

Swaleh



(KNOWLEDGE FOR DEVELOPMENT)

**KIBABII UNIVERSITY
(KIBU)**

**UNIVERSITY EXAMINATIONS
2021 / 2022 ACADEMIC YEAR**

**SUPPLEMENTARY / SPECIAL EXAMINATIONS
SECOND YEAR SECOND SEMESTER
FOR THE DIPLOMA IN
(INFORMATION TECHNOLOGY)**

COURSE CODE: DIT 074

**COURSE TITLE: INTRODUCTION TO
SOFTWARE ENGINEERING**

DATE:

TIME:

INSTRUCTIONS

ANSWER QUESTIONS ONE AND ANY OTHER TWO

QUESTION ONE (COMPULSORY)[24 MARKS]

- a. Define the following terms. [2 marks]
- i. software engineering
 - ii. Software project
 - iii. Software product
- b. Briefly explain SDLC and state the purpose of SDLC in Software Engineering [4 marks]
- c. Distinguish between **System** Engineering and **Software** Engineering [4 marks]
- d. Outline **SIX** quality attributes of good software [6 marks]
- e. Discuss any **TWO** types of software maintenance [4 marks]
- f. What do you understand by functional and non-functional requirements [4 marks]

QUESTION TWO [18 MARKS]

- a. Outline **FOUR** main phases of the general software development life cycle model [8 marks]
- b. What are the key challenges facing software engineering today? [4 marks]
- c. A software has been proposed in a company and the client needs an expert to teach the company employees on how to go through its engineering process. Give reasons why software engineering is important. [6 marks]

QUESTION THREE [18 MARKS]

- a. Briefly describe the following SDLC. [4 marks]
- i. *Waterfall model*
 - ii. *Spiral model*
- b. "The Spiral model overcomes the limitation of the Waterfall model". Justify. [4 marks]
- a. Discuss **FIVE** types of software documentation [10 marks]

QUESTION FOUR[18 MARKS]

- b. List the activities during project Initiation. [4 marks]
- c. Explain what is project management in software development [2 marks]
- d. State and explain **THREE** reasons why software project management need to be managed. [6 marks]

- e. Define the term software maintenance [2 marks]
- f. Discuss TWO importance of software maintenance [4 marks]

QUESTION FIVE [8 MARKS]

- a. Differentiate between validation and verification [2 marks]
- b. How would you contrast requirements and design? [2 marks]
- c. What are the characteristics of SRS? [6 marks]
- d. State FOUR reasons why software testing is important [4 marks]
- e. Differentiate between White Box testing and Black Box testing in relation to software development. [4 marks]