PRN:		Course Code :	PCA301

Second Year **M.C.A.** End Semester Examination Winter 2023

Computer Network and Security

Day and Date: wednesday, 29/11/2023 Max Marks: **100**

Time : 10.30 am to 1.30 pm Duration: **03** hrs

Instructions: 1. All questions are compulsory.
2. Diagrams are necessary.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following**			
	a)	Illustrate Data Link Layer mechanism and functions with suitable diagram	08	2	1
	b)	Distinguish Ethernet and Taken Ring	08	4	1
		OR			
	b)	Generator polynomial is X^5+X^3+X+1 divided by polynomial X^2+X+1 . Find message using CRC method.	08	2	1
Q.2		**Attempt the following**			
	a)	Discuss the services of network layer services.	08	2	1
	b)	Distinguish Circuit Switching and Packet Switching.	08	2	1
		OR			
	b)	Consider we have a big single network IP address 193.10.20.0 Divide the network into 3 subnets such that first contains 126 hosts and other two contains 62 hosts each. Evaluate its range of host in each subnet	08	2	1
Q.3		**Attempt any Two from the following**			
	a)	Discuss Transport Layer with its services	08	4	2
	b)	Distinguish TCP and UDP.	08	2	2
	c)	Describe FTP with its use.	08	2	2
Q.4		**Attempt any Two from the following**			
	a)	Discuss security goals in detail.	08	1	2
	b)	Explain symmetric Key Cipher.	08	2	3
	c)	List and explain types of Transposition Cipher.	08	2	3
Q.5		**Attempt any Two of the following**			
	a)	Describe DES Structure and DES Analysis.	09	3	4
	b)	Explain Security of DES, Advanced Encryption standard	09	3	4

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	c)	Explain various types of Transformations.	09	3	4
Q.6		**Attempt any Two of the following**			
	a)	Describe Message Authentication and Hash functions.	09	3	4
	b)	Discuss Digital Signatures and authentication protocols	09	4	4
	c)	Illustrate Authentication Applications- Kerbos, X.509	09	3	4

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