

Uganda Martyrs University
Dept. of Information Technology
Supplementary/Special Examination
2018/2019

Year Three Bachelors of Science in Information Technology

Paper: Software Engineering

Time:

Duration: 3 Hrs

Date:

Attempt Question One and Any three from section B. All questions from section B carry equal marks.

Section A is compulsory



SECTION A

Question 1

UMU is an academic institution of high learning under the leadership of academic giants in the country and in Africa at large. One of the important activities that define her status is research, teaching and learning cores. It has been discovered that there is eminent delay in publishing results after doing exams. It is assumed that one of the reasons that cause this is, some of the lecturers are allowed to take the answer scripts and mark from their homes whereas many of them are from across borders while others reside upcountry. This leads to some of the students failing to do their retake papers in time and hence fail to graduate. Using the information in the comprehension,

- i) Compose a statement of the problem from the comprehension suitable for research. [3 marks]
- ii) Briefly explain how you would solve the problem above [4 marks]
- iii) Formulate a topic from the statement of the problem [2 marks]
- iv) Identify the objects or entities that you need to consider while trying to fix this problem. [4 marks]
- v) List the attributes for each object you would need to capture during your design process in each case. [6 marks]
- vi) Sketch a conceptual frame work of the objects in v) above depicting a model developed using essential business modeler as classes in each case. [6 marks]
- vii) Define the relationships existing between the objects for complete interactivity. [3 marks]
- viii) Sketch the tables you would come up with for the database and the output screens for your system assuming that you applied WAMP SERVER for both your back-end and front-end. [12 marks]

SECTION B. Attempt any four questions

Question 2

- a) What do you understand by the term Software? Explain the types of softwares you may know. [7 marks]
- b) State four roles of softwares you know as may be applied in software industry. [4 marks]
- c) Differentiate between software development and software hardware manufacture [9 marks]

Question 3

- a) Some of the characteristics of softwares we are known among others include softwares wear out. Explain other characteristics of software [4 marks]
- b) Describe the concept software doesn't wear out as is assumed to deteriorate after a period of time of usage [10 marks]
- c) What factor would you consider best for your choice of software selection to be applied for a known piece of work in your organization where you are working. [6marks]

Question 4

- a) What is your understanding of the term quality [2 marks]
- b) In relation to your understanding of a) above, explain six software quality characteristics that developers should consider important during the process of software development. [12 marks]
- c) State four methods that would employ to achieve software quality in the software development industry. [8 marks]

Question 5

- a) State what is meant by the term design and explain the aspects that can be designed in the process of software development [10 marks]
- b) Write short notes on the following. Give examples in each case
- i) Algorithm [3 marks]
 - ii) Modeling [5 marks]
 - iii) System Architecture [2 marks]
- Question 6**
- a) What do you understand by the term software development process? [2 marks]
- b) Explain the different common software development processes used by most system designers in organizations to satisfy any business need of choice. [10 marks]
- c) In your own view, is system implementation different from system coding? Explain this scenario. [8 marks]

End

