



“Investing in Africa’s Future”

COLLEGE OF BUSINESS, PEACE, LEADERSHIP AND GOVERNANCE

NCSC 413: SOFTWARE ENGINEERING 2

END OF FIRST SEMESTER EXAMINATIONS

NOVEMBER 2022

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DURATION: 3 HOURS

INSTRUCTIONS

Answer the question as per the instructions given in the sections
Start **each** question on a new page on your answer sheet.

The marks allocated to **each** question are shown at the end of the section.

Section A (20 Marks)

- i. Which of the following testing is also called Acceptance testing?
- | | |
|----------------------|---------------------|
| A. Beta testing | C. Grey box testing |
| B. White-box testing | D. Alpha testing |

- ii. The Regression test case is not a -----?
 - A. Tests that focus on the software components, which have been modified.
 - B. Low-level components are combined into clusters, which perform a specific software sub-function.
 - C. Additional tests that emphasize software functions, which are likely to be affected by the change.
 - D. A representative sample of tests, which will exercise all software functions.
- iii. In which of the following testing level, the main focus is on customer usage?
 - A. Validation Testing
 - B. Alpha Testing
 - C. Both Alpha and Beta Testing
 - D. Beta Testing
- iv. The primary objective of formal technical reviews is to find _____ during the process so that they do not become defects after release of the software.
 - A. errors
 - B. equivalent faults
 - C. failure cause
 - D. none of the mentioned
- v. The ISO 9000 series of standards is a program that can be used for external quality assurance purposes.
 - A. True
 - B. False
- vi. The CMM emphasizes
 - A. continuous process improvement
 - B. the need to record information
 - C. the need to accept quality system
 - D. none of the mentioned
- vii. The modification of the software to match changes in the ever changing environment, falls under which category of software maintenance?
 - A. Corrective
 - B. Adaptive
 - C. Perfective
 - D. Preventive
- viii. What type of software testing is generally used in Software Maintenance?
 - A. Regression Testing
 - B. System Testing
 - C. Integration Testing
 - D. Unit Testing
- ix. The process of generating analysis and design documents is known as
 - A. Software engineering
 - B. Software re-engineering
 - C. Reverse engineering
 - D. Re-engineering

- x. The process of transforming a model into source code is known as
- | | |
|------------------------|-------------------|
| A. Forward engineering | C. Re-engineering |
| B. Reverse engineering | D. Reconstructing |

Section B (40 Marks)

Q2. Answer any FIVE questions from Section B. (8×5=40)

- a. Discuss the differences between verification and validation, and explain why validation is a difficult process?
- b. What is integration testing? Explain in detail about the Top-Down Integration Testing
- c. Explain the term “Software Inspection”.
- d. Why maintenance of software is important? Discuss some of the problems that are faced during maintenance of software.
- e. Describe Key process areas of Capability Maturity Model (CMM).
- f. Difference between Equivalence Partitioning and Boundary value Analysis.
- g. What is Software Configuration Management (SCM)? Explain the functions of SCM Repository with neat diagram.

Section C (40 Marks)

Q3. Answer any two questions from Section C. (20×2=40)

- a. What do you mean Software Quality Assurance (SQA)? Differentiation of SQA & SQC.
- b. What do you understand by the terms coding standards and guidelines? List some coding standards and guidelines that are commonly adopted by many software development organizations.
- c. Define the following:
 - (i) Six Sigma
 - (ii) Reverse Engineering
 - (iii) Alpha & Beta testing

END OF PAPER