Q. Code: 714492

Reg. No. | | | | | | | | | | | | | |

B.E. / B.TECH. DEGREE EXAMINATIONS, MAY 2023

Fifth Semester

IT18501 – DATA COMMUNICATION AND NETWORKING

(Information Technology)

(Regulation 2018)

TIME: 3 HOURS **MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Explore the concepts of network architecture.	**3**
CO 2	Appraise the concept of addressing scheme and various routing protocols in data communication.	**3**
CO 3	Design flow control and congestion control algorithms.	**4**
CO 4	Relate the concepts to real time applications of networks.	**4**
CO 5	Be familiar with real time applications of networks.	**4**

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	Identify the various requirements used to build a network.	**1**	**2**
2.	Compare and Contrast the OSI model with Internet Architecture.	**1**	**2**
3.	Sketch the IPv4 packet header.	**2**	**3**
4.	Discuss the role of 802.11.	**2**	**2**
5.	Describe the need for sub netting?	**3**	**2**
6.	Distinguish between forwarding table and routing table.	**3**	**2**
7.	Describe an application make use of UDP.	**4**	**2**
8.	List out the flag used in TCP header.	**4**	**2**
9.	Explain data plane and control plane in SDN.	**5**	**2**
10.	Discover the role of network function virtualization.	**5**	**3**

PART- B (5 x 14 = 70 Marks)

		Marks	CO	RBT LEVEL
11. (a)	Demonstrate how guided and unguided media used in data transmission with necessary examples.	**(14)**	**1**	**3**
	(OR)			
(b)	Interpret the functions of physical and data link layer with relevant diagram.	**(14)**	**1**	**3**

12. (a)	**(i)**	Illustrate the physical properties of Ethernet 802.3 with necessary diagram of Ethernet transceiver and adaptor.	**(10)**	**2**	**3**
	(ii)	Sketch the Ethernet frame format with a short note.	**(4)**	**2**	**3**
		(OR)			
	(b)	Determine in detail about dynamic host configuration protocol with its packet format.	**(14)**	**2**	**3**
13. (a)		Evaluate the Distance Vector routing algorithm. Analyze its limitations by comparing with other routing algorithms.	**(14)**	**3**	**4**
		(OR)			
	(b)	Outline in detail about the open-source shortest path routing with neat diagrams.	**(14)**	**3**	**4**
14. (a)		Illustrate in detail the various congestion control mechanisms in TCP.	**(14)**	**4**	**3**
		(OR)			
	(b)	**(i)** Determine in detail about the operations on HTTP.	**(7)**	**4**	**3**
		(ii) Dramatize about DNS and its frame format.	**(7)**	**4**	**3**
15. (a)		Point out the spectrum of control and data plane distribution options in SDN.	**(14)**	**5**	**4**
		(OR)			
	(b)	Deduce in detail on the network function virtualization.	**(14)**	**5**	**4**

PART- C (1 x 10 = 10 Marks)

(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16.	Point out the operations of user datagram protocol with its frame format.	**(10)**	**4**	**4**

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