TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR DEGREE IN:
BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY
BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
(BTIT12S –FT & BSIT 13S-FT)

EIT 4302/ICS 2302: SOFTWARE ENGINEERING

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

Question One (Compulsory)

a) Explain the following terms:
      (i) Software Engineering
      (ii) Functional requirements
      (iii)   Non-functional requirements   **(6 marks)**

b) Briefly explain any FOUR attributes of good software   **(8 marks)**

c) Briefly distinguish between the following as used in software engineering:
      (i) Verification and validation

(ii) Coupling and cohesion **(6 marks)**

Question Two

a) Define the term "Software Development Lifecycle" **(2 marks)**

b) State any FOUR characteristics of software development lifecycles **(8 marks)**

c) Briefly describe the following software development lifecycle models: **(10 marks)**
Waterfall model

Question Three

a) State any FOUR fundamental activities in all software development processes **(4 marks)**

b) Briefly describe the following software development lifecycle model: **(8 marks)**
Incremental Model

c) Explain any FOUR key challenges facing modern software engineering **(8 marks)**

Question Four

a) Explain the meaning of the term software crisis, **(2 marks)**

b) Briefly explain any FOUR professional and ethical responsibilities of software engineering
(8 marks)

c) Distinguish the following types of requirement and provide an example for each:
    (i) Software requirements
    (ii) System requirements
    (iii)   User requirements
    (iv) Functional requirements
    (v) Non-functional requirements **(10 marks)**

Question Five

a) Describe the software testing stages **(10 marks)**

b) Briefly describe the following software development lifecycle models.
    (i) Spiral model
    (ii) Prototyping Lifecycle model **(10 marks)**