



TECHNICAL UNIVERSITY OF MOMBASA
FACULTY OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF ELECTRICAL & ELECTRONIC ENGINEERING

**UNIVERSITY EXAMINATION FOR:
HIGHER DIPLOMA IN ELECTRICAL AND ELECTRONIC
ENGINEERING**

EEE 3202: ENGINEERING MANAGEMENT AND PROFESSIONAL

PRACTICE I

**END OF SEMESTER EXAMINATION
SERIES: MAY 2016
TIME: 2 HOURS**

DATE:

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of FIVE questions. Attempt any **THREE Questions**

Do not write on the question paper.

QUESTION ONE

a) (1) Describe the following terminologies as used in Network Analysis for project programme planning for implementation.

(i) WBS

(ii) Dummy Activity

(iii) Float

(iv) Event

(8marks)

(b) An Electrical project sub-contractor undertook a project with activities as listed in table 1 below

ACTIVITY	DURATION (MONTHS)	NODE NUMBERS
A	1	
B	2	1-2
C	2	1-3
D	3	1-4
E	0	2-5
F	3	3-6
G	2	3-7
H	1	4-7
I	2	5-6
J	4	5-8
K	2	6-9
L	3	6-10
M	2	8-9
N	2	9-10
O	1	10-11

Table 1

By using Network Analysis:-

(i) Show the critical path on the network

(ii) State the duration of the whole project

(iii) Determine the float for activities E, H & L.

(12marks)

QUESTION TWO

(a)(i) State any four advantages of preventive maintenance

(3marks)

(ii) Discuss the maintenance cycle for a large manufacturing organization with an aid of a diagram **(3marks)**

(b) Explain the following terms as applied in project planning matrix:-

(I) project purpose

(ii) Horizontal logic

(iii) Objectively verifiable indicators (OVI) **(6marks)**

(c) State four functions of health and safety department in a manufacturing firm **(4marks)**

(d) Explain any two benefits that may be realized by a firm practicing method study **(4marks)**

QUESTION THREE

(a) Explain any three objectives of project network analysis in project implementation planning **(6marks)**

(b) Explain how the following plant layout structures will enhance high production in manufacturing firms.

(i) machine model

(ii) Flow process chart **(3marks)**

(c) In general management process higher productivity explain the following terms commonly used in work situation.

(i) Motivation

(ii) Staffing

(iii) Forecasting **(6marks)**

(d) Explain the benefit enjoyed by a production company practicing method study. **(3marks)**

(e) In products design and production, define a proto-type **(2marks)**

QUESTION FOUR

(a)(i) State any two sources of PRIME COSTS in project estimation

(i) Distinguish between the following concerning engineering projects.

-site manager

-clerk of works

-sub-contractor

(6marks)

(b)(i) State any two advantages of breakdown maintenance.

(ii) Draw the maintenance provision graph and explain the meaning of optimum level in maintenance.

(6marks)

(c) Define the term 'stock control'

(2marks)

(d) Explain four circumstances under which:-

(i) A valid contract may be rendered void

(ii) An offer may be terminated

(6marks)

QUESTION FIVE

(a) Define contract

(3marks)

(b)(i) Explain the term statistical quantity control (SQC)

(ii) State any three advantages of (b) (i) above.

(7marks)

(c) Explain the following methods of production stating one example of each case

(i) Flow

(ii) BATCH

(iii) Job

(6marks)

(d) State any four advantages of delegation in management

(4marks)