



R18 Regulation

Subject code: 2P5FB

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, November 2025

COMPUTER NETWORKS

(IT)

Maximum Marks: 70

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 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

All the following questions carry equal marks (10X2M=20 Marks)		Marks	CO	BTL
1	What are the three criteria necessary for an effective and efficient network.	2M	1	L1
2	Why protocols are needed on network communication?	2M	1	L1
3	Define piggy backing.	2M	2	L1
4	What is the difference between byte oriented and bit oriented protocols	2M	2	L1
5	Define subnetting.	2M	3	L1
6	What is the function of Dijkstra's algorithm?	2M	3	L1
7	What is minimum and maximum size of TCP header?	2M	4	L1
8	Define socket address.	2M	4	L1
9	What are the five types of multimedia?	2M	5	L1
10	What is the difference between Bluetooth and WI-FI?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Compare and contrast a circuit switched network and a packet switched network.	10M	1	L2
OR				
12	Explain the TCP/IP protocol suit in detail, with their protocols?	10M	1	L2
13	Explain the reason for moving from stop-and-wait ARQ protocol to the go-back-N ARQ protocol in detail	10M	2	L2
OR				
14	Draw a simple network using SONET equipment and explain the functions of each sonet layer	10M	2	L2
15	Explain the link state routing method with an example and the steps required to build a routing table?	10M	3	L2
OR				
16	Name the three transition strategies and explain the differences between them.	10M	3	L2

17	Explain the process to process delivery. Name the different protocols for process to process delivery and compare them.	10M	4	L2
	OR			
18	Explain congestion control techniques and mechanisms in detail.	10M	4	L2
19	a) What are the key principles of network security? b) What are the five services provided by the network security?	5M 5M	5	L2
	OR			
20	Define IP security (IPsec) and explain operation modes, and other protocols used in the IPsec.	10M	5	L2