



**JARAMOGI OGINGA ODINGA UNIVERSITY OF
SCIENCE AND TECHNOLOGY**

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

DIPLOMA IN LINUX ENGINEERING

COURSE CODE: ICS 2211

COURSE TITLE- BUILDING SECURE DYNAMIC WEB APPLICATIONS

EXAMINATIONS 2012/2013

TIME 2HRS

INSTRUCTIONS:

This paper contains five (5) questions. Question ONE is Compulsory and any other TWO questions

QUESTION ONE –COMPULSORY [30 MARKS]

- a)** List SIX most common SSL-related issue alerted by the web browser **[6 Marks]**
- b)** Using examples, clearly differentiate between following as used in PHP scripts and Web Applications Development. **[9 Marks]**
- i) OOP and Procedural Programming
 - ii) Self signed certificate and third party certificates
 - iii) Symmetric and Asymmetric cryptography
- c)** What do the following acronyms stand for in full? Highlight their importance in Web Applications Programming: **[10 Marks]**
- i) CGI
 - ii) HSTS
 - iii) PKI
 - iv) HTTPS
 - v) SSL/STL
- d)** Discuss FIVE operators you can use while writing computer programs **[5 marks]**

QUESTION TWO [20 MARKS]

- a) Write a HTML script that simulates clients' Registration Form. The client can enter their Surname(s), Other Names, Gender, Usernames Password (and confirmation) and their favourite show as indicated in the form below. **[8 Marks]**

CLIENT REGISTRATION FORM

Surname:	<input type="text"/>
Other Name:	<input type="text"/>
Gender:	<input checked="" type="radio"/> Male <input type="radio"/> Female
Enter User Name:	<input type="text"/>
Your Password:	<input type="text"/>
Confirm Password:	<input type="text"/>
How did you find out about us?	
<input checked="" type="radio"/> A Friend	<input type="radio"/> Print Media
<input type="radio"/> Online	<input type="radio"/> TV
<input type="button" value="Submit"/>	<input type="button" value="Reset"/>

The data is sent to a php script accessible at registration.php.

- b) Write a PHP/Perl script that displays show the number of clients per option **[6 Marks]**
- c) Explain the difference between the static content and the dynamic content **[4 Marks]**

QUESTION THREE [20 MARKS]

- a) Design a simple mobile application that simulates how registered users can send money via M-PESA to help in the recent Westgate terror attack. The application should send an acknowledgement back to the sender with the contribution made. **[10 Marks]**

- b) Explain how HSTS ensures extra security by protecting your website from attacks caused by errors in applying the SSL **[8 Marks]**

- c) Discuss the TWO ways of testing while developing online applications **[2 marks]**

QUESTION FOUR [20 MARKS]

- a) Discuss the software development life cycle as used in software engineering **[10 Marks]**

- b) Highlight any FOUR security issues that must be considered while developing web applications **[4 Marks]**

- c) Explain how cookies and sessions can compromise your website security **[6 Marks]**

QUESTION FIVE [20 MARKS]

- a) Using an example, discuss the difference between a for loop and a while loop in web development **[6 Marks]**

- b) Explain how you can use the SQL code in PHP to login to a MySQL database. Save the code in a file called datalogin.php **[8 Marks]**

- c) Explain why htmlentities are a core aspect of online applications. Write the code snippet to implement the htmlentities for your online applications **[6 marks]**

END