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KAMALA INSTITUTE OF TECHNOLOGY & SCIENCE, SINGAPUR
23CS28PC603

III.B. Tech. II. Semester Regular Examinations, April/May- 2026
COMPUTER NETWORKS
(CSE)

Time: 3 Hours

Max. Marks: 60

Note: Question paper consists of Part-A & Part-B.

- i) **Part-A** for 10M, ii) **Part-B** for 50marks
- Part A** is compulsory, consisting of 10 sub questions from all units carrying equal marks.
 - Part-B** consists of **10 questions** (numbered from 2 to 11) carrying **10marks** each. From each unit there are 2 questions and the students should answer one of them. Hence the student should answer **5 questions** from **Part-B**.

PART-A (10Marks)			
Q. No	Questions	Marks	BTL
1.a)	What is network topology?	1M	1
1.b)	What are the responsibilities of data link layer?	1M	1
1.c)	What is a sliding window protocol?	1M	1
1.d)	What is the difference between Pure ALOHA and Slotted ALOHA?	1M	2
1.e)	Define broadcast routing	1M	1
1.f)	State any two design issues of the Network Layer.	1M	2
1.g)	List the transport service primitives.	1M	1
1.h)	Define Remote procedure call.	1M	2
1.i)	What is the function of POP3?	1M	2
1.j)	List the challenges involved in multimedia streaming over networks.	1M	2
PART-B (50Marks)			
Q.No	Questions	Marks	BTL
2.	Draw the OSI Network Architecture and explain the functionalities of every layer in detail.	10M	2
OR			
3. a)	Explain in detail about coaxial cable & fiber optics.	5M	2
b)	Describe the Error detection techniques with example.	5M	3
4. a)	Describe the Simplex Stop-and-Wait Protocol for an Error-Free Channel with a neat diagram.	5M	2
b)	Explain the Selective Repeat Protocol and justify how it improves efficiency over Go-Back-N.	5M	3
OR			
5. a)	Explain the Channel Allocation Problem and its significance in network performance.	5M	2
b)	Write briefly about CSMA.	5M	2

6. a)	Explain the Shortest Path Routing Algorithm with an example.	5M	3
b)	Describe the Flooding Algorithm. Discuss its advantages and disadvantages.	5M	3
OR			
7.	List and explain congestion control algorithms in network layer.	10M	2
8. a)	Explain the elements of Transport Layer Protocols.	5M	2
b)	Illustrate TCP segment header and explain.	5M	3
OR			
9.	Explain the three-way handshake protocols with suitable diagram.	10M	2
10.a)	Explain the Domain Name System (DNS) architecture and its working.	5M	2
b)	Illustrate in detail about function and structure of e-mail protocol.	5M	3
OR			
11.a)	Discuss the features of HTTP and explain how HTTP works.	5M	2
b)	Describe the working of SNMP protocol in network management.	5M	3

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