60

(University of Choice)

# MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS**

**2021/2022 ACADEMIC YEAR**

**FOR THE DEGREE**

**IN**

***ELECTRICAL AND COMMUNICATION ENGINEERING***

**COURSE CODE:** ECE 512

**COURSE TITLE:** SOFTWARE ENGINEERING

**DATE:** 21/04/2022 **TIME:** 12:00-2:00P.M

**INSTRUCTIONS TO CANDIDATES**

Answer **Question ONE (1)** and any other **TWO**

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating



This Paper Consists of 2 Printed Pages. Please Turn Over.

## SECTION ONE – ANSWER ALL QUESTIONS IN THIS SECTION

### QUESTION ONE [30 MARKS]

a) i. Explain two causes of software project failure. [4 marks]

ii. State four essential attributes of good software. [4 marks]

b) i. distinguish between top-down and bottom-up software development approaches. [4 marks]

ii. Describe any three types of coupling. [6 marks]

c) In software design, highlight four design activities. [2 marks]

d) Differentiate between functional and non-functional requirement as used in software engineering. [4 marks]

e) With the aid of a diagram explain the software evolution process. [6 marks]

## SECTION TWO- ANSWER ANY TWO QUESTIONS IN THIS SECTION

### QUESTION TWO [20 MARKS]

a) Explain four benefits of verification and validation in software development. [4 marks]

b) Explain any three quality parameters which are used in software system. [6 marks]

c) Describe the following types of user testing

i. Alpha testing. [2 marks]

ii. Beta testing. [2 marks]

iii. Acceptance. [2 marks]

d) Differentiate between corrective and adaptive maintenance. [4 marks]

### QUESTION THREE [2O MARKS]

a) With aid of a diagram describe phases of waterfall model. [10 marks]

b) Define requirements elicitation in the context of software's development and describe four approaches to requirements elicitation. [10 marks]

### QUESTION FOUR [20 MARKS]

a) Explain why change is inevitable in complex systems and give examples of software process activities that help predict change and make the software being developed more resilient to change. [8 marks]

b) Explain how the principles underlying agile methods lead to the accelerated development and deployment of software. [8 marks]

c) Some people argue that developers should not be involved in testing their own code but that all testing should be the responsibility of a separate team. Give arguments for and against testing by developers themselves. [4 marks]