



OFFICE OF THE DEPUTY PRINCIPAL
ACADEMICS, STUDENT AFFAIRS AND RESEARCH

UNIVERSITY EXAMINATIONS

2021 /2022 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER REGULAR EXAMINATION

**FOR THE DEGREE OF BACHELOR OF
COMPUTER SCIENCE**

COURSE CODE: COM 220

COURSE TITLE: SOFTWARE ENGINEERING I

DATE: 6TH JUNE, 2022 TIME: 0900 – 1200 HRS

INSTRUCTION TO CANDIDATES

- SEE INSIDE

THIS PAPER CONSISTS OF 3 PRINTED PAGES

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QUESTION ONE [COMPULSORY] [12 MARKS]

- a) What is Software Engineering? [3 marks]
- b) Distinguish between software *reusability*, *portability* and *interoperability* [3 marks]
- c) Explain the following terms:
 - i. Incremental development [3 marks]
 - ii. Software prototypes [2 marks]
- d) What is change management [1 mark]

QUESTION TWO [COMPULSORY] [12 MARKS]

- a) Explain what is meant by requirements analysis and why it is important to software development [3 marks]
- b) Software quality measurement generally starts with high level quality goals, and then identifies metrics that can be used to indicate satisfaction of the quality goals. For each of the following quality goals, explain why the goal is important and identify a metric that could be used to measure it. [9 marks]

Section B: (Q3-Q7 Attempt any 3 questions 12 marks each)**QUESTION THREE [12 MARKS]**

- a) What is Software Process? [2 marks]
- b) Clearly describe four fundamental activity phases associated with the software process [4 marks]
- c) Identify FOUR important attributes that all software products should exhibit [4 marks]
- d) What is Requirement Engineering [2 marks]

QUESTION FOUR [12 MARKS]

- a) Describe Rapid Application Development (RAD) Process Model [4 marks]
- b) Distinguish between the following *models the workflow model, data-flow model and the role model* [6 marks]
- c) What is software maintenance? [2 marks]

QUESTION FIVE [12 MARKS]

- a) Discuss the four main categories of maintenance [4 marks]
b) Why is software maintenance difficult? [4 marks]
c) Describe FOUR stages in software testing [4 marks]

QUESTION SIX
MARKS]

[12

- a) Why is design process important ? [4 marks]
b) Write notes on the following design-specification model
i. Data design [2 marks]
ii. Architectural design [2 marks]
iii. User Interface design [2 marks]
iv. Component-level design [2 marks]

QUESTION SEVEN

[12 MARKS]

- a) Describe briefly the stages of software development process using waterfall model [4 marks]
b) Clearly, discuss the stages in requirement determination phase [4 marks]
c) Describe some of the techniques for achieving portability [4marks]
