COURSE CODE: CIT 711
COURSE TITLE: COMPUTER FUNDAMENTALS
COURSE CREDIT: 3 Units
TIME ALLOWED: 3 HOURS
INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER THREE QUESTIONS

1(a). Discuss the uses of the following; (i) Magnetic Ink character Recognition (ii) Optical Mark Recognition and (iii) Optical Bar Code Reader. **(6 marks)**
1(b). Describe any four (4) ways to increase memory speed. **(4 marks)**
1(c). Discuss any three (3) services enjoyed by internet users. **(6 marks)**
1(d). Discuss any three (3) switching methods.   **(6 marks)**
1(e). Mention three (3) precautionary methods to prevent virus attack. **(3 marks)**

2(a). State the key differences between RISC and CISC **(6 marks)**
2(b). Explain the advantages and disadvantages of the following network topology (a) Bus (b) Ring **(9 marks)**

3(a). Explain what you understand by the following operating system concepts: (i) System Call, (ii) multiprogramming, (iii). Multitasking **(6 marks)**
3(b). Discuss the similarities and differences between a compiler and an interpreter **(7 marks)**
3(c). Define both parallel and serial transmission as related to data communication? **(2 marks)**

4(a).   Define system software and provide an example   **(3 marks)**
4(b).   Discuss the functions of an operating system in a computer system.   **(8 marks)**
4(c).   How does assembly language differ from machine language?   **(4 marks)**

5(a). Explain the first five layers of the OSI Model **(8 marks)**
5(b). Develop a comprehensive plan for implementing a WAN for a multinational **(7 marks)**.

6(a). What are the main components of CRT terminals? **(3 marks)**
6(b). Differentiate between impact and non-impact printers? **(4 marks)**
6(c). Discuss the trade-off between cost and access time in computer memory.   **(5 marks)**
6(d). Briefly describe three (3) basic steps in cryptanalysis **(3 marks)**