NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCES
DEPARTMENT OF COMPUTER SCIENCE
BUSINESS INFORMATION SYSTEMS
SCI 1201/ SCS1203

MAIN EXAMINATION PAPER

This examination paper consists of 4 pages

Time Allowed: **3 hours**
Total Marks: **100**
Examiner's Name: **Mrs S. Moyo**
INSTRUCTIONS

1. Answer all questions in Section A and any three (3) questions in Section B
2. Each question carries 20 marks
3. Use of calculators is permissible

MARK ALLOCATION

QUESTION	MARKS
1.	**20**
2.	**20**
3.	**20**
4.	**20**
5.	**20**
6.	**20**

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QUESTION ONE

a) Explain the following terms as used with business information systems:
    i.   System boundary.   [2]
    ii.   System quality.   [2]
    iii. Knowledge work system.   [2]
    iv. Information system.   [2]
    v.   Online analytical processing.   [2]

b) Show how the business value chain analysis can be used to identify exact areas within a given organisation where information systems can be used to give a competitive advantage to an organisation. Use an appropriate diagram to illustrate your answer.   [10]

Solution
A systems developer can identify any problems in the following: -
Inbound logistics

QUESTION TWO

a) What are the characteristics of a good business case?   [5]

b) Discuss any five (5) security tools (or techniques) that can be used to secure organisational information systems.   [15]
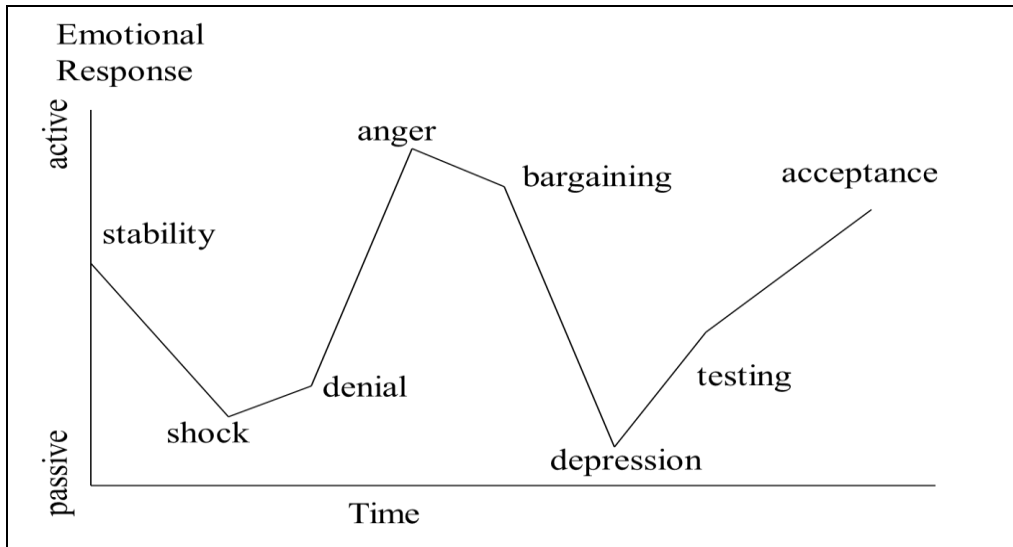
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QUESTION THREE

Figure 1: Kubler Ross Emotional Model

a) Figure 1 shows Kubler Ross emotional model. Suggest how a project manager can use the model to enhance the success of an information systems development project. [8]

b) Read the following description of activities at a local clinic and answer the question that follows.

Patients at a local clinic visit the clinic without any booking. On arrival at the clinic, patients get their details captured on a patient card by the clerk at the reception after paying a fee. From the reception, patients proceed to the data room, where their temperature, weight and blood pressure are recorded by the only nurse in the data recording room. Patients then join the queue and receive treatment from a nurse in any of the rooms scheduled to provide services for the day. A patient normally receives treatment from exactly one nurse. The nurse prescribes drugs for the ailment, which can be obtained from the clinic dispensary or obtained from any pharmacy in town. A prescription can have one or more drugs, and these can be obtained from any of the sources depending on availability.

Question:
Produce an Entity Relationship Diagram (ERD) for the clinic, make appropriate assumptions for the completeness of data. Ensure that you indicate identifiers and cardinality constraints. [12]

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QUESTION FOUR

a) Why is the use of an enterprise information system preferred to the use of functional area information systems? [5]

b) Use appropriate examples to describe the following types of information systems:

    i.   Transaction processing systems. [5]

    ii. Executive support information systems. [5]

    iii. Decision support systems. [5]

QUESTION FIVE

a) Briefly explain the following elements in object-oriented analysis and design:

    i Use Case and Sequence diagrams. [4]

    ii. Object Classes and Inheritance, including an example. [4]

b) Discuss how a project manager can ensure the success of a large information systems development project which is estimated to take at least one year.

[12]

QUESTION SIX

Defend the use of knowledge management systems by organizations wishing to stay competitive in a developing country like Zimbabwe. Choose a type of industry and suggest appropriate systems for use by any organization in that industry. [20]

END OF QUESTION PAPER

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