

GUJARAT TECHNOLOGICAL UNIVERSITY**ME - SEMESTER- 1 • EXAMINATION – WINTER - 2023****Subject Code:4715902****Date: 24 Jan 2024****Subject Name:Computer Networks and Security****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) What is Computer Network and what are the important network criteria? **07**
(b) Draw the layered architecture of the OSI reference model and write at least two services provided by each layer of the model. **07**
- Q.2** (a) Write a short note on DNS. **07**
(b) Explain different Delays in Computer Networks. **07**
- OR**
- (b) List Application Layer protocols. Discuss the various issues that the application layer tries to solve. **07**
- Q.3** (a) Explain Error Reporting and handling by ICMP. **07**
(b) Explain the functionality of ARP and RARP protocol. **07**
- OR**
- Q.3** (a) Explain Error control in UDP. **07**
(b) What is the main difference between forwarding and routing? Explain at least two forwarding techniques used by the router to switching to packets from the input port to the output port of the router. **07**
- Q.4** (a) Explain Collision Detection in CSMA/CD. **07**
(b) List and explain five security services provided by Network Security. **07**
- OR**
- Q.4** (a) Discuss the Internet of Things using any case study, **07**
(b) Distinguish between Symmetric encryption and Asymmetric encryption using a suitable example. **07**
- Q.5** (a) What is KDC? List the duties of a KDC. **07**
(b) Differentiate RBAC and ABAC. **07**
- OR**
- Q.5** (a) Write a short note on public key infrastructure. **07**
(b) Discuss the most potent threat to web applications and what makes them vulnerable to cyber-attacks. **07**
