



MURANG'A UNIVERSITY COLLEGE

University Examinations 2015/2016

**EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
INFORMATION TECHNOLOGY**

BIT 2102: COMPUTER SYSTEM AND ORGANIZATION

COURSE: B.Sc. IT

TIME: 2HRS

DAY/TIME: Tuesday 8.30 a.m.

DATE: 15/12/15

Instructions: Answer Question 1 and Any Other Two.

Question One [30 marks]

- a) Define the term operating system and describe the four main roles of an operating system in a micro computer [10 marks]
- b) The terms BIOS, POST and CMOS are key in the computer system booting process, discuss the role of each [10 marks]
- c) Explain the **four** stages a processor goes through in the pipe line cycle [10 marks]

Question Two [20 marks]

- a) CPU Scheduling deals with the problem of deciding which of the processes in the ready queue is to be allocated the CPU. Discuss any FIVE scheduling algorithms that the CPU implements to solve possible process deadlocks. [10 marks]
- b) A system display an error message “NON SYSTEM DISK, REPLACE AND STIKE ANY KEY TO CONTINUE” Outline FIVE like courses of the problem and the possible solution to it [5 marks]
- c) Differentiate between formatting and portioning of storage devices [2 marks]
- d) Describe the functions of system bus in the systems internal communication [3 marks]

Question Three [20 marks]

- a) Describe the four processors pipeline phases. [4 marks]
- b) Describe any four data processing modes [8 marks]
- c) Explain the purpose of “power good ” signal within the context of system booting [4 marks]
- d) Describe the role of the following utilities in optimizing the performance of a computer system.
 - i. Scandisk/chkdsk
 - ii. Disk cleanup
 - iii. Backup
 - iv. System restore
 - v. Defragmenter [4 marks]

Question four [20 marks]

- a) Explain the three basic logic gates, symbols, logic circuits and truth tables [10 marks]
- b) Describe the four major BIOS software for the Pentium family personal computers [4 marks]
- c) Discuss the three major documentation levels [6 marks]///