MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2018/2019 ACADEMIC YEAR
SECOND YEAR FIRST SEMESTER EXAMINATION

SCHOOL OF SCIENCE AND INFORMATION SCIENCES
UNIVERSITY EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE (COMPUTER SCIENCE)

COURSE CODE: COM 2107
COURSE TITLE: ASSEMBLY LANGUAGE PROGRAMMING

DATE: 23RD APRIL, 2019 **TIME: 1430 – 1630HRS**

INSTRUCTIONS

Answer Question ONE and any other TWO

SECTION A

QUESTION ONE (COMPULSORY 30 MARKS)

a) Differentiate between Assembly language and Machine language.(4Mks)

b) Give Three merits of assembly language programming (3Mks)

c) Describe the fetch and execution cycle in a CPU? (5Mks)

d) Discuss how cache memory works (4 Mks)

e) Describe the general-purpose registers in Intel 8086 microprocessor and their functions. (8 Mks)

f) Explain the advantages of cryptography in relation to assembly language programming (6Mks)

SECTION B

QUESTION TWO (20 MARKS)

a) Name and explain two type of Hardware interrupt (8 Mks)

b) Explain the difference between four segment registers and their functions in 8086 microprocessor (4Mks)

c) List the four registers that can be used to address memory (4Mks)

d) Discuss two emerging trends on cryptography in the market today (4Mks)

QUESTION THREE (20 MARKS)

a) What is the difference between status flag and Control flag in a Flag register
(4Mks)
b) With a well labeled Diagram describe how a flag register works (8 Mks)
c) If the sum of two 16bit numbers results into a 17bit number, what will be the status of CF register?
(2Mks)
d) Explain what you understand by subroutine? (2 Mks)
e) Explain with examples the following addressing modes. (4 Mks)
i) Indirect Addressing mode.
ii)Immediate addressing mode

QUESTION FOUR (20 MARKS)

a) Name and explain Program Execution Transfer Instructions (6 Mks)
b) Explain any two shift instructions
(4Mks)
c) Explain CALL and RET instructions
(4Mks)
d) With a well labeled diagram explain how Stack works using PUSH/POP instructions
(6 Mks)

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