

Enrollment No./ Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY

MASTER OF ENGINEERING - SEMESTER - 2 EXAMINATION – SUMMER 2026

Subject Code: 3720520

Date: 11-06-2026

Subject Name: Advanced Communication Networks

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) Discuss and compare packet switching and circuit switching. | 07 |
| | (b) Explain the HTTP message format. | 07 |
| Q.2 | (a) List and explain methods for streaming stored video. | 07 |
| | (b) What is a DSL access network? Discuss challenges to it. | 07 |
| | OR | |
| | (b) What is network security? Explain the principles of cryptography. | 07 |
| Q.3 | (a) Describe principles of congestion control in networks. Also, discuss various approaches for congestion control in TCP-IP. | 07 |
| | (b) Explain P2P file distribution. | 07 |
| | OR | |
| Q.3 | (a) Discuss and compare IPv4 and IPv6 in detail. | 07 |
| | (b) Write a short note on SMTP. | 07 |
| Q.4 | (a) Discuss mobility management in mobile networks. | 07 |
| | (b) Write a short note on VLANs. | 07 |
| | OR | |
| Q.4 | (a) Explain mobile IP in detail. | 07 |
| | (b) Describe the process of a web page request in detail. | 07 |
| Q.5 | (a) Write a short note on MPLS backbone networks for broadband networks. | 07 |
| | (b) Discuss security issues at the network layer with their remedies. | 07 |
| | OR | |
| Q.5 | (a) Explain security mechanisms in wireless networks. | 07 |
| | (b) Discuss and compare ADSL and VDSL for broadband distribution. | 07 |
