

PAN AFRICA CHRISTIAN UNIVERSITY

END OF SEMESTER EXAMINATION

DEPARTMENT: COMPUTING & INFORMATION TECHNOLOGY

COURSE CODE: BIT304

CAMPUS: ROYSAMBU

COURSE TITLE: SOFTWARE ENGINEERING (SPECIAL)

EXAM DATE:

TIME:

INSTRUCTIONS

- This exam carry a total of SIX Questions of
- Section A Compulsory
- Section B Attempt any THREE Questions
- All questions carry [10 Marks] each.
- Read all questions carefully before attempting.

Section A (Compulsory)

Question 1:

- a) Describe the Interview method of discovering the software requirement, highlighting the following areas: tools used to capture data, types, advantages and disadvantages.

[8 Marks].

- b) State and explain the THREE key challenges facing software engineering in the 21st century. [2 Marks]

Section B (Answer any THREE Questions)

Question 2

Many software process models have been proposed to support software development life cycle. One of the first models to be proposed is the Waterfall model. Distinguish this model from the rest commonly applied models.

[10 Marks]

Question 3:

- a) You were involved in ERP deployment to your former High school. Discuss how you will administer the following processes during your deployment schedule.

- i. Unit testing
- ii. Integration testing
- iii. User Acceptance testing

[6 Marks]

- b) What do you understand by the following activities in software engineering

- i) Project Management:
- ii) Risk management:
- iii) Configuration Management:
- iv) Quality management:

[4 marks]

Question 4:

- a) After taking part in a series of successful software projects, you have recently been appointed a project manager within a software engineering organization. Your first project in this position will be to build a large web-based application. The team has had experience of doing this type of work before. In all of the previous projects, requirements have been thoroughly documented by the customers. The above scenario is an outline specification for a software project. What software process model would you choose and why?

[6 Marks]

- b) After a major release of a software system, there often follows a period of corrective maintenance. Discuss why this can occur and how it could be avoided or if it is inevitable.

[4 Marks]

Question 5:

You are a systems engineer involved in the development of an inventory management system. During installation you discover that this system will make a significant

number of people redundant. The people in the environment deny you access to essential information to complete the system installation.

i. To what extent should you, as a system engineer, become involved in making a decision on an implementation that will make the workers redundant? [4 Marks]

ii. What is your professional responsibility as contracted software engineer? [6 Marks]

Question 6:

a) Show in real life scenario where the following software design strategies are used.

- i. Cohesion
- ii. Coupling
- iii. Encapsulation
- iv. Polymorphism
- v. Inheritance.

[10 Marks]

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