



**NATIONAL OPEN UNIVERSITY OF NIGERIA,  
PLOT 91, CADASTRAL ZONE, UNIVERSITY VILLAGE, JABI – ABUJA  
FACULTY OF SCIENCES  
2023\_1 POP EXAMINATION**

**Course Code: CIT 703**

**Course Title: Information Technology and Software Development**

**Time: 3 hrs**

**Credit: 3 Units**

**Instruction: Attempt 4 questions. Question1 is Compulsory and any other three (3)**

**Questions 1**

- (a) What is a Software development Life Cycle? Outline its phases (6 marks)
- (b) List four (4) strengths of the waterfall model. (4 marks)
- (c) Outline two advantages of using Unified Modeling Language (4 marks)
- (d) List five (5) types of diagrams in UML. (5 marks)
- ( e) Define Software process and Outline four goals (6 marks)

**Question 2**

- a. What is prototyping? (5 marks)
- b. State five guidelines for software documentation. (5 marks)
- c. Highlight five basic issues and questions that the Software Requirements Specification (SRS) should address. (5 marks)

**Question 3**

- 3a. Describe a data flow diagram (with diagram) (5 marks)
- b. Outline five advantages of a Data Flow diagram (5 marks)
- c. Outline 5 basic constructs used by Data flow Diagram (5 marks)

**Question 4**

- (a). Outlines five (5) difference between cohesion and coupling **5 marks.**
- (b). State six (6) types of cohesion in software engineering **6 marks**
- (c). Identify four (4) advantages of coupling **4 marks.**

**Question 5**

- (a) Describe Waterfall Software Development Life Cycle model with diagram (5 marks)
- (b) Itemize and explain four (4) phases of waterfall model (6 marks)
- (c) Outline four (4) weaknesses of the waterfall model. (4 marks)

**Question Six**

- (a) What is Extreme Programming (XP)? (2 marks)
- .(b) Describes any three basic activities in XP that are performed within the software development process. (9 marks)
- (c ) Enumerate four (4) SDLC models (4 marks)