

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA– SEMESTER - II EXAMINATION- SUMMER-2023**

**Subject Code: 629404****Date: 13/07/2023****Subject Name: Computer 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.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1 (a) Do as directed:**
- (1) List out the different types of network. **01**
  - (2) What is piggybacking? **02**
  - (3) Differentiate the following: **04**
    - (1) Hub Vs Switch
    - (2) TCP/IP and OSI model
- (b) What is OSI model? Explain the functions, protocols and services of each layer. 07**
- Q.2 (a) What are multimode Optic Fibers? Compare UTP, Coaxial Cable and Fiber Optic. 07**
- (b) What is electromagnetic spectrum? What are radio waves and Micro waves? 07**
- OR**
- (b) Answer the following in brief.**
- (1) Differentiate: Connection-oriented and Connectionless Services **03**
  - (2) Differentiate: Multimode and single mode fiber. **04**
- Q.3 (a) Discuss Data link layer design issues. 07**
- (b) Describe a simple stop and wait protocol for an Error-free channel. 07**
- OR**
- Q.3 (a) Explain ALOHA and Pure ALOHA in detail. 07**
- (b) Discuss utopian Simplex Protocol in detail. 07**
- Q.4 (a) What is congestion? How is congestion controlled in Virtual circuit network? 07**
- (b) Discuss Distance vector routing with count-to-infinity problem. 07**
- OR**
- Q.4 (a) Discuss hidden terminal and exposed terminal problem. How RTS and CTS help to resolve the problem? 07**
- (b) Discuss IEEE 802.11 Architecture in detail. 07**
- Q.5 (a) Explain HTTP in detail. 07**
- (b) Explain DNS in brief. 07**
- OR**
- Q.5 (a) Discuss IPV4 in brief and compare IPV4 and IPV6. 07**
- (b) What is domain resource record? Explain DNS resource record types. 07**