



TECHNICAL UNIVERSITY OF MOMBASA

---

## INSTITUTE OF COMPUTING AND INFORMATICS

Select department

**UNIVERSITY EXAMINATION FOR:**

Type program name

BIT 2303/ ICS 2303: SOFTWARE ENGINEERING

SPECIAL/SUPPLEMENTARY EXAMINATION

**SERIES: SEPTEMBER 2018**

**TIME: 2 HOURS**

**DATE: Sep 2018**

### **Instructions to Candidates**

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

**Do not write on the question paper.**

---

### **Question ONE**

- a) Describe five structured set of activities required to develop a software system. [5 marks].
- b) Explain five phases in the waterfall model. [5 marks]:
- c) Outline three Metrics for specifying nonfunctional requirements. [3 marks]
- d) Describe three problems of requirements elicitation. [3 marks]
- e) Describe five types of models used in software engineering. [5 marks]
- f) Explain two design strategies for software development. Citing two merits for each case. [9 marks]

### **QUESTION 2**

- a) Explain what you understand by software crisis. [2 marks]
- b) Describe using three factors why most software developers prefer Incremental development methods. [6 marks]

c) Outline four design activities that characterize software engineering. [6 marks]

d) Describe three tests that characterize software validation. [6 marks]

**QUESTION 3 (20 marks)**

a) State at least five advantages of object-oriented design techniques. [5 marks]

b) Describe five characteristics of project scheduling [5 marks]

c) Describe the State the risk management process [6 marks]

d) Outline four types of risks facing a software projects. [4 marks]

**QUESTION 4(20 marks)**

a) Identify three reasons for the necessity of developing a prototype during software [3 marks]

b) Identify five benefits of software prototyping. [5 marks]

c) Describe the four stages of the requirements elicitation and analysis process. [6 marks]

d) Describe four principles of agile software development methods. [6 marks]

**QUESTION 5**

a) Describe four factors that characterize Extreme programming practices in software engineering. [4 marks]

b) Outline using four points the risk management process in a software project. [6 marks]

c) Describe four factors that characterize good People management in a software project.[6 marks]

d) Outline four steps that characterise aGeneric Design software design Process. [4 marks]