



Regulation 18

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

Subject code: 2E6DA

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

B.Tech VI Semester Supplementary Examinations, January 2023

CELLULAR AND MOBILE COMMUNICATIONS (Electronics and Communication Engineering)

Maximum Marks: 70

17/01/23

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 10 questions. Answer any 5 questions which carries 10M.
 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)

- 1 List out steps involved in operation of cellular systems.
- 2 List out limitations of conventional mobile telephone system.
- 3 Define the gain of an antenna.
- 4 Define frequency reuse distance.
- 5 List out the types of antennas used at cell site.
- 6 Define foliage loss.
- 7 State purpose of paging channels.
- 8 What is dynamic channel allocation?
- 9 What is meant by handoff initiation.
- 10 What is mobile assisted handoff.

Part-B

Answer all the questions

(5X10M=50 Marks)

- 11 Explain operation of basic cellular mobile system in detail. [10] M
OR
- 12 a) Explain about basic cellular system with neat figure.
b) Write short notes on Fading. [6+4] M
- 13 Discuss about different methods to reduce the co-channel interference. [10] M
OR
- 14 Explain the co-channel interference reduction factor and derive the general formula for C/I. [10] M
- 15 a) Explain in detail about long distance propagation.
b) Explain the role of directional antennas for interference reduction. [4+6] M
OR
- 16 a) Write short notes on use of 1-mi intercept.
b) Discuss about area-to-area prediction for cell coverage. [3+7] M
- 17 a) Describe grouping of voice, set up channels.
b) Write short notes on forcible borrowing channel assignment scheme. [6+4] M
OR

- 18 a) Write short notes on reuse partition.
b) Write short notes on channel assignment to travelling mobile units. [4+6] M
- 19 a) Explain the concept of delaying Hand off and discuss about its advantages.
b) Define dropped call rate. Discuss about relationship among capacity, voice quality, dropped call rate. [6+4] M
- OR
- 20 Explain in detail the need for handoff and determine the probability of requirement of handoff. [10] M