



MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FOURTH YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE (COMPUTER SCIENCE)

SCO 406: COMPUTER SECURITY

DATE: 23/3/2021

TIME: 2:00 – 4:00 AM

INSTRUCTION: Answer Question ONE and any other TWO Question

QUESTION ONE (30 MARKS)

- a) Discuss TWO challenges preventing 100% security implementation. (4 marks)
- b) Explain THREE aspect of computer security strategy. (6 marks)
- c) Explain two challenges with symmetric encryption. (4 marks)
- d) Discuss the FOUR phases a virus undergoes before it is detected in a computer. (8 marks)
- e) As an expert in matters system security, explain to the management the reason they should consider system security in when acquiring a new system. (8 marks)

QUESTION TWO (20 MARKS)

- a) Discuss FOUR ways to defend the system from DDOS attack. (8 marks)
- b) Explain THREE attack surfaces in computer systems. (6 marks)
- c) Discuss THREE security issues with user authentication. (6 marks)

QUESTION THREE (20 MARKS)

- a) Define the term ransomware. (2 marks)
- b) Explain FOUR ways of authentication used in computers. (8 marks)
- c) Explain FIVE security design principles required in computer security. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Explain SIX steps for system penetration exercise. (12 marks)
- b) Discuss the FOUR types of firewalls used in computer security. (8 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss FIVE Cloud Security as a Service categories used to secure cloud. (10 marks)
- b) SQLInjection database attack can be accomplished through various avenues. Discuss FIVE avenues of SQLInjection attack. (10 marks)