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UNIVERSITY REGULAR EXAMINATIONS

2013 /2014 ACADEMIC YEAR

SEMESTER EXAMINATIONS

(MAIN EXAMINATION)

FOR THE CERTIFICATE IN INFORMATION TECHNOLOGY

COURSE CODE: ICT 720

COURSE TITLE: SOFTWARE ENGINEERING

DATE: 18TH AUGUST, 2014

TIME: 9:00A.M.-11:00A.M.

INSTRUCTIONS

Answer question **ONE(Compulsory)** and any other **TWO** questions

SECTIONA: THIS SECTION IS COMPULSORY

Question 1.

- (a) Differentiate between software engineering and software re-engineering. (4marks)
- (b) (i) With the context of software design explain what is meant by the terms cohesion and coupling. (4marks)
- (ii) How are the concepts of cohesion and coupling used in arriving at good software design? (4marks)
- (c) State two factors to be considered when selecting a programming language. (4marks)
- (c) The process of software development can be complex hence challenging. Explain how the following techniques are applied in reducing the complexity and minimize the challenge.
- (i) Software project management. (4marks)
- (ii) Configuration management
- (iii) Software quality assurance
- (e) Define the following terms: (4marks)
- (i) Validation
- (ii) Verification

SECTIONB: ANSWER ANY TWO QUESTION

Question2.

- (a) List and explain the major responsibilities of a software project manager. (4marks)
- (b) Software maintenance has become an important activity of a large number of organizations. Explain the different types of maintenance that a software product management need. (8marks).
- (c) Explain the terms CASE tool and CASE environment. (6marks)

Question3.

- (a) Discuss the following terms (10marks)
- (i) Risk management
- (ii) Configuration management
- (iii) Scheduling
- (iv) Software standards.
- (v) Software

- (b) Explain four major short comings that we might face if we use the classical waterfall model for developing all types of software products. (4marks)
- (b) Software design has two fundamental different approaches. State and give two advantages of each approach. (6marks).

Question4.

- (a) A software development life cycle is a structure imposed on the development of a software product. Discuss the six activities carried out in software development life cycle. (6marks)
- (b) Explain how both the waterfall model of the software development and the prototyping model can be accommodated in the spiral process model. (6marks).
- (c) Describe four types of non-functional requirements that may be placed on a system. Give examples of each of the set types of requirements. (8marks)

Question5.

- (a) Software testing is one of major approaches in software development. Discuss the five software testing strategies. (10marks)
- (b) The goal of the requirements engineering process is to create and maintain a system requirements document. The overall process includes four high level requirements engineering sub-processes. With the aid of a diagram illustrate the relationship between these activities. (10marks)