



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI-ABUJA**  
**FACULTY OF COMPUTING**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**2025\_2 EXAMINATIONS**

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**COURSE CODE: CIT831**

**COURSE TITLE: SOFTWARE ENGINEERING METHODOLOGIES COURSE**

**CREDIT: 3 UNITS**

**TIME ALLOWED: 3 HOURS**

**INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER THREE QUESTIONS**

**Question 1:** Explain the following concepts; 25mks

- i. Software 5mks
- ii. Software Engineering 5mks
- iii. Software Engineering Methodologies 5mks
- iv. Differentiate between requirement and requirement engineering. 5mks
- v. Identify Five (5) types of requirements that you know. 5mks

**Question 2:** 15mks

- i. What is the major concern of Software Engineering? (5 marks)
- ii. Why is Software Engineering; a branch of Computer Science regarded an Engineering discipline? (10 marks)

**Question 3:** 15mks

Software engineering involves greater responsibilities than simply the application of technical skills. Software Engineers must be honest and ethically responsible. Similarly, ethical behavior is more than simply upholding the law. Identify Four (4) areas of Professional responsibility of a Software Engineer.

**Question 4:** 15mks

- i. Explain Software Process (Software Development Life Cycle) 5mks
- ii. Identify the activities in a Software process (Software Development Life Cycle). 10mks

**Question 5:** 15mks

- i. Identify the Three (3) stages of Software System Testing? 5mks
- ii. With the aid of a well labelled diagram, explain the Water Fall Model of Software Engineering. 5mks
- iii. What is a Software Process (Software Development Life Cycle) Model? 5mks

**Question 6:** 15mks

Today's businesses operate in a rapidly changing environment, making them to contend with new market opportunities, changing economic situations and fast evolving customer and product requirements. This has made software delivery and products to try to keep up with changes in economic situations. Similarly, the speed with which software change has made it impossible for it to have stable requirements. Consequently, plan-based software development process like waterfall and V-model that completely specify the system requirements before such system is designed, built, and tested make it impossible for developers to satisfy the growing and changing user requirements for most business software projects. Identify and discuss the software engineering model that is suitable for today's business environment considering the dynamic nature of modern business environment and its highlighted challenges.