



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL INFORMATICS AND INNOVATIVE SYSTEMS**  
**UNIVERSITY EXAMINATION FOR DIPLOMA IN LINUX FOR ENGINEERING AND IT**  
**PROFESSIONALS.**  
**2<sup>ND</sup> YEAR 1<sup>ST</sup> SEMESTER 2013/2014 ACADEMIC YEAR**  
**CENTRE: KISUMU**

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**COURSE CODE: ICT 2213**

**COURSE TITLE: NETWORK SYSTEMS INTEGRATION & ADMIN**

**EXAM VENUE: STREAM: Linux for Engineering**

**DATE: 2/12/2013 EXAM SESSION: 2.00 – 4.00 PM**

**TIME: 2 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 1 (20 Marks)

- a) State any five roles/duties of a system administrator? (5 marks)
- b) You are forced to rebuild an entire Linux kernel from scratch so as to enable it include device driven support for a new hardware you have just added. Explain the each of the following commands:  
(4 marks)
  - i) Make xconfig ii) Make dep iii) Make bzimage iv) Lilo
- c) List any 5 Linux distros available (5 marks)
- d) State 3 steps on how to change a password in Windows 7. (3 marks)
- e) Interpret the following linux command: *chmod u=rw, go-rw, a-x \*.txt* (2 marks)

### Question 2 (20 Marks)

- a) Explain the 3 main types of backups (6 marks)
- b) Explain the two primary reasons of backup? (4 marks)
- c) With aid of an example, state the Linux command that would perform each of the following tasks
  - i. Remove Directory ii) Change working Directory iii) Rename/Move a file. (6 Marks)
- f) What is the purpose of grep command? (2 marks)
- g) Outline 4 major advantages of Linux over many operating systems. (2 marks)

### Question 3 (20 Marks)

- a) Explain any 3 benefits of applying principle of least privilege (POLP) in system administration. (6 marks)
- b) What is OpenLDAP? (2 marks)
- c) List any two reasons that a system administrator would consider in favour of OpenLDAP. (4 marks)
- d) Define a WLAN (2 marks)
- e) Explain how we would use WEP to integrate LANs to WLAN (3 marks)
- f) What is the functional relationship between Wi-Fi and AP in Wireless networking? (3 marks)

#### Question 4 (20 Marks)

- a) State any two advantages and two disadvantages of each of the multi-point topologies below: (4 marks)
- a. Bus Topology
  - b. Star Topology
- b) Which subnet mask would be applied to the network address 192.168.32.0 so as to provide 254 usable host addresses? (2 marks)
- c) Which two of the following units are used to measure data transfer in a media.(4 marks)  
*Throughput, amplitude, frequency, Bandwidth, crosstalk.*
- d) Define each of the following: Packet, VPN (4 marks)
- e) State three key features of TCP which reliably and accurately track transmission of data from source to destination. (6 marks)

#### Question 5 (20 Marks)

- f) Discuss the seven priorities of Network Integration. (14 marks)
- g) As a System administrator for your organization, what three basic conditions must be satisfied to register a domain for the organization? (3 marks)
- h) Which three of the following network devices is recommended to be assigned static IP address?  
*Laptops, Servers, Network printers, LAN workstations, Routers.* (3 marks)