TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

CERTIFICATE IN STORES MANAGEMENT (CSM Y1 S2)

EIT 1106: COMPUTER APPLICATIONS II

END OF SEMESTER EXAMINATION
SERIES: APRIL 2015
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 **THREE** printed pages

Question One (Compulsory)

a) What is normalization   **(1 mark)**

b) Define the following;   **(2 marks)**
    (i) SQL
    (ii) DDL
    (iii) DCL
    (iv) DML

c) State the fundamental operations of relational algebra   **(4 marks)**

d) A transaction in database system MUST maintain some properties in order to ensure accuracy of
    its completeness and data integrity. These properties are referred to as ACID properties. Discuss.
                                                                                    (8 marks)
e) Explain the relationship between primary and foreign key.   **(2 marks)**

f) State the methods of creating reports   **(3 marks)**

Question Two

a) Define a schedule.   **(2 marks)**

b) Determine the following schedules, where as Read item is denoted by (r), write item denoted by
    (w), commit item denated by (c), abort items denoted by (a) and schedule (s)   **(2 marks)**

T1	T2
Read – item (x),	
X:X-N	
	Read – item (x);
	x = x + m
Write – item (x);	
Read – item (y);	
	Write – item (x);

c) State the components of SQL   **(3 marks)**

d) Name and state other operations that can be done on a file other than creation and deletion
                                                                                    (13 marks)

Question Three

a) A transaction in a database can be in various states. With an aid of a diagram, draw and discuss the
    various states   **(10 marks)**

b) Discuss the following types of attributes citing examples   **(5 marks)**
    (i) Simple attribute
    (ii) Composite attribute
    (iii) Derived attribute
    (iv) Single-valued attribute
    (v) Multi-valued attribute

c) Define the following:

(i) Attribute
(ii) DBMS
(iii) Knowledge
(iv) Information
(v) DBMS deadlock   **(5 marks)**

Question Four

a) Discuss the disadvantages of the processing system   **(6 marks)**

b) Define a form   **(1 mark)**

c) Define:
- Physical database schema
- Logical database schema
- Data integrity   **(6 marks)**

d) State FOUR advantages and FOUR disadvantages of a DBMS   **(8 marks)**

Question Five

Discuss the characteristics of modern DBMS   **(20 marks)**