JARAMOGI OGINGA ODINGA UNIVERSITY
OF SCIENCE & TECHNOLOGY
UNIVERSITY EXAMINATIONS 2012/2013
2ND YEAR 2ND SEMESTER FOR DIPLOMA IN
LINUX FOR ENGINEERING AND IT APPLICATIONS

(KISUMU L.CENTRE)

COURSE CODE: ICT 2121

TITLE: BUILDING SCALABLE ENTERPRISE DNS INFRASTRUCTURE

DATE: 12/8/13   TIME: 2:00 – 3.30PM

DURATION: 1.30 HOURS

INSTRUCTIONS

1. This paper contains SIX (6) questions
2. Answer all questions in section A and Any 2 questions in section B
3. Write all answers in the booklet provided.

SECTION A (COMPULSORY) – 30 MARKS

1 a) What do you understand by the following terms   *8marks*

      i.   Virtualization

     ii.   BIND

    iii.   CENTOS

    iv.   NAT

b) Explain the procedure to be followed when installing CENTOS server on a virtual machine outlining all the important settings that must be made.   *12marks*

c) Why is it important to update or upgrade your CENTOS server after its installation?*4marks*

d) After installation of CENTOS serve on VMware a student realized that he could not access the internet, what would cause this problem and what corrective measure must the student take .   *4marks*

e) RPMs stands for RedHat Package Manager and is used RHE/CentOS and related systems that support binary installations. Explain the functions of the following RPMs commands

    [root@deep] /# rpm -ivh webmin*

    [root@deep] /# rpm -e webmin   *2mark*

SECTION B (ANY TWO QUESTIONS)

2. a) Explain what you understand by the term DNS and name three of its functions.   *6marks*

    b) BIND is an implementation of the DNS protocols and provides an openly redistributable reference implementation of the major components of the DNS, Name any two of this components.   *4marks*

    c) For the installation of a DNS server, it is important to install CentOS using static IP address, Please outline the procedure to be followed so as to configure or change NIC from dynamic IP address to static IP address.   *10marks*

3. An IT firm by the name Kings Corporation, has decided to venture into the business of virtual hosting, they already have a fully running DNS server on Linux CentOS5. Outline the procedure you would follow to help them achieve this goal given that their desired Virtual Domain Name is **kingshosting.com** and with an IP Address **192.168.83.20.** *20marks*

4. Your IT Consultancy Firm has been hired by the County Government of Kisumu to set up for them a DNS Server and Mail, www and ftp servers on Linux CentOS5.
   i. Their hostname is **gov.ksmcounty.com** and the IP address **is 192.168.83.15**
   ii. The other servers are: **Mail.ksmcounty.com ,www.ksmcounty.com and ftp.ksmcounty.com**

   Give a step by step procedure on how you are going to use Webmin to setup the DNS Server, mail, www and ftp servers on Linux CentOS5. *20marks*

5. a) What do you understand by the term LDAP and what is it used for? *4marks*

   b) Give **three** advantages and Disadvantages of LDAP. *6marks*

   c) An IT firm mybiz.com has two departments; Information Technology (IT) and Sales. John Doe and Jane Donde are members of the IT department while Sun Yhu and Jay Sign are in the sales department. Using this as an example explain the Hierarchy and the components of LDAP directory, also produce an organizational data tree with root, branch and leaf nodes for the small enterprise. *10marks*

6. a) What is LDAP Schema? *2marks*
   b) Give any **two** functions of LDAP Schema. *4marks*
   c) OpenLDAP is one of the many vendors of LDAP. Explain the process and procedure for the installation and configuration of OpenLDAP on a server and client machine.
   14marks

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