

MACHAKOS UNIVERSITY COLLEGE
EXAMINATION FOR BACHELOR OF COMPUTER SCIENCE
SCO310 : COMPONENT PROGRAMMING

DATE: APRIL 2015

TIME: 2HOURS

Instructions:

Attempt QUESTION ONE and ANY OTHER TWO questions

Question 1 (30marks)

- (a) Explain the following concepts
 - i. Component [2marks]
 - ii. Web service [2marks]
 - iii. JavaBeans [2marks]
- (b) In context of Component oriented programming, outline fore core characteristics of a component. [4marks]
- (c) Explain the abbreviation *CBSE*. Explain its role in component programming. [4marks]
- (d) In reference to event handling, explain the following concepts: [6marks]
 - i. listener
 - ii. Event source
 - iii. Event adaptors
- (e) State and explain two basic participants in web service system. [4marks]
- (f) In reference to JavaBeans, explain the term *simple properties*. Write sample code to demonstrate how they are implemented. [6marks]

Question 2 (20marks)

- (a) Discuss three similarities and three differences between Object Oriented Programming (OOP) and Component Oriented Programming (COP). [12marks]
- (b) (i) Explain two operations of indexed properties in JavaBeans. [2marks]
(ii) Write a complete code show how indexed properties are implanted in JavaBean. [6marks]

Question Three (20marks)

- (a) State FIVE *advantages of using JavaBeans* as tool for component programming. [5marks]
- (b) Explain the concept *.NET platform*. [2marks]
- (c) Discuss FIVE core *elements of .NET platform* [10marks]
- (d) Define *object*. Show Object is created in JavaBeans. [3marks]

Question Four (20marks)

- (a) Discuss three fundamental differences between *Web Services* and *Traditional Web Applications* [6marks]
- (b) (i) What does the abbreviation **SOAP** stand for? Explain its role in web service. [3marks]
- (ii) Explain the components of XML based SOAP message: [6marks]
- (c) Outline five *.NET Security Framework Architecture* core elements which make it secure platform. [5marks]

Question Five (20marks)

- (a) Write XML program code that print out the following details [6marks]

Book title – Learning XML
Author - B.M >Kelly
Year - 2002
Price - \$56.6

- (b) Explain the meaning of the following *JavaBean Component Specifications*. [8marks]
 - i. Customization
 - ii. Persistence
 - iii. Communication
 - iv. Introspection
- (g) Give four programming languages which support .NET programming platform [2marks]

(d) Write sample code to show how the *actionPerformed ()* event method is implemented. [4marks]