



MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

THIRD YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)

SIT 302: INFORMATION SYSTEMS SECURITY

DATE: 23/3/2021

TIME: 2:00 – 4:00 PM

INSTRUCTIONS

Answer question one and any other two questions

QUESTION ONE (COMPULSORY)(30 MARKS)

- a) Explain the three methods of maintaining system access. (6 marks)
- b) Discuss TWO risk mitigation methods. (4 marks)
- c) Distinguish between discretionary control and mandatory control. (4 marks)
- d) Discuss ways in which one can achieve network Access control in an information system. (6 marks)
- e) Distinguish between exposure and vulnerability. (4 marks)
- f) Explain THREE different types of sites considered in a system recovery strategy. (6 marks)

QUESTION TWO (20 MARKS)

- a) Explain THREE Reasons why Network security is important. (6 marks)
- b) When providing physical security to an Information System some factors need to be considered. Discuss these factors. (8 marks)
- d) Define the following terms as used in Information security systems. (6 marks)
 - i) Policy
 - ii) Standard
 - iii) Procedures

QUESTION THREE (20 MARKS)

- a) Information security policy is the cornerstone of security policy. Discuss FOUR organizational wide Tier 1 policies. (8 marks)
- b) Discuss THREE services of Information Security. (6 marks)
- c) By implementing logical security in information systems one does not achieve 100% security. Suggest a better way of achieving integrated security. (6 marks)

QUESTION FOUR (20 MARKS)

- a) A successful organization should have multiple layers of security. Discuss (12 marks)
- b) Discuss why information needs to be protected. (2 marks)
- c) Explain THREE salient features of information according to Information security. (6 marks)

QUESTION FIVE (20 MARKS)

- a) Explain briefly FOUR steps of Business Impact Analysis (BIA). (8 marks)
- b) Explain the steps you would take when carrying out a risk analysis. (12 marks)