



**NATIONAL OPEN UNIVERSITY OF NIGERIA,  
PLOT 91 CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI – ABUJA  
FACULTY OF SCIENCES**

**MARCH 2018 EXAMINATION**

**COURSE CODE: CIT 333**

**COURSE CREDIT: 3**

**COURSE TITLE: SOFTWARE ENGINEERING\_**

**TIME ALLOWED: 3 Hours**

**INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER FOUR (4)  
QUESTIONS**

**QUESTIONS**

1a. Imagine that you are assigned the role of a Software Engineer while on industrial training in a software industry. Describe 4 main principles you would adopt, in order to attain a software system that conforms to the goals set by the industry.

(12 marks)

1b. 'Software Crisis' is a common term that featured prominently, at the initiation of software engineering. State any (six) 6 signs of this sort of crisis.

(6 marks)

1c. The verification process normally entails a number of processes. Write down any four (4) of these processes.

(4 marks)

**[Total = 22 marks]**

2a. Give a brief explanation of three (3) common standards' in Software Engineering

(6 marks)

2b. Outline any six (6) goals of software quality assurance within the context of formal software testing?

(6 marks)

**[Total = 12 marks]**

3a. Write down four (4) major software quality assurance activities undertaken during the detailed design phase.

(4 marks)

3b. Outline six (6) elements required for compatibility testing in a computing setting.

(6 marks)

3c. State the main reason for establishing buddy checks.

(2 marks)

**[Total = 12 marks]**

4a. Explain the concept of 'software testing', within the context of product validation and verification. (4 marks)

4b. Give a brief description of the following based on the Capability Maturity Model:

4b. i. Validation (3 marks)

4b. ii. Verification (3 marks)

4c. What is the main application of a test case? (2 marks)

**[Total = 12 marks]**

5a. Write short notes on the following:

i. Product evaluation (4 marks)

ii. Product monitoring (4 marks)

5b. State the key processes involved in the following phases:

i. Software Acceptance and Delivery Phase (2 marks)

ii. Software Sustaining Engineering and Operations Phase (2 marks)

**[Total = 12 marks]**

6a. Give a brief description of the following:

i. Symbolic debugging tool (2 marks)

ii. Profiling tool (2 marks)

iii. Alpha testing (2 marks)

iv. Acceptance testing (2 marks)

6b. List the four (4) levels of testing in software engineering: (4 marks)

**[Total = 12 marks]**