

Enrolment No. /Seat No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA – SEMESTER II- EXAMINATION –SUMMER-2025

Subject Code: 629404

Date: 03/06/2025

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) Describe OSI reference model with brief functionality of each layer. **07**
(b) **Write the answer in brief.** **07**
1. Explain Wide Area Network (4)
2. Describe ARPANET(3)

- Q.2** (a) Discuss effect of noise on parallel lines of twisted pair cable **07**
(b) **Write the answer in brief:** **07**
1. Differentiate: copper wire and fibre optics (4)
2. Differentiate: Single mode and multi mode fibre (3)

OR

- (b) **Write the answer in brief:** **07**
1. Differentiate: Radio waves & Microwave (4)
2. Differentiate: Infrared & Light waves (3)

- Q.3** (a) Describe Data link layer design issues in brief. **07**
(b) Explain a Stop-and-Wait ARQ protocol for a Noisy Channel. **07**

OR

- Q.3** (a) **Write the answer in brief:** **07**
1. What is piggybacking? (3)
2. What is sliding window? What is relevance of sending window? (4)
(b) Generate CRC for frame 1101011011 using generator 10011. **07**

- Q.4** (a) What is MAC sub layer? Describe ALOHA in brief. **07**
(b) What is infrastructure mode and ad hoc mode in 802.11 networks? **07**

OR

- Q.4** (a) Describe hidden and exposed station problem. How RTS and CTS help to resolve the problem? **07**
(b) Explain Bluetooth architecture with Protocol Stack. **07**

- Q.5** (a) What is Domain Resource Record? Explain DNS resource record types. **07**
(b) Differentiate Connection oriented and Connection less services. **07**

OR

- Q.5** (a) Draw architecture of WWW and Explain HTTP query and response **07**
(b) Explain why zones are required in DNS **07**
