

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCE
COMPUTER SCIENCE DEPARTMENT
JULY SUPPLEMENTARY EXAMINATIONS 2005

SUBJECT: ADVANCED SOFTWARE DESIGN
CODE: SCS5206

INSTRUCTION TO CANDIDATES

Answer all questions in Section A, and any two from Section B.

Time: 3 hours

SECTION A

QUESTION ONE

Draw a decision tree to assist MUST select students for entry into the conventional and parallel streams of the Computer Science program. You should have no less than ten attributes. [15]

QUESTION TWO

Draw systems flowcharts to show the difference between:

- i) Batch Processing [5]
- ii) Online Realtime Processing [5]
- iii) Online Batch Processing [5]

QUESTION THREE

Design a context diagram, HIPO chart and Data Flow Diagram for a university student registration process. [15]

QUESTION FOUR

Design a Use Case model for an e-mail system. [15]

SECTION B

QUESTION FIVE

Compare and contrast the SSADM AND UML as systems development methodologies. [20]

QUESTION SIX

What are the advantages and limitations of each of the following data modeling tools:

- i) Decision trees and tables
- ii) Systems Flowcharts
- iii) Structured English

QUESTION SEVEN

Identify and describe the merits and demerits of each of the four different systems changeover strategies. [20]

END OF QUESTION PAPER

