



TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION TECHNOLOGY (DIT 12S)

ECT 2201/EIT 2202: DATABASE MANAGEMENT SYSTEMS

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: OCTOBER 2013

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** 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) Explain the following:
- (i) First Normal Form (1NF)
 - (ii) Second Normal Form (2NF)
 - (iii) Third Normal Form (3NF)
 - (iv) Data
 - (v) Information
 - (vi) Primary Key
 - (vii) Foreign Key
- (14 marks)
- b) State any TWO database management systems packages (2 marks)
- c) Explain the following as used with Normalization:
- (i) Functional Dependency
 - (ii) Determinant
- (4 marks)

Question Two

- a) Define the term “Database Management System” (2 marks)
- b) Describe the components of Database Management System (8 marks)
- c) Describe advantages and disadvantages of each of the following database design.
- (i) Conventional file design
 - (ii) Database technology
- (10 marks)

Question Three

- a) Explain the following database model:
- (i) Relational
 - (ii) Hierarchical
 - (iii) Network
 - (iv) Relational
 - (v) Object Oriented
- (8 marks)
- b) Explain the concepts listed below in the context of relational model:
- (i) Attribute
 - (ii) Domain
 - (iii) Tuple
 - (iv) Degree
 - (v) Cardinality
- (5 marks)
- c) List the advantages and disadvantages of client-server architecture (7 marks)

Question Four

- a) The table below is a sample of dentist/patient appointment data. Use it to answer the question.

Differentiate between the following terms as used in CoreDraw

(8 marks)

- (i) Docker and flyout
- (ii) Vector image and bitmap image

b) Describe the following colour modes available in photoshop

- (i) RGB
- (ii) CMYK
- (iii) Gray scale
- (iv) Labscale

c) Explain how the following tools used in CorelDRAW

(4 marks)

- (i) 3-point curve
- (ii) Virtual segment delete

Question Five

a) Explain **FOUR** skills required for graphic Design

(8 marks)

b) Design the logo below and save it as android.

(8 marks)

c) Give **TWO** reasons traditional pen and paper is still in common use among graphic designers despite the advent of graphic design software.

(4 marks)