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# DMI-ST. EUGENE UNIVERSITY

ZAMBIA

DEGREE EXAMINATION – DECEMBER 2024

Semester: X

055CS102 WIRELESS COMMUNICATION

Time: 3:00 Hours

Max. Marks: 100

Answer any FIVE Questions (5 x 20 = 100 Marks)

1. a) Explain briefly about two ray propagation model. (10 Marks)
- b) Write a short notes for the following terms: (10 Marks)
  - i. Wireless Communication
  - ii. Wireless Channel
  - iii. Path Loss
  - iv. Fading
  - v. Multipath Channel
2. a) Brief about the Time Division Multiple Access (TDMA) technique. (10 Marks)
- b) Brief about the Code Division Multiple Access (CDMA) technique. (10 Marks)
3. a) Briefly explain the structure of a wireless communication link. (10 Marks)
- b) Describe with neat diagram, the modulation technique of OQPSK and its advantage. (10 Marks)
4. a) Explain about adaptive equalizers. (10 Marks)
- b) Explain in detail about linear and nonlinear equalizer. (10 Marks)
5. a) What is meant by MIMO systems? Explain the system model with necessary diagrams. (10 Marks)

- b) Describe the concepts of pre-coding. **(10 Marks)**
- 6. a) Explain in detail about types of Small Scale Fading. **(10 Marks)**
  - b) Distinguish fast fading and slow fading in wireless channel and explain in detail. **(10 Marks)**
- 7. a) What are the major difference between TDMA, FDMA and CDMA? **(10 Marks)**
  - b) Discuss in detail about cellular concept and frequency reuse. **(10 Marks)**