



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS
UNIVERSITY EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE
INFORMATION TECHNOLOGY
1ST YEAR 1ST SEMESTER 2016/2017 ACADEMIC YEAR
MAIN CAMPUS

COURSE CODE : IIT 5111
COURSE TITLE : C O M P U T E R O P E R A T I N G S Y S T E M S &
V I R T U A L I Z A T I O N S
EXAM VENUE : STREAM:
DATE : DEC 2016 EXAM SESSION :
TIME : 3 HOURS

INSTRUCTIONS:

- 1. Answer Question 1 (Compulsory) and ANY other two 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 [20MKS]

- a. Virtual Machine (VM) is the Implementation of a machine that executes programs as if it were a real machine. Explain the categories of Virtual Machine [4mks]
- b. Virtual Appliance is a virtual machine prepackaged with the necessary components to serve its intended purpose. The Aim is to eliminate the installation, configuration and maintenance costs associated with complex stacks of software. Using suitable diagram illustrate the LAMP appliances [6mks]
- c. Explain the methods for Active Directory and domain controller backup and Recovery [2mks]
- d. LDAP is a Lightweight Directory Access Protocol. Explain the Authentication of LDAP 4mks]
- e. The German Green Book has basic functions suitable for range of policies for trusting operating system security. Explain these functions [4mks]

QUESTION TWO [20MKS]

- a. State and explain the levels of virtualization [10mks]
- b. You have been appointed as team leader that is oversee the virtualization process at ZAZY Company. The managing Director of ZAZY has call to his office for a brief concerning the project. What will you include on your briefs as a reason for virtualization to the Managing Director? [10mks]

QUESTION THREE [20MKS]

- a. Explain the Kernel development for linux operating system [10mks]
- b. According to Saltzer and Schroeder, explain the principles of operating system security [10mks]

QUESTION FOUR [20MKS]

- a. The OpenSSL Project is a collaborative effort to develop a robust, commercial-grade, fully featured, and Open Source toolkit implementing the SSL_v2/v3 and TLS_v1 protocols as well as a full-strength general purpose cryptography library. What are the features that support this argument [10mks]
- b. Explain the functionality of command-line on SSL [10mks]

QUESTION FIVE [20MKS]

The BS7799 defines process and framework of controls for Operating System Enterprise Security Policy. Explain the Management framework established this policy [20mks]