



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR BACHELOR OF TECHNOLOGY IN INFORMATION
COMMUNICATION TECHNOLOGY (YR 1 SEM I)

EIT 4103: PC HARDWARE & TROUBLESHOOTING

END OF SEMESTER EXAMINATION

SERIES: APRIL 2012

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions in **TWO** sections **A & B**

Answer question **ONE (COMPULSORY)** plus any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

SECTION A (COMPULSORY)

Question One (30 Marks)

- a) Explain **FOUR** main functions of BIOS in a computer system (8 marks)
- b) Explain the cause of the following errors
 - (i) CMOS checksum error
 - (ii) CMOS memory size mismatches (4 marks)
- c) Which **FOUR** things should be investigated first, when troubleshooting a printer (4 marks)
- d) Troubleshooting requires an organized and logical approach to solving problems in computers and other components. Identify steps of troubleshooting a computer system (5 marks)
- e) Computers are prone to power malfunction problems, describe **THREE** basic standard devices used to protect computers from power related problems (6 marks)
- f) Explain how to troubleshoot the windows low virtual memory error messages (3 marks)

SECTION B (Attempt any TWO sections)

Question Two (20 marks)

- a) Explain **SIX** common BIOS setup menu options (12 marks)
- b) Explain the essence of CMOS battery and what are possible errors when the battery is low (4 marks)
- c) Explain the concept of Direct Memory Access (DMA) with respect to I/O device management (4 marks)

Question Three (20 marks)

- a) Explain the following system tools used in computer maintenance
 - (i) Disk Manager
 - (ii) Scan Disk
 - (iii) Disk Cleanup
 - (iv) Fdisk
 - (v) Disk Defragmenter (10 marks)
- b) Explain the essence of device manager to a technician (2 marks)
- c) VGA Drivers are reported to be missing in your computers
 - (i) Explain the consequences of missing VGA drivers in your computers (2 marks)
 - (ii) Explain the steps you would take to acquire the missing drivers (2 marks)
- d) Describe software conflict and measures to dampen the problem (4 marks)

Question Four (20 marks)

- a) Power supply connectors are designed to fit snugly on to different components in a computer system. Describe any **FIVE** power connector that come with computer power supply (10 marks)
- b) Describe system buses in a computer system (6 marks)
- c) Explain the difficulty experienced in detecting:
 - (i) Theft of software
 - (ii) Theft of data (4 marks)

Question Five (20 marks)

- a) Explain MotherBoard form factor and list **THREE** motherboard form factor available in computer systems (5 marks)
- b) Explain **TWO** major CPU architectures related to instruction sets (4 marks)
- c) Describe **FOUR** types of ROM (8 marks)
- d) List **THREE** ways of protecting software from virus (3 marks)