



BONDO UNIVERSITY COLLEGE

UNIVERSITY EXAMINATION 2012/2013

**1ST YEAR 1ST SEMESTER EXAMINATION FOR DIPLOMA IN
LINUX ENGINEERING
(KISUMU LEARNING CENTRE)**

COURSE CODE: ICT 2211

TITLE: SECURE DYNAMIC WEB APPLICATIONS

DATE: 14/12/2012 TIME: 10.00-11.30AM

DURATION: 1.30 HOURS

INSTRUCTIONS

- 1. This paper contains FIVE questions**
- 2. Answer any THREE questions**
- 3. Write all answers in the booklet provided**

Question 1. (20 marks)

- i. What is a dynamic web application? (2 marks)
- ii. What are the differences between a static and a dynamic web site(5 marks)
- iii. What is OWASP in regards to dynamic web applications security?(2 marks)
- iv. Explain what you understand by the term server side technologies? (2 marks)
- v. List 5 types of server side technologies (5 marks)
- vi. SSL is made up of ___ protocols. List the protocols(4 marks)

Question 2 (20 marks)

- i. List 4 types of software applications (4 marks)
- ii. Give and explain 5 threats to dynamic web applications (10 marks)
- iii. What is SSL (2 marks)
- iv. What is a certificate authority, CA? (2 marks)
- v. What is CGI (2 marks)

Question 3 (20 marks)

- a) Using a diagram, explain the architecture of a dynamic web application (10 marks)
- b) What are some of the considerations to be considered when choosing a server side technology to use (5 marks)
- c) What is TLS (2 marks)
- d) What are some differences between SSL and TLS(3 marks)

Question 4 (20 marks)

- a) What is SDLC in regards to dynamic web applications development? (3 marks)
- b) Using a diagram, show the SDLC phases that a dynamic web application goes through, emphasizing the security considerations at each phase.(10 marks)
- c) With a diagram, discuss how the SSL handshake protocol works (7 marks)

Question 5 (20 marks)

- a) List and explain 5 secure coding principles that can be applied when developing dynamic web applications (10 marks)
- b) What is your definition of the term "Cross-Site Scripting"? What is the potential impact to web servers and clients? (5 marks)
- c) What are the most important steps you would recommend for securing a new web server? Web application?(5 marks)