Kasarani Campus
Off Thika Road
P. O. Box 49274, 00101
NAIROBI
Westlands Campus
Pamstech House
Woodvale Grove
Tel. 4442212
Fax: 4444175

KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS, 2024/2025 ACADEMIC YEAR
FIRST YEAR, FIRST SEMESTER EXAMINATION
FOR THE DIPLOMA IN SOFTWARE ENGINEERING

DSE 1001: INTRODUCTION OF SOFTWARE ENGINEERING

DATE:3RD DECEMBER, 2024
TIME: 2:30PM – 4:30 PM

INSTRUCTIONS TO CANDIDATES
ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE: COMPULSORY (30 MARKS)

a) Possibly the most important reason for configuration management is to control the access to the different deliverable objects. Discuss some of the important problems that appear if configuration management is not put into consideration **(4 Marks)**
b) A quality product is defined in terms of its fitness of purpose. Highlight the quality factors associated with quality software product **(4 Marks)**
c) During integration testing, different modules of a system are integrated in a planned manner using an integration plan. Explain the **FOUR** types of integration testing approach **(4 Marks)**
d) Discuss the major software problems that you as a programmer may encounter while developing **(6 Marks)**
e) The goal of system testing is to ensure that the developed system conforms to its requirements laid out in the SRS document. Elaborate on the **THREE** different kinds of testing activities **(6 Marks)**
f) Describe the important properties of a good Software Requirements Specification document **(6 Marks)**

QUESTION TWO: (20 MARKS)

a) A software life cycle model (also called process model) is a descriptive and diagrammatic representation of the software life cycle. Using diagrams, discuss **FIVE** few important and commonly used life cycle models. **(10 Marks)**
b) Describe various important Object-Oriented Design concepts. **(5 Marks)**
c) Explain some of the problems that appear if configuration management is not used. **(5 Marks)**

QUESTION THREE: (20 MARKS)

a) Demonstrate how the nature of software has changed a lot over the years. **(7 Marks)**
b) By use of a diagram, explain the phases to be followed in the classical waterfall model. **(7 Marks)**
c) Describe the important parts of a Software Requirements Specification (SRS)document. **(6 Marks)**

QUESTION FOUR: (20 MARKS)

a) Discuss several benefits that accrue from the use of a CASE environment or even isolated CASE tools. **(6 Marks)**
b) Explain the features found in the second-generation CASE tools. **(4 Marks)**
c) Several diagramming techniques are used for structured analysis and structured design. Highlight supports that might be available from CASE tools. **(5 Marks)**
d) Describe the basic questions pertaining to the project that should be clearly understood by the analyst in order to obtain a good grasp of the problem. **(5 Marks)**

QUESTION FIVE: (20 MARKS)

a) Several modern views of quality associate with a software product several quality factors. Discuss **(5 Marks)**
b) Describe types of ISO 9000 quality standards, indicating the types of industries to which the different ISO standards apply. **(6 Marks)**
c) Elaborate on the **THREE** main categories of risks that can affect a software project. **(6 Marks)**
d) Demonstrate main strategies to use to plan for risk containment in software product creation. **(3 Marks)**