CBCS SCHEME

USN | | | | | | | | | | |

20MCA13

First Semester MCA Degree Examination, Feb./Mar. 2022
Computer Networks

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-1

1 a. What are the perspective requirements of Computer Network? Explain. **(06 Marks)**
b. Briefly explain various requirements of Computer Network. **(10 Marks)**
c. Define Link, Nodes, Switches and Raster. **(04 Marks)**

OR

2 a. With a neat diagram, explain Internal Architecture of Computer Network. **(10 Marks)**
b. What is socket programming? Explain various methods used in server side. **(06 Marks)**
c. Discuss Bandwidth and Latency. **(04 Marks)**

Module-2

3 a. With neat diagram of frame format explain BISYNC and HDLC framing. **(10 Marks)**
b. Explain steps of Internet Check Sum and suppose that the sender sends the following four frames of eight bits. Check whether the frames is accepted or not using internet check sum.
11001100 10101010 11110000 11000011 **(10 Marks)**

OR

4 a. Explain ethernet frame format and transmission algorithm. **(10 Marks)**
b. Explain the following :
(i) Stop and wait protocol
(ii) 802.11 wifi **(10 Marks)**

Module-3

5 a. What is a Datagram network? Explain its characteristics. **(10 Marks)**
b. In detail, explain IPv4 packet header format **(10 Marks)**

OR

6 a. Explain class A, class B, class C of IP Addresses. **(10 Marks)**
b. With neat diagram, explain (i) ARP (ii) DHCP. **(10 Marks)**

Module-4

7 a. Explain 3-way handshaking in TCP. **(08 Marks)**
b. Explain simple Demultiplexer and its header format (UDP). **(06 Marks)**
c. Give the difference between UDP and TCP. **(06 Marks)**

OR

8 a. What is congestion? Explain Leaky Bucket algorithm. **(10 Marks)**
b. Explain the following :
(i) Queuing Discipline
(ii) TCP Congestion Control **(10 Marks)**

Module-5

9	a.	Define Cipher. Explain Symmetric key cipher.	(08 Marks)
	b.	Write a note on : (i) SMTP (ii) DNS	(08 Marks)
	c.	What is a firewall? Explain its strength and weakness of a firewall.	(04 Marks)

OR

10	a.	Explain how public key authentication work.	(10 Marks)
	b.	What are the security threats in Internet working?	(06 Marks)
	c.	Write a note on www.	(04 Marks)

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