



R22 Regulation

Subject code: 4E5FA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech V Semester Regular/Supplementary Examinations, November 2025

COMPUTER NETWORKS

(IT)

Maximum Marks: 60

Date: 20.11.2025

Duration: 3 hours

- Note: 1. This question paper contains two parts A and B.
2. Part A is compulsory which carries 10 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

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	BloomTx
1 a)	List various network control devices	1M	1	1
b)	State the advantages of coaxial cables	1M	1	2
c)	Compare different ALOHA protocols	1M	2	3
d)	List error detection and correction codes	1M	2	1
e)	What is medium access control sub layer?	1M	3	1
f)	What is count to infinity problem?	1M	3	1
g)	Why UDP is called connectionless?	1M	4	2
h)	What are the problems with congestion?	1M	4	2
i)	Mention the record types of DNS resource record	1M	5	1
j)	What are the components of URI?	1M	5	1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	a) Discuss about the various transmission media available at the physical layer.	5M	1	2
	b) Explain design issues of the layers in computer networks.	5M		
OR				
3	a) Classify Internet and Intranet with applications.	5M	1	2
	b) Compare LAN, WAN and MAN.	5M		
4	a) Explain the CRC error detection technique using generator polynomial x^4+x^3+1 and data 11100011	5M	2	3
	b) Explain about the data link layer frame and frame fields.	5M		
OR				
5	a) Explain the types of transfer modes in HDLC.	5M	2	2
	b) Explain about noiseless protocol in data link layer.	5M		

6	a) Discuss about switch ethernet and gigabit ethernet.	5M	3	2
	b) Explain the working of multiple access protocols.	5M	3	2
OR				
7	a) Explain the types of carrier sense multiple access protocols.	5M	3	2
	b) Explain link state routing with an example.	5M	3	3
8	a) Explain the general principles of congestion control.	5M	4	2
	b) Briefly discuss adaptive and non-adaptive routing algorithms.	5M	4	3
OR				
9	a) Compare virtual circuit and datagram network.	5M	4	3
	b) Explain the shortest path routing algorithm with an example.	5M	4	2
10	a) Briefly explain about the architecture of WWW.	5M	5	2
	b) Explain about HTTP and SNMP.	5M	5	2
OR				
11	a) Explain the services provided by DNS servers and how it works.	5M	5	2
	b) Explain the E-mail architecture with a neat diagram.	5M		