



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL INFORMATICS AND INNOVATIVE SYSTEMS**  
**UNIVERSITY EXAMINATION FOR THE DIPLOMA IN LINUX ENGINEERING**  
**2<sup>nd</sup> YEAR 1<sup>st</sup> SEMESTER 2018/2019 ACADEMIC YEAR**  
**KISUMU CAMPUS**

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**COURSE CODE: ICT 2211**

**COURSE TITLE: BUILDING SECURE DYNAMIC WEB APPLICATIONS**

**EXAM VENUE: STREAM: Dip. Linux Engineering**

**DATE: 12/08/10 EXAM SESSION: 9.00 – 10.30 AM**

**TIME: 1 ½ HOURS**

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**Instructions:**

- 1. Answer question 1 (Compulsory) and ANY other 2 questions.**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

### QUESTION ONE: 30 MARKS

- a) What is web programming? (2 marks)
- b) Give a brief history of the world wide web (www) (5 marks)
- c) Differentiate between the www and the internet (4 marks)
- d) List five web browsers you know (5 marks)
- e) Distinguish between a website and a webpage (2 marks)
- f) All Web browsers understand\_\_\_\_\_ language (1mark)
- g) Basic web programming involves three languages list them (3 marks)
- h) Write a simple HTML code to display a heading and one paragraph (3 marks)
- i) List two web servers you are likely to use in Linux environment (2 marks)
- j) Briefly explain the web application programming architecture (3 marks)

### QUESTION TWO (20 MARKS)

- a) What is a web application? (2 marks)
- b) Differentiate between static and dynamic webpages (4 marks)
- c) Give three web applications you know (3 marks)
- d) What is CSS in full and why do you think its needed in web application development (5 marks)
- e) Using an illustration describe the web architecture (6 marks)

### QUESTION THREE (20 MARKS)

- a) List two professional HTML editors (2 marks)
- b) Describe JavaScript (4 marks)
- c) Differentiate between JavaScript and Java (4 marks)
- d) Write a JavaScript code to produce a page that looks like the one below (10 marks)



#### QUESTION FOUR (20 MARKS)

- a) Generally speaking, there is no central authority controlling the web, although fully qualified domain names are subject to controlled allocation.
- i. What do you understand by domain names in the www? (2 marks)
  - ii. What is the role of World-Wide Web Consortium (W3C), headed by Tim Berners-Lee at Massachusetts Institute of Technology? (2 marks)
  - iii. What is URL in full? Give an example (1 mark)
- b) What is a web server? (1 mark)
- c) What do web servers do? List 4 functionalities (2 marks)
- d) Distinguish between HTTP and HTTPS (2 marks)
- e) A web application is typically a 3-tier (or multi-tier) client-server database application run over the internet and comprises five components.
- i. HTTP Server
  - ii. HTTP Client (web browser)
  - iii. Database
  - iv. Client-side programs
  - v. Server-side programs
- Describe giving examples in each case (10 marks)

#### QUESTION 5[20 MARKS]

- a) What is Domain Name System? (1 mark)
- b) State the types of DNS queries? (2 marks)
- c) What is a namespace? (2 marks)
- d) State the types of top level domains (2 marks)
- e) What do the following terms mean?
- i. DNS resolvers (2 marks)
  - ii. Resource records (2 marks)
  - iii. Zones (2 marks)
  - iv. Zone files (2 marks)
- f) State what the following acronyms mean
- i. PTR (2 marks)
  - ii. NS (2 marks)
  - iii. DNS (1 mark)