



**National Open University of Nigeria**  
**Plot 91, Cadastral Zone, Nnamdi Asikiwe Expressway, Jabi – Abuja**  
**FACULTY OF SCIENCES**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**2023\_1 POP EXAMINATION**

**COURSE CODE: CIT 711**

**COURSE TITLE: COMPUTER FUNDAMENTALS**

**CREDIT: 3**

**TIME ALLOWED: 3 Hours**

**INSTRUCTION: Answer Question 1 and any Other Three (3) Questions**

- 1a (i) Enumerate any 6 functions of an anti-virus program? (3 marks)  
ii) Describe an operating system (3marks)  
(iii) Internet has made the world a global village, explain the concept of Internet (5 marks)
- 1b.(i) Using appropriate examples and relevant diagrams, explain the Concept of Cryptography (6 marks)  
. (ii) How is analogue signal different from digital signal? (2 marks)
- 1c. Categorize the problems caused by viruses (6 marks)
- 2 (i) Differentiate between interpreters and compilers (4 marks)  
(ii) Discuss the merits of multiprogramming (3marks)  
(iii) What are the major differences between multiprogramming and serial operating system (4 marks)  
(iv) Discuss any 2 demerits of batch operating system (4 marks)
- 3a. Provide a clear explanation on the merits of Distributed Operating System (7 marks)  
b. (i) What differentiate parallel and serial transmissions (6 marks)  
(ii) What is a communication tariff? (2 mark)
- 4a. (i) What are the functions of communication protocol (3 marks)  
(ii) Differentiate between synchronous and asynchronous transmission (4 marks)
- 4b. (i) Explain demodulators (2 marks)  
(ii) Explain three classes of computer network (6 marks)
- 5a. (i) Explain any 5 characteristics of LAN (4 marks)  
(ii) Itemize 2 disadvantages of the ring topology (3 marks)  
a) Write down any four (4) topologies of LAN (8 marks)
- 6a. Provide a clear explanation on any 5 layers of the OSI model (7 marks)  
b. (i) Differentiate between routers and gateways (4 marks)  
(ii) Describe two types of WAN (4 marks)