

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCE
COMPUTER SCIENCE DEPARTMENT
AUGUST EXAMINATIONS 2009

SUBJECT: BUSINESS INFORMATION SYSTEMS

CODE: SCS1203

INSTRUCTION TO CANDIDATES

This paper consists of Six questions, Answer any Five.
Each question carries 20 marks

Time: 3 hours

QUESTION ONE

- i) Explain the following basic system terms:
- a) System boundary
 - b) System entropy
 - c) Environment
 - d) Subsystem
 - e) Expert system
- [10]
- ii) Describe the main functions of management staff in a business organization.
- [10]

QUESTION TWO

- a) Discuss the use of the Critical Success Factors (CSF) method in identifying organizational needs, using the NUST department of Computer Science as an example department.
- [10]
- b) A university shop that sells curios to students and staff wishes to develop an information system in order to try and improve service to its customers as well as ensure that its stocks do not run out. The developed system is also to keep inventory and accounts for the shop. Explain the kinds of hardware and software the shop will need, pointing out the role of each component.
- [10]

QUESTION THREE

- a) Suppose you want to start a company to sell computer parts to schools in the rural areas. Your target is the school population scattered throughout the country. Assuming you have sales persons to market your wares through the distribution of brochures, with headmasters telephoning your offices to check if there is enough stock, what ICT technologies and information system applications would you employ to improve the productivity and performance of your sales team. [10]
- b) The information below shows the dispositions of activities of a project to develop an enterprise resource planning system for organization X. For the information below construct a Gantt chart and deduce the following:
- i) Day of system delivery. [4]
 - ii) List those activities that should not be delayed. [2]
 - iii) How can the project manager ensure that the project above is a success? [4]

Activity	Predecessor	Activity Time (Days)
Problem Identification	-	7
Data Gathering	Problem Identification	8
DFD Construction	Data Gathering	6
Process Specification	DFD Construction	1
Data Normalization	DFD Construction	2
File Design	Data Normalization	3
System Design	DFD Construction	2
Programming	System Design, File Design	5
Testing	Programming	2
System Installation	Testing	1

QUESTION FOUR

- a) Information systems are classified as strategic, tactical or operational. What is the purpose of such classifications? Explain using examples, the characteristics of information systems in each of the above classes. [10]
- b) Computer viruses have disturbed teaching operations within the department of Computer Science. Discuss how this problem can be solved giving specific tools to be used in the solving of the problem. [10]

QUESTION FIVE

- a) Explain how telecommuting has changed work patterns in business organizations, pointing out whether this is applicable to our Zimbabwean situation. [12]
- b) Suggest ways of securing data in a given information system. [8]

QUESTION SIX

- a) Produce an Entity Relationship Diagram for the following scenario, Make appropriate assumptions for the completeness of data. [15]

First Life Hospital offers medical care to patients. The hospital subcontracts a number of specialist doctors. A doctor is assigned to patients according to ailments. Each patient is allocated to one doctor, and is admitted to a ward. Doctors attend to patients in their wards during their round visits. After seeing a patient, the doctor prescribes medication, which can be bought from the local pharmacy or any pharmacy in town. Patients can pay for the services offered through cash or through medical aid. A patient can only use one medical aid scheme at any one time.

- b) Give 5 advantages reported for decision support systems. [5]

END OF QUESTION PAPER

