



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**UNIVERSITY VILLAGE, PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE**  
**EXPRESS WAY, JABI, ABUJA**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**2020\_1 SEMESTER**

**COURSE CODE: CIT 333**

**COURSE TITLE: SOFTWARE ENGINEERING**

**CREDIT UNIT: 2**

**TIME ALLOWED: 2 HOURS**

**INSTRUCTIONS: ANSWER QUESTION 1 AND THREE (3) OTHER QUESTIONS**

**Questions**

- 1a (i) System software helps to run the computer hardware and the entire computer system.  
State any four composition of system software. *(2 marks)*  
(ii) Briefly describe six Sub-disciplines of Software engineering *(3 marks)*  
(iii) Briefly explain the Software life cycle models according as used in software development *(3 marks)*
- 1b (i) What are the remedies to software crisis as applicable in software engineering? *(3 marks)*  
(ii) What are the various stages of software development? *(2 marks)*  
(iii) Define Software life cycle models in the concept of software development *(3 marks)*
- 1c (i) What the approaches of writing modular program *(4 marks)*  
(ii) Outline the common CASE risks and associated control used in software development process *(3 marks)*  
(iii) What are the Major Tasks in Implementation of software development? *(2 marks)*
- 2a Write short notes on the following types of testing methods:  
**(i) black box testing , (ii) white box testing (iii) Grey Box Testing (9 marks)**
- 2b What are the different types of White box testing *(6 marks)*
- 3a (i) Briefly explain Software Quality Assurance Activities *(3 marks)*  
(ii) SQA assures that formal software testing, such as Acceptance testing, is done in accordance with plans and procedures. What are the objectives of SQA in monitoring formal software testing? *(6 marks)*
- 3b (i) Outline the SQA activities during the architectural design phase of development software *(6 marks)*
- 4a Write short notes following Terms as used in Validation process *(12 marks)*  
(i) Code Validation/Testing  
(ii) Integration Validation/Testing:  
(iii) Functional Validation/Testing  
(iv) User Acceptance Testing or System Validation
- 4b Programming software offers tools to assist a programmer in writing programs and software using different programming languages. State four programming software tools *(3marks)*
- 5a (i) What do you understand by the terms Application software *(3marks)*  
(ii) List any six common applications of software mentioned in 5a (i) above *(6 marks)*
- (5b) What are the software engineering goals specified as a requirement for systems during its life cycle (6 marks)*