



**NATIONAL OPEN UNIVERSITY OF NIGERIA,
PLOT 91, CADASTRAL ZONE, UNIVERSITY VILLAGE, JABI – ABUJA
FACULTY OF SCIENCES
2023_2 EXAMINATIONS**

Course Code: CIT 703

Course Title: Information Technology and Software Development

Time: 2¹/₂ Hours

Credit: 3 Units

Instruction: Attempt 5 questions. Question 1 is Compulsory and any other four (4) Questions

Question One

- 1a. Describe software evolution? **2 marks.**
- 1b. Outline Four (4) differences between Activity Diagram and State chart diagram. **4 marks.**
- 1c. State and explain three (3) types of well-maintained documentation documents. **6 marks.**
- 1d. Outline four (4) benefits of written specification agreement **2 marks.**
- 1e. Explain the following terms (i) decision tables, (ii) relations, (iii) attributes, (iv) domains, (v) snowflake schema (vi) Flowchart **6 marks.**
- 1f. Who is a software project manager? **2 marks.**

Question Two

- 2a. Describe Unified Modeling Language (UML)? **3 marks**
- 2b. Explain three (3) Universal Modelling Language (UML) model deficiencies in Software engineering **6 marks.**
- 2c. Explain the necessity for developing use case diagram **3 marks.**

Question Three

- 3a. Describe data flow diagram **2 marks.**
- 3b. State main difference between Activity Diagram and Flow Chart. **3marks**
- 3c. Represent the following relations among classes using UML diagram.
 - (i) Bill contains number of items. Each item describes some commodity, the price of unit, and total on this price **4 marks.**
 - (ii) An order consists of one or more order items. Each order item contains the name of the item, its quantity and the date by which it is required. Each order item is described by an item type specification object having details such as its vendor addresses, its unit price, and the manufacturer **3 marks.**

Question Four

- 4a. Describe Software Project Planning? **2 marks**

- 4b. Outline four (4) benefits of software requirements specification **4 marks**.
4c. Explain three (3) areas where to locate errors in a Project Specification **6 marks**.

Question Five

- 5a. Outlines five (5) difference between cohesion and coupling **5 marks**.
5b. State seven (6) types of cohesion in software engineering **3 marks**
5c. Identify four (4) advantages of coupling **4 marks**.

Question Six

- 6a. Define software product **2 marks**.
6b. State and explain the two categories of software product with given examples. **6 marks**
6c. Outlines four (4) essential characteristics of Well-Engineered Software Product **4 marks**.