JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

DEPARTMENT OF COMPUTER SCIENCE & SOFTWARE ENGINEERING

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN SECURITY AND FORENSICS

3RD YEAR 2ND SEMESTER 2015/2016 ACADEMIC YEAR

MAIN CAMPUS

COURSE CODE: IIT 3321

COURSE TITLE: ENTERPRISE SYSTEM MANAGEMENT AND SECURITY

EXAM VENUE: **STREAM: COMPUTER SECURITY & FORENSICS**

DATE: **EXAM SESSION:**

TIME:

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 1 [30 marks]
  a) Define the following terms
       i)   ERP System   **(2 mark)**
       ii) System integration   **(2 mark)**
       iii) Active Directory   **(2 mark)**
       iv) Organizational Units   **(2 mark)**
       v)   Group Policy   **(2 mark)**
  b) You have been invited to chair the procurement committee responsible for
     acquiring an ERP for a company that recently employed you as an IT Secuirty
     Manager. Your role is to help the committee to select a vendor for the new
     ERP system. Discuss seven things you think will assist the committee with
     vendor evaluation.   **(7 marks)**

  c) Windows Server 2012 includes predefined combinations of services called
     roles that implement common server functions. List at least five of these roles.
     Reminder: These are the roles you added during your lab.   **(5 marks)**
  d) DHCP consists of three components: DHCP server application, DHCP client,
     and DHCP communications protocol. Define the function of each. . **(3 marks)**
  e) System integration allows organizations to share data with all of its
     stakeholders based on need and authorization. It provides seamless
     connectivity between heterogeneous systems. Briefly discuss the key benefits
     and limitations of systems integration.   **(8 marks)**

Question 2 [20 marks]
  a) You have landed your first interview for a job for the position of IT Security
     Management Trainee with a start up company based in Nairobi. They are
     interested in employing a professional with an IT Secuirty background. This
     position however, requires that applicants demonstrate knowledge of an ERP
     system. To test your knowledge on ERP system, using a diagram discuss the
     architecture of an ERP of JOOUST   **(8 marks)**
  b) When installing Windows server 2012 one of the options available is using the
     server core. The server core is a stripped-down version of the operating
     system which takes you to a Graphical User Interface (GUI) and allows you to
     type commands at the command prompt. Nb. This option was not used in the
     lab activities. Give any two advantages of using server core installation.   **(4 marks)**

  c) Using a diagram discuss the concept of functional silos in organizations with
     reference to vertical and horizontal silos. Why are silos inefficient, inaccurate
     and expensive?   **(8 marks)**

Question 3 [20 marks]
  a) Discuss IT security with reference to the five pillars of security?   **(5 marks)**

  b) Identify the components of an ERP System.   **(5 marks)**

c) An ERP System focuses on integrating the internal functional silos of the organization into an enterprise application. Discuss five benefits and five limitations of an ERP system. **(10 marks)**

Question 4 [20 marks]

a) One of the most common tasks for administrators is the creation of Active Directory user objects. Windows Server 2012 includes several tools you can use to create objects. In addition, group policy allows you to control and deploy operating system settings to computers all over your network. During the lab you added computers to the AD and set up group policies for the client computer as well as users. Describe how you added a windows 7 client machine to windows server 2012. How did you configure security policy for the client machines and users? **(7 marks)**

b) A graduate student from the school of business in JOOUSt is preparing for an interview and is looking for assistance from you in explaining what an enterprise systems is. In order to explain this concept you must understand the architecture of an enterprise system. Using a diagram, discuss an Enterprise Systems Architecture. **(7 marks)**

c) Compare and contrast centralized, decentralized, and distributed IT architectures. **(6 marks)**

Question 5 [20 marks]

a) An ERP system's security is only as good as long as company employees are aware of the importance of maintaining a secure environment. Companies implementing ERP face several ethical challenges with such issues as data privacy, accuracy, property rights, and access rights of users to the system. Discuss **(10 marks)**

b) Security controls in cloud computing are similar to the security controls in any IT environment. However, because of the operational models and technologies used to enable cloud service, cloud computing may present risks that are specific to the cloud environment. The essential concept in this regard is that the enterprise loses a substantial amount of control over resources, services, and applications but must maintain accountability for security and privacy policies. The Cloud Security Alliance has identified the top cloud specific security threats, together with suggested countermeasures: Discuss the top five cloud security threats and their countermeasures. **(10 marks)**