ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF HEALTH, SCIENCE AND TECHNOLOGY

DEPARTMENT OF DIGITAL TECHNOLOGY

EXAMINATION PAPER

COURSE CODE	:	CDT 103
COURSE TITLE	:	Systems Analysis and Design
SPECIAL REQUIREMENTS	:	None
DURATION	:	3 Hours
LEVEL	:	1.1
DATE	:	November 2019

INSTRUCTIONS TO CANDIDATES:

1. Answer all questions.
2. Each question carries 20 Marks.

Question 1

a) With the aid of a diagram describe how an information system works [5]

b) Describe the skills that a systems analyst must have. [7]

c) Explain the following tests of feasibility.

i) Economic feasibility [2]

ii) Legal feasibility [2]

iii) Social feasibility [2]

iv) Technical feasibility [2]

Question 2

a) A large national company has been running its business using a computer application for the previous five years. The management feels that it's high time they change this system.

i) As a systems analyst, justify giving reasons why the organisation might need to change the system. [5]

ii) Identify and justify any additional professionals that are needed given that the management has decided to develop a new system in-house [6]

b) Describe any three system implementation methods giving advantages and disadvantages of each. [9]

Question 3

a) Using a well labelled diagram, Outline the traditional waterfall model of system development. [10]

b) Explain the following terms

i. Debugging

ii. Requirement validation

iii. Volatile requirements

iv. Business Requirements

v. Event analysis [10]

Question 4

Mr Chigu owns a grocery shop which offers discount depending on a number of factors. Mr Chigu uses shop membership and value of goods bought when awarding discounts to customers .If a customer is a member and goods bought are worth more than $100 the customer gets a 20% discount. Ifthe customer is a member and goods bought are worth less than $100 he gets a 15% discount. Ifthe customer is not a member but the goods bought are worth more than $100 the customer gets a 10% discount. Otherwise the customer does not get any discount at all.

a) Identify the conditions and actions in the above given paragraph **[8]**
b) Draw a decision table using information given above **[12]**

Question 5

John Smith owns a second hand bookshop on the High Street of a busy town. The bookshop buys and sells second hand books, but also has a small private library of rare books, which he loans to local people. He has to keep a careful record of each loan and return. Before anyone can borrow any books, they must register with the bookshop and pay a deposit. The deposit is repaid when a person wishes to cease membership of the library if all the borrowed books have been returned in good condition. When someone offers, a book for sale John searches his catalogue of books to see if he already has a copy either in the library or for sale. If so, he checks how much he paid for the copy or copies he already has. If he has several copies of the book, already he may decline to buy the book, or offer a reduced price. If John does not already have a copy of the book, he will offer to buy it, paying a reasonable price depending on its condition and rarity. John has realized that the supply of second hand books locally has diminished and has decided to set up a web site where people can offer their books to John to buy. He realizes that the seller of a book would have to input the condition of a book as well as the title and publication date. The web application would have to decide what price to offer by retrieving the purchase and selling price of any previous copies of the book. If the potential seller agrees to the price, a transaction number would be displayed for the seller to include when sending the book. John will send a cheque to the seller when the book is received. If the application could not calculate a price, John would like an e-mail notification so he can value the book himself.

Produce a top-level data flow diagram for the current system of the scenario above. **[20]**