Seat No. 22501[illegible] Enrollment No. _____

KADI SARVA VISHWAVIDYALAYA

B.E. CE SEMESTER V EXAMINATION (November 2022)

SUBJECT CODE: CE505-N
SUBJECT NAME: Computer Networks

DATE: 12th November 2022 TIME: 10:00 AM to 1:00 PM TOTAL MARKS: 70

Instructions:

1. Answer each section in separate Answer sheet.
2. All questions are compulsory.
3. Indicate clearly, the options you attempted along with its respective question number
4. Use the last page of main supplementary for rough work

SECTION 1

Q:1 (All Compulsory)

(A) Explain the OSI reference model. 05

(B) What is topology? Explain star topology in brief. 05

(C) Explain functionality of Repeater, Hub, Bridge, Switch, Router and Gateway. 05

OR

(C) What is framing? List and explain types of framing. 05

Q:2 (A) A host with an IP address 218.35.50.0 resides in an institution. The network is divided into subnets with max 32 IP per subnet. Answer the following questions: 05

1. What is the subnet mask of the host IP?
2. No. of bits borrowed from host id?
3. How many subnets are there in the network?

Answer the above question with proper calculations.

(B) What are the responsibilities of Transport layer? 05

OR

(A) A host with an IP address 165.200.0.0 /26 resides in a company. Answer the following questions: 05

1. How many subnets are there in the network?
2. How many hosts per subnet are there in the network?
3. What is the network address and broadcast address of the host IP?

(B) What do you mean by random access protocols? Explain slotted ALOHA in brief. 05

Q:3 (A) A Bit steam 1010000 is to be transmitted using standard CRC method with divisor value x^3+1. Generate the CRC code word. 05

(B) Write short note on standard Ethernet. 05

OR

(A) What is IP address? Explain different classes of IP address. 05

(B) How the p-persistent is different from 1-persisent in CSMA/CD? Explain how the Backoff time is set in the case of collision. 05

SECTION 2

Q:4 (All Compulsory)

(A) Discuss about TCP and UDP Protocols 05

(B) Explain Distance Vector Routing Algorithm. 05

(C) Explain DHCP in detail. 05

OR

(C) Describe IPv4 Header in detail. 05

Q:5 (A) How does store-n-forward technique work at network layer? 05

(B) Discuss transport layer multiplexing and demultiplexing concepts. 05

OR

(A) What is process-to-process delivery in transport layer? Why do we require it though host-to-host delivery is provided by the network layer? 05

(B) What is bit and byte stuffing? Explain with example. 05

Q:6 (A) Differentiate between connection oriented versus connection less services in networks. 05

(B) What is subnetting? Why is it required? 05

OR

(A) How leaky bucket algorithm works? 05

(B) What is DNS? How resource records are maintained in DNS? 05

Best of Luck

Exam Seat No._____

KADI SARVA VISHWAVIDHYALAYA

B.E. Semester V Examination – April – 2022

Subject Code: CE505-N (CE/CSE)

Subject Name: Computer Networks

Date: 20/04/2022 **Time: 12:30 pm to 03:30 pm** **Total Marks: 70**

Instructions:

1. Answer each section in separate answer sheet.
2. Use of scientific calculator is permitted.
3. All questions are Compulsory.
4. Indicate clearly, the option you attempt along with its respective question number.
5. Use the last page of main supplementary of rough work.

Section-I

Q-1	(A)	Write short note on OSI reference Model.	[5]
	(B)	What is network topology? Explain any two network topologies with diagram.	[5]
	(C)	Compare LAN, MAN and WAN.	[5]
		OR	
	(C)	What is connection-oriented services. How is it different from connectionless services?	[5]
Q-2	(A)	Explain ATM network.	[5]
	(B)	What are the services provided by Data link Layer?	[5]
		OR	
	(A)	Explain framing techniques.	[5]
	(B)	Explain one-bit sliding window protocol.	[5]
Q-3	(A)	Write short note on DQDB.	[5]
	(B)	Explain frequency division multiplexing.	[5]
		OR	
	(A)	Explain the following Hubs, switches and Routers	[5]
	(B)	A host has an IP address 172.16.131.57/26 in a company. Answer the following questions: 1. How many subnets are there in the network? 2. How many hosts per subnet are there in the network? 3. What is the network address and broadcast address of the host IP? Answer the above questions with proper calculations.	[5]

Section-II

Q-4 (A) Draw and explain IP packet header. [5]

(B) Explain pure and slotted Aloha. [5]

(C) Write short note on CSMA. [5]

OR

(C) What is subnet? Explain various classes of IPv4 address with respect to bits reserved for host-id and network-id. Explain with an example and ranges of each class of IPv4 address. [5]

Q-5 (A) Explain Distance vector routing protocol. [5]

(B) Compare TCP and UDP protocols [5]

OR

(A) Explain leaky bucket algorithm. [5]

(B) Explain link state routing protocol. [5]

Q-6 (A) Write short note on DNS. [5]

(B) Write short note on DHCP. [5]

OR

(A) Explain checksum with an example. [5]

(B) Explain hamming distance with an example. [5]

---Good Luck---