



R22 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A+' Grade)

Subject code:4E5FA

B.Tech V Semester Regular Examinations, December 2024

COMPUTER NETWORKS (IT)

Maximum Marks: 60

Date:28.12.2024

Duration: 3 hours

- Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A			CO	Bloom Tx level
All the following questions carry equal marks (10x1M=10 Marks)				
1.a)	What are the advantageous of star topology		1	L1
b)	What is the main difference between copper and twisted pair cables?		1	L2
c)	What is a cyclic redundancy check (CRC)?		2	L1
d)	What is the purpose of the High-Level Data Link Control (HDLC) protocol?		2	L1
e)	What are the services provided by network layer?		3	L1
f)	What is broadcast routing, and in what scenarios is it used?		3	L1
g)	Why is TCP considered a reliable protocol?		4	L1
h)	List the main services provided by the Transport Layer		4	L1
i)	What are the main protocols used for electronic mail?		5	L1
j)	What is the primary purpose of the Domain Name System (DNS)?		5	L1
Part-B				
Answer All the following questions. (5X10M=50Marks)				Bloom Tx level
2	a	What are three major classes of guided media? List the salient features of each of the guided media. [5M]	1	L2
	b	List and explain briefly about various categories of the network. [5M]	1	L2
OR				
3		With a neat diagram describe the functions of each layer in OSI reference model. [10M]	1	L2
4	a	Explain different framing techniques for data link layer [5M]	2	L2
	b	Design different noisy protocol in data link control? [5M]	2	L3
OR				
5	a	Calculate CRC if the message is 11001001 and the generator polynomial is x^3+1 [5M]	2	L3
	b	What is slotted ALOHA. Mention its advantages and disadvantages. [5M]	2	L2

6	a	With an example explain the distance vector routing algorithms used in computer networks [5M]	3	L2
	b	State and explain difference between virtual circuit and datagram subnets. [5M]	3	L2
OR				
7	a	What is multicasting? Briefly discuss multicasting techniques and protocols [5M]	3	L2
	b	Explain the layered architecture of ATM Network. [5M]	3	L2
8	a	Explain congestion control mechanisms used to control the occurrence of congestion. [5M]	4	L2
	b	Write about what are the services provided by network layer to transport layer [5M]	4	L3
OR				
9	a	Describe the 3 way hand shake procedure for Transport layer. [5M]	4	L2
	b	What do you mean by connectionless and connection oriented service? Explain in detail with example. [5M]	4	L2
10	a	Discuss the world wide web architecture, principles and applications. [5M]	5	L2
	b	What are the different categories of message headers in HTTP protocol? [5M]	5	L3
OR				
11	a	Explain DNS with reference to its components and working. [5M]	5	L2
	b	Explain the architecture and services of e-mailing system. [5M]	5	L2