



MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

SECOND YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (COMPUTER SCIENCE)

SCO401: NETWORK MANAGEMENT

DATE:

TIME:

INSTRUCTION

Answer Question ONE and other TWO Questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Define network management (2 marks)
- b) Assume you are employed as a network manager in a large organization, discuss three key functions and expected output, that you will be expected to carry out on a daily basis. (9 marks)
- c) Discuss two models used in network management (8 marks)
- d) Discuss two management protocols used by major network service providers globally (4 marks)
- e) List five areas where ISO network management is applied. (5 marks)
- f) Highlight the possible sources of network management systems. (2 marks)

QUESTION TWO (20 MARKS)

- a) While managing their networks, international organizations have indicators which they use to ascertain efficiency and network quality. Discuss six such indicators (12 marks)
- b) Analyze four elements of response time typically found in most monitoring applications (8 marks)

QUESTION THREE (20 MARKS)

- a) Discuss three of components managed in network performance. (6 marks)
- b) Imagine a scenario where an international ISP has deployed its services to its customers. To ascertain availability of their service, there are critical questions the network managers should constantly keep asking themselves. Discuss four such questions. (8 marks)
- c) While reporting events, the manager and the agent deploy various mechanisms to achieve this. Compare and contrast the two methods used in event reporting. (6 marks)

QUESTION FOUR (20 MARKS)

- a) Highlight two functions in configuration management. (2 marks)
- b) List six fault monitoring functions in a network. (6 marks)
- c) Accounting is a critical function in data communication networks. In monitoring and management of accounts, some basic data is required. Highlight six items of accounting data which may be required in such a scenario. (6 marks)
- d) Compare three physical and logical managed resources in a network (6 marks)

QUESTION FIVE (20 MARKS)

- a) List four devices in network where configuration information can be stored in a network. (4 marks)
- b) Simple network management protocol (SNMP) is critical for setting the rules for routers, servers, printers. Discuss four key elements in this protocol (8 marks)
- c) Network management is about planning and designing an efficient community of computers so that real users will be able to get their jobs done. Analyse four specific aspects of this function which the manager must bear in mind. (8 marks)