



NATIONAL OPEN UNIVERSITY OF NIGERIA
University Village, Plot 91, Cadastral Zone,
Nnamdi Azikiwe Expressway, Jabi, Abuja

FACULTY OF SCIENCES

APRIL, 2019 EXAMINATIONS

Course Code: CIT758
Course Title: WIRELESS COMMUNICATION II
Credit Unit: 3 units
Time Allowed: 2½ Hours
Instruction: Answer Question 1 and any other FOUR (4) questions

- 1a) Briefly describe the four distinct components/subsystems of a cellular system (10 marks)
- 1b) With the aid of a mathematical model, explain the concept of Free Space Propagation. (5 marks)
- 1c) Discuss Link budget (4 marks)
- 1d) State three importance of link budget (3 marks)

- 2(a) Explain two types of channel assignment (4 marks)
- 2b) What is Equivalent Isotropically Radiated Power (EIRP)? (4 marks)
- 2c) State four characteristics of Medium Earth Orbit (4 marks)

- 3a) List two types of Error control methods (2 marks)
- 3b) Write short notes on Error Detection Code scheme (5 marks)
- 3c) Explain the term 'fading' and its effect in radio channel and digital transmissions (5 marks)

- 4a) Give four types of error detection (4 marks)
- 4b) List eight examples of Wireless Communication devices (4 marks)
- 4c) State four benefits of Diversity scheme in telecommunications (4 marks)

- 5a) Mention four types of diversity scheme in telecommunications (4 marks)
- 5b) Distinguish between 'flat' fading and 'frequency-selective' fading with respect to 'coherence bandwidth' of a channel. (4 marks)
- 5c) State four features of Low Earth Orbits (4 marks)

- 6a) List the advantages and disadvantage of Medium Earth Orbit satellites (3 marks)
- 6b) Enumerate four types of modulation techniques (4 marks)
- 6c) Compare Microwaves and radio waves for satellite communications (5 marks)