



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2019/2020

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF ARTS
(SECURITY MANAGEMENT AND POLICE STUDIES)

KPS 408: INFORMATION SECURITY SYSTEMS MANAGEMENT

DATE: Friday, 6th December 2019

TIME: 5.30 p.m. - 7.30 p.m.

INSTRUCTIONS:

Answer Question ONE and any other TWO questions

QUESTION ONE

- a) Explain the governing principle behind information security management system. (2 Marks)
- b) With the aid of a suitable diagram explain the term defense in depth as applied in information system security. (6 Marks)
- c) Explain four reasons that do not support the use of risk analysis information in preparation of creating a security plan. (8 Marks)
- d) List any six measures that are specially designed to minimize the risk of unauthorized data access and fraud. (6 Marks)
- e) Explain the four principles of security as stated by the national computing centre. (8 Marks)

QUESTION TWO (20 MARKS)

Othaya tea factory concerned with the processing of tea leaves from the tea farmers. It has decided to automate its operations so as to remain competitive in the tea industry. The company has decided to develop a number of information systems. Before developing the information systems they have decided to seek advice from an information security management systems consultant who happens to be you. You have suggested to them that they should develop an information security management system.

Required:

In order to have an effective information security management system, critical factors that are necessary for its success must be observed. Discuss any five of these critical success factors.

QUESTION THREE (20 MARKS)

Privacy of information is defined as the right of every individual to know what kind of personal information is stored, has to be provided by any archival and records management solution. Most countries have come up with what are referred to as the "Data Protection Principles" which comes up with a guideline on how personal data should be handled.

- a) Personal data shall be obtained and processed fairly and lawfully and, in particular, shall not be processed unless the data subject has given consent to the processing. Discuss the four important reasons of this principle. (12 Marks)
- b) Personal data shall not be transferred to a country or territory outside the originating country unless that country or territory ensures an adequate level of protection for the rights and freedoms of data subjects in relation to the processing of personal data. Discuss any two categories of data that the principle applies. (8 Marks)

QUESTION FOUR (20 MARKS)

You happen to sit in the management board of your organization and you are in-charge of information systems' security. From your long experience in security of information system you have identified that unauthorized access and fraud are the threats that are rapidly expanding. You have decided to address the issue. Discuss any five measures that you shall design to minimize the risk of unauthorized data access and fraud. (20 Marks)

QUESTION FIVE (20 MARKS)

Mwangi is a security expert and a member of the board of an organization. Drawing from his long experience in security of information system he has noted that Information System is increasingly taking a strategic role in the operations of the organization, and it is even more essential that steps are taken to ensure that the systems operate reliably and that the organization will not be harmed "when" Disaster strikes. He has decided to address the issue by developing a contingency plan.

TASK: Discuss five strategies for recovery that he will consider in developing the contingency plan. (20 Marks)