



COLLEGE OF BUSINESS, PEACE, LEADERSHIP AND GOVERNANCE
COURSE CODE: COURSE TITLE: CSC413 – SOFTWARE ENGINEERING 1
END OF SECOND SEMESTER EXAMINATIONS

JANUARY/MAY 2020

LECTURER: MUKHALELA B

DURATION: 48 HRS

INSTRUCTIONS

You will need a **Computer** for this Examination and internet connection for uploading your answer.

Answer only one question.

The marks allocated to **each** question are shown at the end of the section.

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

Question 1

During a UML presentation by an expert UML Software Engineer, you overheard her saying, *“First, not every feature of UML is applicable to every software product, so there has to be freedom with regard to choice of options. Second, we cannot perform the iteration and incrementation of the Unified Process unless we are permitted to add features stepwise to diagrams, rather than create the complete final diagram at the beginning. That is, UML allows us to start with a basic diagram”*. In other words, Comment her statement (in not less than 5 pages) in the light that, in UML, as many or as few details may be added as are judged appropriate for the current iteration and incrementation. Use real life examples in your essay. [100]

Question 2

- a) Define and exemplify, using the Ecocash platform, the following terms used in software engineering:
 - i- Cohesion, [25]
 - ii- Coupling, [25]
 - iii- Friendly-user test. [25]
- b) Your manager now asks you to determine how existing modules can be reused. Your first suggestion is to break each module with coincidental cohesion into separate modules with functional cohesion. Your manager correctly points out that the separate modules have not been tested nor have they been documented. What do you say now. [25]

Question 3

Design, using UML class diagrams, the fact that an attribute ***StudentNumber*** is protected in this main class ***StudentType*** and its three subtypes Parallel, Online and Block. In your sketch diagrams, illustrate the following Software Engineering concepts to do with UML;

- i- Aggregation [25]
- ii- Multiplicity [25]
- iii- Generalization [25]
- iv- Association [25]

NB: Save your files as 3i _aggregationup to 3iv_Association.