



(Knowledge for Development)

**KIBABII UNIVERSITY
(KIBU)**

**UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR**

**END OF SEMESTER EXAMINATIONS
YEAR 2 SEMESTER 2**

**FOR THE DEGREE OF
MASTER OF SCIENCE (INFORMATION TECHNOLOGY)**

COURSE CODE : MIT 825

COURSE TITLE : ADVANCED NETWORK MANAGEMENT

DATE: 19/10/2018

TIME: 9.00 AM – 12.00 NOON

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS.

ALL QUESTIONS CARRY 20 MARKS EACH

SECTION A (Compulsory – 20 Marks)

QUESTION ONE

- a) Explain three functions performed by an Internet router (6 Marks)
- b) (i) Explain why a network mask is useful in network administration (2 Marks)
(ii) Explain how IP addresses are allocated and whether a user can assign one of his/her own. (2 Marks)
- c) Explain two major reasons to adopt IPv6, hence move away from IPv4 (4 Marks)
- d) Explain IP multicasting (6 Marks)

SECTION B (Attempt any two questions – 40 Marks)

QUESTION TWO

- a) In a Client/Server architecture, highlight :
 - (i) Four characteristics of a Client (4 Marks)
 - (ii) Four characteristics of a Server (4 Marks)
- b) Highlight two main features of a Personal Area Network (PAN) (2 Marks)
- c) Describe Network Control in terms of Configuration Management and Configuration Information (10 Marks)

QUESTION THREE

- a) Discuss the following concepts in relation to telecommunication operations management (TOM)
- i) Quality of Service (QoS) (5 Marks)
 - ii) Service Level Agreements (SLAs) (5 Marks)
- b) The global nature of today's emerging telecommunication services is not only multinational, but is also becoming multi-corporation as companies extend their reach to serve larger geographical areas or to increase the range of services they can offer to their customers.

Discuss good customer care processes in a telcom environment (10 Marks)

QUESTION FOUR

- a) Outline four reasons for Network Management (4 Marks)
 - b) Explain four fault monitoring functions when managing a network (4 Marks)
 - c) (i) Explain two basic Models of Network Management (6 Marks)
- (ii) Discuss the concept of Network Management in Telecommunication systems. (6 Marks)

QUESTION FIVE

- a) The OSI reference model defines five functional areas of management: configuration, fault, performance, accounting, and security
- Discuss each of these areas. (10 Marks)
- b) Performance Management Reasons for in Networking (4 Marks)
 - c) Explain three Performance-Monitoring Functions (6 Marks)