



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

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.