R18 Regulation *Subject code:2E6DA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, April 2026

CELLULAR AND MOBILE COMMUNICATIONS

(ECE)

Maximum Marks: 70 Date: 18.04.2026 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	Name the wireless access techniques used in 2G and 4G.	2M	1	L1
2	List out advantages of cellular systems over conventional mobile telephone system.	2M	1	L1
3	Define the gain of an antenna.	2M	2	L1
4	Define frequency reuse distance.	2M	2	L1
5	List out the types of antennas used at cell site.	2M	3	L1
6	Write about foliage loss.	2M	3	L1
7	What is the purpose of paging channels?	2M	4	L1
8	What is dynamic channel allocation?	2M	4	L1
9	List out advantages of handoff.	2M	5	L1
10	State the purpose of hand-off.	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Explain operation of basic cellular mobile system in detail.	10M	1	L2
	OR			
12	a) Explain about basic cellular system with neat figure. b) Write short notes on Fading.	7M 3M	1	L2
13	Discuss different diversity techniques briefly.	10M	2	L2
	OR			
14	Discuss about different methods to reduce the co-channel interference.	10M	2	L2
15	a) Discuss the effects of human made structures on cell coverage. b) List the various merits of Lee model.	5M 5M	3	L2
	OR			
16	Explain in detail about various mobile antennas.	10M	3	L2
17	a) Differentiate between FCA and non-FCA in detail. b) Explain in detail access channels and operational functions.	5M 5M	4	L2
	OR			

18	Explain different channel assignment strategies in detail.	10M	4	L2
19	a) Discuss the handoff process in cellular systems. b) Explain how handoffs are implemented based on signal strength.	5M, 5M	5	L2
	OR			
20	Explain the necessity of power difference handoff and also state the different conditions based on the power difference handoff.	10M	5	L2