



MACHAKOS UNIVERSITY

University Examinations for 2017/2018

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FIRST YEAR FIRST SEMESTER EXAMINATION FOR THE

DIPLOMA IN ELECTRICAL ENGINEERING

DIPLOMA IN MECHANICAL ENGINEERING

DIPLOMA IN CIVIL ENGINEERING

SCU 101: INTRODUCTION TO COMPUTERS

DATE:13/12/2017

TIME: 8:30-10:30 AM

Instructions:

Answer question ONE and any other TWO questions

Don't write on this question paper

QUESTION ONE (30 MARKS)

- a) Describe the classification of computers in respect to size and processing power. (6 marks)
- b) With the aid of a diagram, briefly describe the information processing cycle. (5 marks)
- c) Describe any **three** optical scanners and clearly indicate where they are used. (6 marks)
- d) Describe the term *network protocol* in relation to computer networks. (3 marks)
- e) Describe **three** functions of an operating system. (6 marks)
- f) Indicate **two** application areas of the following software. (4 marks)
 - i. Word Processors
 - ii. Graphics packages

QUESTION TWO (20 MARKS)

- a) The hard disk is the most popular backup device. Describe **three** reasons why this is so. (6 marks)
- b) Explain **four** reasons why you would encourage an organization to start using computers in their operations. (8 marks)
- c) Explain the meaning of the term *GIGO* as used in computing. (2 marks)
- d) Differentiate between softcopy and hardcopy output. (4 marks)

QUESTION THREE (20 MARKS)

- a) Describe the term *computer/information security*. (2 marks)
- b) Describe the following basic principles of data/information systems in relation to computer security;
 - i. Confidentiality
 - ii. Availability
 - iii. Integrity
 - iv. Authenticity (8 marks)
- c) Describe the counter measures to the following computer crimes
 - i. software piracy;
 - ii. Unauthorized access. (4 marks)
- d) Differentiate the following pair of terms in relation to computer security
 - i. Risk and Vulnerability
 - ii. Threat and Attack
 - iii. Passive and Active attack (6 marks)

QUESTION FOUR (20 MARKS)

- a) Outline the technology used in the first and third generation computers. (2 marks)
- b) Using **two** examples in each case, describe **two** ways of classifying computers. (6 marks)
- c) Describe **three** types of softcopy output devices. (6 marks)
- d) Describe any **three** Network Topologies. (6 marks)

QUESTION FIVE (20 MARKS)

- a) Juma who is a student in MUC intends to buy a laptop and has approached you for advice. Explain to him **three** factors that will determine the cost of the laptop. (6 marks)
- b) Describe **three** variations of compact disks. (6 marks)
- c) You have been requested to advice your manager on different computer software. Briefly explain the two classes of software. (4 marks)
- d) Lynn has engaged the services of a software house to develop software that will to manage her business. Explain **two** benefits that she will derive from this move. (4 marks)