

**NATIONAL OPEN UNIVERSITY OF NIGERIA,  
PLOT 91, CADASTRAL ZONE, UNIVERSITY VILLAGE, JABI – ABUJA  
FACULTY OF SCIENCES  
2023 2 EXAMINATIONS.**

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**Course Code: CIT 703**

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

**Time: 2<sup>1</sup>/<sub>2</sub> 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. Outlines 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**