

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages :02

Total No. of Questions : 09

MCA (Sem.-3)
ADVANCED COMPUTER NETWORKING

Subject Code :PGCA1925

M.Code :90798

Date of Examination :02-12-2025

Time : 3 Hrs.

Max. Marks :70

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C have FOUR questions each.
3. Attempt any FIVE questions from SECTION B& C carrying TEN marks each.
4. Select atleastTWO questions from SECTION - B & C.

SECTION-A

I. Write short notes on :

- a) What are the main goals of computer networks?
- b) Define bandwidth in the context of signals and medium.
- c) List four design issues of data link layer.
- d) What is the difference between CSMA/CD and CSMA/CA?
- e) Differentiate between subnet mask and IP address.
- f) State two advantages of TCP/IP model over OSI model.
- g) Mention any two services provided by WLANs.
- h) What is handoff in cellular networks?
- i) What is 2G cellular network?
- j) Differentiate between fixed and dynamic channel assignment.

SECTION - B

2. With the help of a diagram, explain the OSI reference model in detail, describing the function of each layer with an example.
3. Define flow control. Explain Go-back-N ARQ the sliding window protocol for all cases with diagrams.
4. What is congestion in networks? Describe the leaky bucket and token bucket algorithms for congestion control.
5. List the design issues of transport layer. Write a detailed note on the working of TCP. Why is it considered a reliable protocol?

SECTION - C

6. Describe the structure and working of a cellular network, explaining the concepts of cells, frequency reuse and handoff.
7. Describe the network architecture of Adhoc networks. How does it support communication without centralized control?
8. Explain the role of Time Division Multiple Access in 2G networks and how it supports multiple users?
9. What is handoff in wireless communication? Explain various handoff strategies used to maintain call continuity.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.