



MACHAKOS UNIVERSITY

University Examinations for 2016/2017

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FOURTH YEAR SECOND SEMESTER EXAMINATION FOR DEGREE IN
BACHELOR OF SCIENCE IN COMPUTER SCIENCE

SCO 401: NETWORK MANAGEMENT

DATE: 29/5/2017

TIME: 2:00 – 4:00 PM

INSTRUCTIONS

Answer Question ONE and Any Other Two Questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Explain the following terms as used in network management
 - i. Firewall
 - ii. Bastion host
 - iii. Dual homed host
 - iv. Perimeter network
 - v. Proxy (10 marks)
- b) Explain **any** three basic categories of attacks faced in network management (6 marks)
- c) Briefly describe **any** three types of attackers who are out there on the internet (6 marks)
- d) With the aid of a diagram mention and explain the computer security concepts and their inter relationships. (8 marks)

QUESTION TWO (20 MARKS)

- a) Explain the following terms as used in risk management
 - i. Risk
 - ii. Risk management
 - iii. Risk assessment
 - iv. Risk treatment (8 marks)
- b) With the aid of a diagram explain the risk management approach to information security management (12 marks)

QUESTION THREE (20 MARKS)

- a) Name and explain **the three** major services provided by information security (6 marks)
- b) Explain the operational model of computer security giving examples (6 marks)
- c) Explain **any** four Information security strategies of securing an organization computer site/network. (8 marks)

QUESTION FOUR (20 MARKS)

- a) With the aid of a diagram explain how a proxy service is implemented using a dual homed host. (6 marks)
- b) Explain **any** four advantages to using proxy services (8 marks)
- c) With the aid of a diagram explain how the concepts of network address translation can be used to facilitate network management (6 marks)

QUESTION FIVE (20 MARKS)

- a) Explain **any** two solutions that an internet firewall provides (4 marks)
- b) Explain **any** three threats that are outside the control of a firewall. (6 marks)
- c) With the aid of a diagram explain the concept of enterprise architecture and apply its use to network management (10 marks)