Q. Code: 584815

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

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

Fourth Semester

CS18403 – COMPUTER NETWORKS

(Common to CS & EE)

(Regulation 2018 / 2018A)

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

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Understand the concepts of computer networks and Internet.	**2**
CO 2	Categorize different application layer level protocols based on user's request.	**4**
CO 3	Apply the knowledge of addressing scheme and various routing protocols in data.	**3**
CO 4	Examine the flow of information from one node to another node in the network.	**4**
CO 5	Distinguish the link, physical layers and error detection-correction of data.	**5**

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	Define networking.	**1**	**1**
2.	Differentiate circuit-switching networks and packet-switching networks.	**1**	**2**
3.	In what way IMAP and POP are differed?	**2**	**1**
4.	Outline the functions of FTP.	**2**	**2**
5.	What are the services provided by the transport layer?	**3**	**1**
6.	How congestion occurs in a network?	**3**	**1**
7.	Summarize the address range of IPv4 classless addressing.	**4**	**2**
8.	Expand ICMP and write its functions.	**4**	**2**
9.	What is parity checking?	**5**	**1**
10.	Illustrate the use of ARP and RARP protocols in data link layer.	**5**	**2**

PART- B (5 x 14 = 70 Marks)

		Marks	CO	RBT LEVEL
11. (a)	Draw the ISO-OSI architecture and organize the functions of each layer.	**(14)**	**1**	**3**
	(OR)			
(b)	Describe circuit-switching and packet-switching with an example.	**(14)**	**1**	**3**
12. (a)	Define HTTP. Discuss HTTP request and response message formats in detail.	**(14)**	**2**	**4**
	(OR)			

(b)	Explain in detail how electronic mail application is carried out in a network. Also explain the protocols used in this application.	**(14)**	**2**	**4**
13. (a)	Define UDP. Discuss the operations of UDP. Explain UDP checksum with one example.	**(14)**	**3**	**4**
	(OR)			
(b)	Compare TCP and UDP. Explain in detail about the different phases used in TCP connection.	**(14)**	**3**	**4**
14. (a)	With a neat diagram explain distance vector routing and link state routing protocol.	**(14)**	**4**	**3**
	(OR)			
(b)	Illustrate RIP with an example network.	**(14)**	**4**	**3**
15. (a)	A message that is to be transmitted is represented by the polynomial $M(x)=x^5+x^4+x$ with a generating prime polynomial $G(x)=x^3+x^2+1$.Generate a 3-bit CRC code, C(x) which is to be appended to M(x).	**(14)**	**5**	**3**
	(OR)			
(b)	Organize the functions of random access methods – ALOHA, CSMA, CSMA/CD & CSMA/CA.	**(14)**	**5**	**3**

PART- C (1 x 10 = 10 Marks)

(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16.	How is congestion controlled? Explain in detail about congestion control mechanisms in transport layer.	**(10)**	**3**	**5**

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