PAN AFRICA CHRISTIAN UNIVERSITY
Where Leaders are Made

UNIVERSITY EXAMINATIONS: 2025/2026

EXAMINATION FOR THE DIPLOMA IN INFORMATION AND COMMUNICATION TECHNOLOGY

DICT0212

DICT

SOFTWARE ENGINEERING

END TERM EXAMINATION

DATE: APRIL, 2026 **TIME: 2 HOURS**

INSTRUCTIONS: Question One is Compulsory, Choose Three Other Questions

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SECTION A (COMPULSORY)

QUESTION ONE (15 Marks) Compulsory

a) Define the term software engineering. (1 marks)

b) Describe the following layered technology of software engineering. (4 marks)

i. Quality
ii. Process
iii. Method
iv. Tools

c) Describe the essential attributes of a software. (5 marks)

d) Describe the following five framework activities as applied in software engineering. (5 marks)

i. Communication
ii. Planning
iii. Modeling
iv. Construction
v. Deployment

SECTION B

(ANSWER ANY THREE (3) QUESTIONS IN THIS SECTION)

QUESTION TWO (15 marks)

a) Describe the requirement engineering tasks. (7 marks)
b) Discuss the purpose of a process in software engineering. (2 marks)
c) Describe the following process models. (4 marks)
   i. Prescriptive process model
   ii. Agile process model
d) Define the term software as applied to software engineering. (2 marks)

QUESTION THREE (15 marks)

a) State the **any FIVE** general principles that span the software engineering process and practice. (5 marks)
b) State **any FIVE** principles the guide communication. (5 marks)
c) State any FIVE planning principles. (5 marks)

QUESTION FOUR (15 marks)

a) List the task set for requirement gathering for a simple project. (5 marks)
b) In the context of software engineering what do you understand by the term process pattern. (3 marks)
c) Describe the following process pattern. (4 marks)
   i. Stage patterns
   ii. Task patterns
d) Describes an approach that may be applicable when stakeholders have a general idea of what must be done but are unsure of specific software requirements. (3 marks)

QUESTION FIVE (15 marks)

a) State any FOUR reasons why software is important. (4 marks)
b) State any TWO features that make software products distinct from other products. (4 marks)
c) Describe a software process. (2 marks)
d) Discuss how the framework activities and the actions and tasks that occur within each activity are organized with respect to sequence and time. (5 marks)

QUESTION SIX (15 marks)

a) Describe the following software engineering models with an aid of a well-illustrated diagram. (10 marks)
   i. The waterfall model
   ii. The V model
   iii. The incremental model
   iv. Evolutionary model
b) Describe the personal software process (PSP). (5 marks)

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