Strathmore
UNIVERSITY

STRATHMORE INSTITUTE
DIPLOMA IN INTERNATIONAL RELATIONS/DIPLOMA IN PROCUREMENT/
DIPLOMA IN ENTREPRENUERSHIP/DIPLOMA IN BUSINESS MANAGEMENT
END OF SEMESTER EXAMINATION FULL TIME PROGRAMME

DIR 1104/DPR 1104/DE 1104/DBM 1101
FUNDAMENTALS OF INFORMATION TECHNOLOGY

DATE: APRIL 20th 2020   **TIME: 2 Hours**

Instructions
1. This examination consists of FIVE questions.
2. Answer **Question ONE (COMPULSORY)** and any other **TWO** questions.
3. Do not write on the question paper.

SECTION A: (30 marks)
QUESTION ONE
(a) Multiple Choice Questions: Select the correct answer (A/B/C/D) and write it in your answer booklet.

i) Which of the following is not a basic computer operation?
   A. Input
   B. Throughput
   C. Processing
   D. Storage

ii) The computer function in which raw data is received is known as:
   A. Input.
   B. Processing.
   C. Output.
   D. Storage.

iii) Which generation of computer developed using integrated circuits?
   A. First generation
   B. Second generation
   C. Third generation
   D. Fourth generation

iv) The type of software that sits on top of the operating system and utilizes the computer's capabilities to perform a user task is called:
   A. System software.
   B. Utility software.
   C. Application software.
   D. Internal software.

v) Which of the following is NOT an example of an input device?
   A. Microphones
   B. Speakers
   C. Scanners
   D. Digital cameras

vi) The *CPU* is often referred to as the _____ of the computer.
   A. Heart
   B. Brain
   C. Core
   D. Soul

vii) The most important type of memory that a typical computer uses during the processing operation is _____ memory.
A. Read-only
B. Flash
C. Storage
D. Random access

viii) NIC is an abbreviation for which of the following terms?
A. Network interface card
B. Network integration card
C. Network information card
D. Network interface capability

ix) The device that combines the capabilities of a handheld computer with mobile phone capabilities and Web access is known as a _____
A. Mobile computer
B. Multiphone
C. Smartphone
D. Minicomputer

x) The central processing unit is located within the system's case. The system case is also known as the system _____

xi) An individual's ability to restrict or eliminate the collection, use, and sale of confidential personal information is known as
A. Cybertrust
B. Basic rights
C. Privacy
D. Confidentiality

xii) The ability to convey a message without disclosing your name or identity is known as:
A. Privacy
B. Confidentiality
C. Anonymity
D. Cyberblocking

xiii) Which of the following is the best definition of a cookie?
A. It is a virus appended to an online shopping transaction
B. It is a plain-text file written to your hard disk by a Web site you visit
C. It is a file containing consumer information sold by an online store to a marketing company
D. It is an unsolicited advertisement that pops up on your computer

xiv) Which of the following is not a technique you can effectively use to reduce the amount of unauthorized e-mail on your computer?
A. Use a "throwaway" e-mail address when visiting a chat room
B. Avoid giving your name and e-mail address on marketing questionnaires
C. Disable cookies on your Web browser
D. Reply to spam and ask to be removed from the mailing list

xv) This type of software collects your personal information, monitors your Web surfing habits, and distributes this information to a third party.
A. Advertisement software
B. Pop-upware
C. Spyware
D. Malware

xvi) In a denial of service attack, the commandeered computers form a botnet, and the individual computers are called:
A. Attackers
B. Zombies
C. Slaves
D. Worms

xvii) Using a technique known as _____, a message is sent to a computer system using an IP address disguised as one from a trusted source.
A. Electronic data collection
B. IP spoofing
C. Hacking
D. Illegal access

xviii) Which of the following is NOT a network communications device?
A. Switch
B. Router
C. NIC
D. LAN

xix) Which of the following network devices has the capability to determine the best path to transmit data and determine alternative pathways?
A. Router
B. Switch
C. Pathfinder
D. Director

xx) Which of the following is NOT a disadvantage of networks?
A. Lack of privacy
B. Loss of autonomy
C. Sharing important information
D. Security issues

(b) Describe an operating system, giving **two** examples of operating systems used for servers.
(2 marks)

(c) One of the functions of the operating system is to start and shut down a computer. An operating system includes various options such as booting, warm boot, cold boot, sleep mode and hibernate mode. Describe any **four** of these terms. **(4 marks)**

