B.Tech. V-Sem. (Main) Examination, January/February - 2024
Computer Sc. and Engg. (IOT)
5CIT4-11 Wireless Communication (Elective - I)
CS, IT, CIT, CSD

Time : 3 Hours

Maximum Marks : 70

Instructions to Candidates:

Attempt all Ten questions from Part A. Five questions out of Seven questions from Part B and Three questions out of Five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.(Mentioned form No.205

PART - A

(Answer should be given up to 25 words only).

All questions are compulsory.

(10×2=20)

1. What is Scope and objective of Wirelsss Communication.

2. Explain Doppler shift?

3. What are requirements of a MIMO system?

4. Explain Cyclic Prefix?

5. Explain Principles of offset QPSK?

6. Explain Link budget Design.

7. Define Cellular concept.

8. Explain linear Equalization?

9. Define Duplening.

10. What is fading in Wireless channels?

PART - B
(Analytical/Problem solving questions)
Attempt any Five questions.

(5×4=20)

1. Describe zero forcing and LMS Algorithm?

2. Explain in detail hand off and situation for triggering hand off?

3. Explain Doppler spread and Coherence time in detail.

4. Explain Beam forming in multiple antenna technique?

5. Describe fast fading and slow fading?

6. Explain OFDM and its working.

7. Explain Spatial Multiplexing in detail?

PART - C
(Descriptive/Analytical/Problem Solving/Design question)
Attempt any Three questions.

(3×10=30)

1. Describe Gaussian Minimum shift Keying? Differentiate between QPSK and MSK?

2. Describe the following in detail
   a) Adaptive Equalization
   b) Micro-Macro Diversity
   c) Rake Receiver.

3. Differentiate between FDMA, CDMA and TDMA. Also Explain their working.

4. Describe Large Scale Path loss. Also define path loss models.

5. Explain Error Probability in fading channels with diversity reception.