THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of Jkuat)

Faculty of Engineering and Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY
YR 2 SEM II

HIGHER DIPLOMA IN COMPUTER STUDIES – 2K HDIP CS – 2K 9A

EIT 3207: NETWORK DESIGN & IMPLEMENTATION

END OF SEMESTER EXAMINATIONS

SERIES: AUGUST/SEPTEMBER 2011

TIME: 2 HOURS

Instructions to Candidates:
You should have the following for this examination
- *Answer booklet*

Answer question **ONE (COMPULSORY)** in section **A** and any other **TWO** questions from section **B**

This paper consists of **THREE** printed pages

SECTION A (30 marks)

Question 1 (Compulsory)

a) Explain **FOUR** reasons that can make a network not to work   (4 marks)

b) Outline **FOUR** goals of medium access   (4 marks)

c) Outline **FOUR** key consideration in selecting a transmission medium

       (4 marks)

d) State **SIX** advantages of Coaxial cable   (3 marks)

e) Outline **FOUR** types of documents that are necessary in network design and implementation

       (4 marks)

f) Explain **FOUR** benefits of wireless network   (4 marks)

g) State any **THREE** security risks in wireless networks   (3 marks)

h) Name **FOUR** enterprise requirement that may affect the choice of the network design

       (4 marks)

SECTION B (40 marks)

Question 2 (20 marks)

a) Explain the **FIVE** steps of specifying a network IP address and subnet-mask

       (10 marks)

b) Describe **FIVE** network troubleshooting tools   (10 marks)

Question 3 (20 marks)

a) Describe any **THREE** medium access methods   (9 marks)

b) Describe any **THREE** data gathering process needs that are considered in any new planned services, applications, and features required for a new or upgraded network   (6 marks)

c) (i) State any **TWO** advantages of each of the access methods in Q3 (a)
   (ii) State any **THREE** disadvantages of each of the access methods in Q3 (a)   (5 marks)

Question 4 (20 marks)

a) Describe any **FIVE** elements of network design and implementation process

       (10 marks)

b) (i) Define the term "topology"   (1 marks)

(ii) Describe the factors that would lead to the **THREE** main topologies for network Implementation (9 marks)

Question 5 (20 marks)

a) Describe any **FIVE** user needs that are considered during network design and implementation (10 marks)

b) Describe any **FIVE** network design goals (10 marks)