



TECHNICAL UNIVERISTRY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR DEGREE IN:
BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY
(BTIT12J -FT & 13M-EV)

EIT 4310: ADVANCED WEB APPLICATION PROGRAMMING

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) Briefly explain the terms as used in Java persistence API

(i) Entity bean

(ii) Entity manager

(iii) Persistent context

marks)

(6

b) Explain TWO types of persistence that can be used by entity class

(6 marks)

c) Explain TWO types of methods that are used with entity class to manipulate object data

(4 marks)

d) State the meaning of the following annotations as used in entity class:

- (i) @ generate value
- (ii) @ Onetomany
- (iii) @ Entity
- (iv) @ Table

(12 marks)

Question Two

- a) Explain the meaning of the annotation @ generate value and explain various strategies for generating the values. (6 marks)
- b) Design an entity class called customer with two data members “ssn” and ‘name’ where ‘ssn’ is the primary key. Include all the getter and setter method. use persistence field (14 marks)

Question Three

- a) Explain the following web technologies:
 - (i) Servlet
 - (ii) Java Serve pages
 - (iii) Applet
 - (iv) Entity java beans
 - (v) Net beans
 (10 marks)
- b) Write a savlet that picks the data from the HTML code below and stones in a session bean called Hellobeam with two data members: name and email

Html Code

```
<html>
<head> <title> hello </title></head>
<body>
<h1> Enter your name and email addresses: </h1>
<form method = “get” action = “hello.jsp”>
<P> input type = “text” name = “name” value = “ “ size = “20”/>
Name </P>
<P> Input type = “text” name = “email” value = “ “ size =” 20”/>
Email < IP>
<P> input type = “submit” Name = “send” value = “send” />4P>
</form>
</body> </html>
```

(10 marks)

Question Four

- a) Briefly distinguish the following as sued in web programming:
 - (i) Stateless bean
 - (ii) Stateful bean
 - (iii) Message bean
 (6 marks)
- b) Write a Java Servelet that picks the data from a session bean called HelloBean with two data members; name and email, and echoes the data on the screen (14 marks)

Question Five

- a) Explain any THREE java technologies that provide platforms for application programming (6 marks)
- b) Explain the J2EE platform architecture for web application programming (8 marks)

- c) Define the term IDE as used in software development and outline any FOUR examples of IDE used for web application programming **(6 marks)**