JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

UNIVERSITY EXAMINATION FOR THE BACHELOR IN INFORMATION SYSTEMS.

1YEAR 1 SEMESTER 2016/2017 ACADEMIC YEAR

MAIN CAMPUS

COURSE CODE: IIS 3123

COURSE TITLE: FUNDAMENTALS OF SOFTWARE DEVELOPMENT.

EXAM VENUE: **STREAM: BIS**

DATE: APRIL 2017   **EXAM SESSION:**

TIME: 2.00 HOURS

INSTRUCTIONS:

1. Answer Question 1 (Compulsory) and ANY other two questions
2. Candidates are advised not to write on the question paper
3. Candidates must hand in their answer booklets to the invigilator while in the examination room

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QUESTION ONE   [30 MARKS]

   a) Discuss three challenges facing software development in the 21st century.

                (3 marks)

   b) Briefly define the following SDLC models:

       (i)   The Waterfall model

       (i)   Iterative Model

       (ii)   Spiral Model   (3 marks)

   c) Discuss the best application area of software prototyping   (3 marks)

   d) What is software process?   (2 marks)

   e) Differentiate between DFD and ERD as used in requirement analysis.

                (3 marks)

   f) Identify and explain the generic activities in all software processes (4 marks)

   g) What is CASE? Distinguish between the upper- CASE and Lower-CASE

                (4 marks)

   h) State and explain the FOUR attributes of a good software?   (8 marks)

QUESTION TWO   [20 MARKS]

   a) Distinguish between user requirements and system requirements.

                (4 marks)

   b) List three functional requirements for a university library system used by students and faculty to order books and documents from other libraries.

                (6 marks)

   c) Discuss the structure of the software requirements document as suggested by IEEE/ANSI 830-1998.   (10 marks)

QUESTION THREE [20 MARKS]

Using a well labeled diagram, discuss the spiral software development model citing application area, pros and cons.

QUESTION FOUR   [20 MARKS]

a) Give three reasons why software standards are important.   (6 marks)

b) Discuss two complementary approaches that may be used to check the quality of project deliverables.   (4 marks)

c) With the aid of an appropriate diagram, discuss the process of software product measurement.   (10 marks)

QUESTION FIVE   [20 MARKS]

a) Describe the change management process.   (6 marks)

b) Distinguish between a system version and a system release. (4 marks)

c) List five components of a system release.   (5 marks)

d) Distinguish between open and integrated workbenches.   (5 marks)