



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

**SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS**

**DIPLOMA IN  
LINUX FOR ENGINEERING AND IT PROFESSIONALS**

**Year II Semester I Examination**

**ICT 2213–NETWORK SYSTEMS ADMINISTRATION AND INTEGRATION**

**2HOURS**

**INSTRUCTIONS**

1. Answer Question 1 and any other two questions
2. Each Question has a total of 20 marks
3. All answers **MUST** be on the answer booklet provided

### 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 Mks)
- 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 mks)

### 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 (6 Marks)
- i. Remove Directory ii) Change working Directory iii) Rename/Move a file
- 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 Mks)
- b) What is OpenLDAP? (2 Mks)
- c) List any two reasons that a system administrator would consider in favour of OpenLDAP (4 Mks)
- d) Define a WLAN (2 Mks)
- e) Explain how we would use WEP to integrate LANs to WLAN (3 Mks)
- 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 Mks)

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)