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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2019/2020 ACADEMIC YEAR
THIRD YEAR, FIRST SEMESTER EXAMINATION
FOR THE BACHELOR OF SCIENCE
(COMPUTER SCIENCE)

KCS 300 - FOUNDATION OF SOFTWARE ENGINEERING

Date: 9th April, 2019
Time: 2.30pm – 4.30pm

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

- a) Define the following terms as used in Software Engineering. (5 Marks)
- i) Software
 - ii) Software engineering.
 - iii) Software process.
 - iv) Requirements engineering.
 - v) CASE (Computer - Aided Software Engineering).
- b) Giving examples state the difference between the “Known Risks” and Predictable Risks”. (3 Marks)
- c) State and explain any three software process models approaches as used in software engineering. (6 Marks)
- d) Discuss the two distinct phases of system testing on complex systems (4 Marks)
- e) Name and explain the key challenges facing software engineering (6 Marks)
- f) Distinguish between verification and validation. (2 Marks)
- g) Name and explain two fundamental types of software products. (4 Marks)

QUESTION TWO (20 MARKS)

- a) Differentiate between user requirements and system requirements. (2 Marks)
- b) Describe the attributes of good software. (4 Marks)
- c) Giving examples discuss the various types of specialization of a software product line that may be developed during software reuse. (8 Marks)
- d) Describe the following terms. (3 Marks)
- i) Functional requirements.
 - ii) Non-functional requirements.
 - iii) Domain requirements.
- e) Outline three disadvantages of the Water Fall Model? (3 Marks)

QUESTION THREE (20 MARKS)

- a) Differentiate between a software process and a software process model. (4 Marks)
- b) State and explain the risk analysis process. (8 Marks)
- c) List **six** reasons as to how one process model differs from one another. (3 Marks)
- d) Explain the various architectural models. (5 Marks)

QUESTION FOUR (20 MARKS)

Discuss in detail the following software process models.

- a) Waterfall model (5 Marks)
- b) Incremental Model (5 Marks)
- c) Rapid application Development (5 Marks)
- d) Spiral Model (5 Marks)

QUESTION FIVE (20 MARKS)

- a) Discuss and explain the duties and responsibilities of Software project manager. (10 Marks)
- b) Describe functional requirements that software developer consider when implementing software development. (10 Marks)