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G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.



UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2024.

(For those admitted in June 2021 and later)

PROGRAMME AND BRANCH: B.C.A.

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
IV	PART-III	CORE ELECTIVE	U21CA4E1A	DATA COMMUNICATION AND NETWORKS

Date & Session: 16.11.2024 / AN

Time : 3 hours

Maximum: 75 Marks

Course Outcome	Bloom's K-level	Q. No.	SECTION - A (10 X 1 = 10 Marks) Answer <u>ALL</u> Questions.
CO1	K1	1.	Which mode allow data flow in both directions but not simultaneously? a) Simplex b) Full -duplex c) Half-duplex d) None of the above
CO1	K2	2.	Which model is most commonly used for network communication? a) TCP/IP b) HTTP c) OSI d) SMTP
CO2	K1	3.	Data that is continuous is referred to as _____ data. a) Binary b) Discrete c) Analog d) Digital
CO2	K2	4.	Transmission media lie below the _____ layer. a) Physical b) Network c) Transport d) Session
CO3	K1	5.	A _____ is a device that connects multiple network segments. a) Switch b) Router c) Hub d) Bridge
CO3	K2	6.	What does HDSL stand for? a) High Digital Subscriber Line b) Hybrid Digital Subscriber Line c) High-bit-rate Digital Subscriber Line d) Hyper Data Service Line
CO4	K1	7.	What is the last error detection method discussed? a) Parity b) Checksum c) CRC d) Linear Code
CO4	K2	8.	What type of channel is assumed for the Stop-and-Wait protocol? a) Noisy b) Bandwidth-limited c) Noiseless d) Intermittent
CO5	K1	9.	The _____ is responsible for process-to-process delivery. a) Application Layer b) Transport Layer c) Network Layer d) Session Layer
CO5	K2	10.	Which of the following is not a category of satellites? a) GEO b) MEO c) LEO d) CDMA
Course Outcome	Bloom's K-level	Q. No.	SECTION - B (5 X 5 = 25 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	K3	11a.	Identify the five components of a data communications system and explain their roles.
			(OR)
CO1	K3	11b.	Discuss the process of logical address in data communication.
CO2	K3	12a.	Write short note on the following i) Nyquist Bit Rate ii) Shannon Capacity
			(OR)
CO2	K3	12b.	Discuss the characteristics and applications of radiowaves.

CO3	K4	13a.	Describe Circuit Switched Networks and their operational principles. (OR)
CO3	K4	13b.	Discuss the data transfer mechanisms used in Cable TV systems.
CO4	K4	14a.	List and explain the two main types of errors. (OR)
CO4	K4	14b.	Explain the concepts of the followings: i) Flow control ii) Error control
CO5	K5	15a.	Describe the Bluetooth architecture and its key components. (OR)
CO5	K5	15b.	Illustrate IPV6 Address.

Course Outcome	Bloom's K-level	Q. No.	SECTION - C (5 X 8 = 40 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	K3	16a.	List any four basic network topologies and explain one advantage of each. (OR)
CO1	K3	16b.	Describe the seven layers of the OSI model and their functionalities.
CO2	K4	17a.	Explain Transmission Modes in data communication. (OR)
CO2	K4	17b.	Describe different types of guided media with suitable examples.
CO3	K4	18a.	Describe Virtual Circuit Networks. (OR)
CO3	K4	18b.	Discuss Dial up Modems and their functionalities.
CO4	K5	19a.	Describe the sliding window mechanism used in the Go-Back-N protocol. (OR)
CO4	K5	19b.	Explain the Ethernet frame structure and the significance of each field.
CO5	K5	20a.	Outline the IEEE 802.11 Ethernet System and Explain. (OR)
CO5	K5	20b.	Discuss DNS System.