



COLLEGE OF BUSINESS, PEACE, LEADERSHIP AND GOVERNANCE
COURSE CODE: COURSE TITLE: NCSC410 – SOFTWARE ENGINEERING 1
END OF SECOND SEMESTER EXAMINATIONS

JANUARY/MAY 2020

LECTURER: MUKHALELA B

DURATION: 48 HRS

INSTRUCTIONS

You will need **Computer** for this Examination. Internet connection is required for the final submission of your answer script via the university's online platform, Moodle.

Answer only **ONE** question, more preferably in essay format unless where stated.

The marks allocated to **each** question are shown at the end of the question or its part.

Credit will be awarded for logical, systematic and neat presentations.
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Question 1

You are a software engineering consultant and have been called in by the vice president for finance of a corporation that manufactures and sells boots. She wants your organization to build a product that will monitor the company's stock, starting with the purchasing of the leather and keeping track of the boots as they are manufactured distributed to the individual stores, and sold to the customers. What criteria would you use in selecting a life-cycle model for the project? [100]

Question 2

- a) Draw a detailed Use-Case diagram for the AU-Farm's Rabbitry Breeding App. Exhaust all the required functions for the systems as give in the attached requirement documentation that was recently approved by the Farm manager. [50]
- b) During the implementation stage, you team decide to harness the Agile methodology, XP. You argued to say, won't that raise the cost of future postdelivery maintainence. Justify your thinking to the team. [50]

Question 3

- a) Using UML class diagrams sketches, illustrate the following concepts used in Software engineering; use the AU Farm's Rabbirty Breeding App example in your illustration.
 - i) Generalization [15]
 - ii) Composition [15]
 - iii) Multiplicity [15]
 - iv) Aggregation [15]
- b) 'Another reason for discarding rapid prototype is the issue of performance, particularly of real-time systems. To ensure that time constraint are met, it is necessary to design the product carefully. In contrast, a rapid prototype is constructed to display key functionality to the client; performance issues are not handled', where words from an expert SE at a conference that was attended to by Steve Jobs who later on, during the same conference, how he used rapid prototyping to successfully construct both the iPod and the iPhone systems. In your own view, what do you say about the two experiences when it comes to rapid prototyping? Write in an essay of not less than 5pages. In your essay, elaborate the types and extend of prototypes used by Steve jobs at Apple. [40]