



**KENYATTA UNIVERSITY  
UNIVERSITY EXAMINATIONS 2011/2012**

**SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF  
SCIENCE IN COMPUTER SCIENCE  
SCS 315: SOFTWARE DEVELOPMENT - 1**

**DATE: TUESDAY, 17<sup>TH</sup> APRIL 2012**

**TIME: 11.00 A.M. – 1.00 P.M.**

**INSTRUCTION:**

**ANSWER, QUESTION ONE (1) AND ANY OTHER TWO (2) QUESTIONS.**

**QUESTION ONE**

- (a) Differentiate between Batch programming and Event-Driven programming with suitable example [4 marks]
- (b) Explain how one would benefit by applying the following techniques when developing software:
- (i) Separate compilation
  - (ii) Information hiding
  - (iii) Re-use of code
  - (iv) Documentation
  - (v) Symbolic debuggers [5 marks]
- (c) Give a clear explanation of what one understands by a Software Design Document (SDD)  
Explain any four SDD [5 marks]
- (d) Give a detailed account of what one would consider as Four good Programming techniques. [4 marks]
- (e) Describe the Procedure of designing your Web site. [4 marks]
- (f) Explain how developers will be benefited by Modular coding. [3 marks]
- (g) Explain how as a developer one can add value to an organization. [3 marks]
- (h) ATM Machines is a special purpose interface. Justify your answer. [2 marks]

## QUESTION TWO

Because of a company takeover a new team of Software Engineers have taken over a package that had been written by the previous team. Amongst the team there is

- i. A group charged with running the package for the next few months.
  - ii. A group who are looking at recoding the package line-by-line from the existing Programming language to the company's preferred coding language.
  - iii. A third group looking at rewriting the package from scratch.
- (a) Explain with reasons what kind of documentation each group would be looking for in order to do their respective tasks. [12 marks]
- (b) List and describe any four features that should be incorporated into a good CASE tool and why [8 marks]

## QUESTION THREE

- (a) Define with reasons, any **four** set of criteria suitable for assessing user interface design. Include in your answer the type of user you are considering. [8 marks]
- (b) A software has to be developed for automating the manual library of a university. The system should stand alone in nature .based on above scenario design following
- i. Software life cycle model diagram.
  - ii. Proper documentation of the system.
  - iii. Write procedure for the system.
- [12 marks]

## QUESTION FOUR

- (a) What do you understand by Software Development life Cycle (SDLC). Discuss the waterfall model with suitable diagram. Why it is important to adhere to a life cycle model while developing a large software product. [13 marks]
- (b) What are the advantages of developing the prototype of a system. Discuss any **seven** principle of software development. [7 marks]

## QUESTION FIVE

- (a) Discuss the five levels of the Capability Maturity Model (CMM) According to the Software Engineering Institute (SEI). [10 marks]
- (b) Why CMM is the better choice than ISO 9001. [5 marks]
- (c) Explain the importance of maintaining system. [5 marks]

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