TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA INFORMATION TECHNOLOGY (DICT 13S)

ECS 2106: PRINCIPLES OF OPERATING SYSTEMS

END OF SEMESTER EXAMINATION
SERIES: DECEMBER 2014
TIME: 2 HOURS

Instructions to Candidates:
You should have the following for this examination
- *Answer Booklet*

This paper consists of **FIVE** questions.
Attempt question **ONE (Compulsory)** and any other **TWO** questions

Maximum marks for each part of a question are as shown
This paper consists of **TWO** printed pages

Question One (Compulsory)

a) Define the term "Operating System" **(2 marks)**

b) State any FOUR examples of an operating system **(4 marks)**

c) Explain the goals of an operating system **(10 marks)**

d) State the TWO objectives of an operating system **(4 marks)**

Question Two

a) Explain the computer system components. **(8 marks)**

b) Explain the functions of an operating system. **(12 marks)**

Question Three

a) Explain the classification of operating systems. **(6 marks)**

b) Explain the following terms as used with operating systems:
- **(i)** System overhead
- **(ii)** Caching
- **(iii)** Interrupt
- **(iv)** Spooling
- **(v)** Buffering
- **(vi)** System call
- **(vii)** Kernel **(14 marks)**

Question Four

a) Explain the following process scheduling algorithms.
- **(i)** Shortest job first (SJF)
- **(ii)** Round Robin
- **(iii)** Priority Scheduling **(12 marks)**

b) Explain the objectives of process scheduling **(8 marks)**

Question Five

a) Define the term "deadlock" **(2 marks)**

b) Explain the conditions for a deadlock. **(12 marks)**

c) Explain the different ways of preventing the occurrence of a deadlock **(6 marks)**