



**PAN AFRICA CHRISTIAN UNIVERSITY
END TERM EXAMINATION
MASTERS ONLINE EXAM**

DEPARTMENT: BUSINESS
COURSE CODE: MBA 616
COURSE TITLE: SOFTWARE ENGINEERING & MANAGEMENT
TIME: 2HRS

SECTION	A:	COMPULSORY	QUESTION
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CASE STUDY

The first recorded use of the term “Software Engineering” was at a NATO conference in 1968. According to the conference organizers, the term was deliberately chosen as being provocative, in implying the need for software manufacture to be based on the types of theoretical foundations and practical disciplines that are traditional in the established branches of engineering. This concern arose out of a growing realization that the software development practices used at that time were hampering the development of industrial software systems and applications. In 1968, the “engineering” label was used metaphorically; it was applied to software in the hope that engineering principles could be applied to software design and development. At one level, the success of the label was clear; “software engineering” quickly came to refer to the disciplined processes associated with software development.

REQUIRED Based on the case study above

- a) Discuss at least five (5) benefits that came from treating software development as an engineering discipline. **(5 marks)**

- b) Explain at least five (5) Project Estimation Methods. **(5 marks)**

SECTION B: [ANSWER ANY THREE QUESTIONS FROM THIS SECTION]

QUESTION TWO

- a) Discuss at least five (5) Software Development Models. **(5 marks)**

- b) Describe at least five (5) risk parameters that may affect the Software Engineering process. **(5 marks)**

QUESTION THREE

- a) Explain the Constructive Cost Model (COCOMO) and additionally include a discussion of the key parameters of the model. **(5 marks)**
- b) Discuss any five (5) Software Design Approaches. **(5 marks)**

QUESTION FOUR

- a) Referencing at least five (5) distinct aspects, distinguish between a Program and a Software Product as the terms relate to Software Engineering. **(5 marks)**
- b) Project size estimation can be challenging due to multiple factors.
 - i) Discuss at least three (3) factors that can affect the accuracy and reliability of Project size estimates. **(5 marks)**
 - ii) Describe practical things a manager can do to address each challenge. **(2 marks)**

QUESTION FIVE

- a) Best practices in software engineering recommend that the Software Development Life Cycle (SDLC) be followed. Explain the five (5) stages that make up the SDLC. **(5 marks)**
- b) List five (5) Programming Languages and reveal the particular business case that would be most appropriate for each. **(5 marks)**

QUESTION SIX

- a) Best practices in software engineering recommend that software development be managed as a project. explain at least five (5) key responsibilities of a Software Project Manager. **(5 marks)**
- b) Programming Languages can be categorized as either High Level, Middle Level or Low Level. Explain the characterizes of each level and further provide examples of actual programming languages that fall under each category. **(5 marks)**

THE END