



**NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SCIENCE**

CIT 755: WIRELESS COMMUNICATION I [3 Units]

Instruction: Attempt any five questions each question carries 14 marks **Time:** 3 hours

- 1(a) Mention four advantages and benefits of wireless technology (6 marks)
- 1(b) Compare and contrast the wired and wireless communication (5 marks)
- 1(c) Mention different types of Wireless Communication (3 marks)

- 2(a) Explain and state the disadvantages of Microcell (4 marks)
- 2(b) Mention and describe the three basic propagation mechanisms which impact propagation in a mobile communication system (6 marks)
- 2(c) Explain transmitter diversity with and without channel state information (4 Marks)

- 3 (a) Define Jamming Margin (4 marks)
- 3 (b) Explain why Hexagon Geometry are always proffered (4 marks)
- 3 (c) Describe the concept of multiuser detection(6 marks)

- 4(a) Explain in detail about handoff (4 marks)
- 4(b) Describe the technical challenges to wireless communication (4 marks)
- 4(c) Discuss causes and effect of multipath propagation in wireless telecommunication(6 marks)

- 5(a) With the aid of well labelled diagrams, describe three basic techniques for linking customers to fixed channel radio links (9 marks)
- 5(b) Define Doppler shift (5 marks)

- 6(a) Differentiate time selective and frequency selective channel. (4 marks)
- 6(b) List five examples of Wireless Communication devices (5 marks)
- 6(c) List Advantages and Disadvantages of Wireless Communication(5 marks)

- 7(a) List the advantages of digital modulation techniques (4 marks)
- 7(b) Mention the factors that influence the choice of digital modulation (5 marks)
- 7(c) Define QPSK (5 marks)