NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCE
COMPUTER SCIENCE DEPARTMENT
MAY EXAMINATIONS 2004

SUBJECT: SOFTWARE DESIGN METHODOLOGY
CODE: SCS2201

INSTRUCTION TO CANDIDATES

Answer question 1 in Section A and any three questions in Section B.
Total marks 100

Time: 3 hours

SECTION A
QUESTION ONE

i)   The use of the term bugs in Software Development is highly discouraged.
     Give reasons as to why it is discouraged.   [5]

ii) What is the importance of maintenance? List and explain in detail all
     types of maintenance.   [5]

iii) What is the importance of Testing in Software Development?   [5]

iv) Compare and contrast verification with validation.   [5]

v)   Quality assurance has become an integral part of product design and
     development. How does it help in ensuring that only product of good
     quality are developed?   [10]

vi) How do CASE Tools automate Software Development efforts? How do
     they differ from prototypes?   [10]

vii) A prototype cannot be used as a specification document. Explain the
     reasoning behind, giving reasons why developers are usually tempted to
     use it. If it is used, is the client likely to object to its use? How can a
     developer easily avoid using a prototype as a specification document?[15]

Answer any three questions from this section

QUESTION TWO

Developing a final product out of a prototype is regarded as a build and fix. Discuss in detail the relationship that exists between the two methods.   [15]

QUESTION THREE

With clearly labeled diagrams, compare and contrast Waterfall model to Spiral model.   [15]

QUESTION FOUR

What are the problems associated with Natural language when used as a specification language.   [15]

QUESTION FIVE

Under budgeting may lead to project failure. COCOMO model is a model which attempts to estimate project cost and duration as closely as possible. Discuss the model in detail and give examples where possible.   [15]

END OF QUESTION PAPER

GOOD LUCK!