



R20 Regulation

Subject code: 3E6DD

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, November 2025

TELECOMMUNICATION SWITCHING SYSTEMS AND NETWORKS
(ECE)

Maximum Marks: 70

Date: 15.11.2025

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	List any two disadvantages of strowger switching system.	2M	1	L1
2	Define signaling tones.	2M	1	L1
3	Compare centralized SPC and distributed SPC.	2M	2	L1
4	What is traffic?	2M	2	L1
5	Define lost call systems.	2M	3	L1
6	Define congestion.	2M	3	L1
7	Define Traffic Intensity.	2M	4	L1
8	Define Erlang.	2M	4	L1
9	List out the services of ISDN.	2M	5	L1
10	Define SONET.	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Explain uni-selector and two motion selector.	10M	1	L2
OR				
12	Illustrate the step-by-step switching system using block diagram and explain its operation.	10M	1	L2
13	Define stored program control (SPC) and outline the organizational structure of centralized SPC. Evaluate the advantages of SPC automation in telephone switching systems.	10M	2	L2
OR				
14	Discuss the concept of time-multiplexed space switching and its operation.	10M	2	L2
15	(a) Define traffic intensity and centrum call second. (b) A subscriber makes three phone calls of three minutes, four minutes and two minutes duration in a one hour period. Calculate the subscriber traffic in i)Erlang ii)CCS iii)CM	5M 5M	3	L2
OR				

16	Explain the measurement of traffic in telecommunication.	10M	3	L2
17	Discuss the operation of an echo suppressor in a Transmission Plan.	10M	4	L2
	OR			
18	Differentiate in channel signaling and common channel signaling schemes?	10M	4	L2
19	Explain the layered architecture of the OSI reference model.	10M	5	L2
	OR			
20	Discuss ISDN protocol architecture in detail.	10M	5	L2