



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
University Village, 91 Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja  
**FACULTY OF SCIENCE**

**SEPTEMBER/OCTOBER 2016 EXAMINATION**

**CIT 758: WIRELESS COMMUNICATION II**

**TIME ALLOWED: 3Hours**

**INSTRUCTION(S): Attempt any Five (5) questions**

**Time allowed:** 2½ hours

- 1(a) State the characteristics of Satellite communications **(3 marks)**
- b) Enumerate the conditions under which satellite systems performs effectively.
- c) What are the factors in satellite communications?
  
- 2a) Write short notes on the basic types of Automatic Repeat Query (ARQ) **(7½ marks)**
- b) Discuss ARQ protocols stating particular characteristics of each. **(6½ marks)**
  
- 3a) Briefly describe Block Code **(4 marks)**
- b) Discuss the following:
  - i) Hamming single-bit code **(3 marks)**
  - ii) Cyclic Redundancy Check (CRC) **(3 marks)**
- c) What is Wireless Communication? **(4 mark)**
  
- 4a) Discuss the concept of Interference and system capacity in cellular radio system **(4 marks)**
- b) Enumerate the possible sources of interference in cellular radio system **(3 marks)**
- c) What are the major types of system generated cellular interference? **(2½ marks)**
- d) Discuss Low-Earth-orbiting satellites stating its advantages and disadvantages **(4½ marks)**
  
- 5a) Write short notes on each of the basic Propagation Mechanisms **(9½ marks)**
- b) Discuss Medium Earth Orbit (MEO) stating its advantages and disadvantages **(4½ marks)**
  
- 6a) Write short notes on the following:
  - i) Time diversity **(2 marks)**
  - ii) Space diversity **(2 marks)**
  - iii) Co-operative diversity **(2 marks)**
- b) Briefly discuss each of the following:
  - i) **Block check (3 marks)**
  - ii) **Parity Checking (3 marks)**
  - iii) **Error detection codes (2 marks)**

7a) In the context of IEEE 802.11 LAN, describe the following:

- i) BSS           **(2 marks)**
- ii) IBSS       **(2 marks)**
- iii) Portal      **(2 marks)**

b) Briefly describe any four of the distribution services of the IEEE 802.11 standard **(8 marks)**