and asymmetric connection close at transport layer. **07**
Discuss Two army problem also.

(b) 1. Write the difference between connection oriented and Connection less forwarding. **04**

2. Write a short note on Transposition Ciphers. **03**

Q.5 (a) Explain iterative and recursive name resolution methods used by DNS. **07**

(b) Explain Digital Signature using public-key cryptography in detail. **07**

OR

Q.5 (a) Write a short note on OSI layer. **07**

(b) 1. Write a short note on Micro Wave Transmission. **03**

2. Explain CTS and RTS frame in Wireless Network. **03**

3. What is ambiguous acknowledgement? **01**