(d) Digital computers internally use the binary (base 2) number system to represent data and perform arithmetic calculations. You have been asked to key in integer 139 into a computer.
  i) Convert this decimal integer to binary value which the computer will understand.
  (2 marks)
  ii) Convert your answer in (i) above to decimal number system. **(2 marks)**

SECTION B: (15 marks per question. Choose any Two)

QUESTION TWO
a) Using a relevant diagram, describe a computer based on the Von Neumann model
(3 marks)

b) Explain the function of each of the subsystems of a computer defined in the von Neumann model. **(6 marks)**

c) Giving **two** examples of each, describe the **two** major components of a Computer System.
(4 marks)

d) The memory of a computer system contains both RAM and ROM. State **two** differences between RAM and ROM in a typical computer system. **(2 marks)**

QUESTION THREE
a) Discuss **three** benefits of using a computer network? **(3 marks)**

b) Differentiate between a LAN and a WAN? Give an example of each. **(4 marks)**

c) Explain **three** differences between system software and application software. **(3 marks)**

d) Define the following aspects of computer security. **(5 marks)**

  i) Confidentiality
  ii) Integrity
  iii) Privacy
  iv) Exactness
  v) Identity theft.

QUESTION FOUR

a) Define an Information System, giving at least **two** reasons why organizations use information systems. **(4 marks)**

b) Draw a representation of the three levels of management/workers in any given organization type (e.g. Hospital, University, Manufacturing Company, Bank etc).
Using this diagram, clearly illustrate the kind of information systems used at each level, the groups of staff served at each level and the major business functions. **(3 marks)**

c) Describe the activities performed by staff at each level of management. **(3 marks)**

d) For any of the levels you have illustrated above, within the organization type that you have chosen, clearly describe **one** major type of information system that you would recommend for use by staff at that level. **(3 marks)**

e) Describe **two** essential qualities of good information **(2 marks)**

QUESTION FIVE

As part of the Information Technology lectures, we had lab lessons where you learnt how to use various application packages such as MS-Word and MS-Excel. Answer the following questions, drawing from your knowledge of these two programs:

a) Tesher is studying pottery at college. He has to create a manual detailing step-by-step how to make a pot. State two advantages of using MS-Word, rather than hand writing when creating this manual. **(2 marks)**

b) Tesher's hands are often covered in clay. He creates this manual while working on a pot. State a method he could use to enter text without using the keyboard. **(1 mark)**

c) Part of his manual is shown below.

How to Make a Pot

Making a clay pot takes patience, talent, time and persistence. The value of practice cannot be underestimated. The quality of the clay used is also of vital importance, and the best clay in Kenya is available from Turkana by the lake. Your pots will be prettier and last longer if you follow these steps carefully.

Requirements:
• Good quality clay.
• A potter's wheel.
• A kiln.

On the following pages I will explain the steps and show some photographs demonstrating how to make a pot.

State the feature in MS Word used to make the list of requirements stand out. **(1 mark)**

d) Tesher inserted the photograph into his manual and made the text flow around the photograph. Name this feature. **(1 mark)**

e) Tesher has set the manual up so that his name and the page number appear at the bottom of every page automatically. What feature of MS Word has Tesher used to do this? **(1 mark)**

f) Tesher has approached you for help in creating a Table of contents for his manual.

Explain to him the procedure that he would follow to create Table of contents for his manual. (**3 marks)**

g) The finished manual is too large to e-mail to his lecturer. Without changing the manual, what can he do to reduce the file size? **(1 mark)**

h) Felicity uses a Spreadsheet package to set up bills for her customers.

	A	B	C	D
1	**Felicity's Dogs'**			**Bill for services**
2				
3	**Dog Name:**	Simba		
4				
5		**No.**	**Cost of Service**	**Total**
6	Daily Walk	5	500.00	2500.00
7	Shampoo	1	2200.00	2200.00
8	Groom	1	1300.00	1300.00
9	Nail Clipping	0	545.00	0.00
10	Training	0	2424.00	0.00
11	Vet Trip	0	950.00	B11*C11
12			**TOTAL**	

(i) The formula in cell D11 has not shown the answer as Felicity expected. What must she add to the formula to make the spreadsheet calculate the answer? **(1 mark)**

(ii) The data values in columns C and D should be displayed as moneyamounts. State the formatting operation that Felicity will use to do this. **(1 mark)**

(iii) In cell D12 Felicity calculates the total. State **three** formulae that he should use to calculate the total. **(3 marks)**