MURANG'A UNIVERSITY COLLEGE

(A constituent college of Jomo Kenyatta University of Agriculture and Technology)

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

DIPLOMAL IN PRODUCTION ENGINEERING

INDUSTRIAL ORGNIZATION AND MANAGEMENT III

YEAR III END OF SEMESTER I EXAMINATION

COURSE CODE: SEM 1305

MRUC/P/14DM

DATE: DEC 2015

INSTRUCTIONS:

QUESTION ONE IS COMPULSARY
ATTEMPT ANY OTHER TWO QUESTIONS

QUESTION ONE

a) Define the following terms as used in network analysis.

i) An activity

ii) A dummy activity

iii) Critical path

iv) Network

v) An event (5 marks)

b) State **FIVE** applications of network analysis (5 marks)

c) A small project is composed of eight activities whose time duration in weeks is as shown below;

Activity	Immediate Predecessor	Activity Time Weeks
A	–	6
B	–	10
C	–	14
D	C	6
E	A,B	14
F	E,D	6
G	D	4
H	F,G	4

i) Draw the project network

ii) Determine project duration and show the critical path

iii) Determine the earliest start time (ES) and the latest finish time (LF) (17 marks)

iv) List the **THREE** time estimates used in PERT (3 marks)

QUESTION 2

a) A Computer Based Company supplies his customers with 3500 monitors per year. Shortages are not permitted. Inventory carrying cost is $1.2 monitors per annum. The set up cost per run is $80. Find;

i) Economic order quantity

ii) Optimum numbering orders per annum

iii) Average annual inventory cost

iv) Optimum period of supply per optimum order. (10 marks)

b) List **FIVE** types of inventories (5 marks)

c) Outline **FIVE** reasons for keeping inventories. (5 marks)

QUESTION THREE

a) Explain **FIVE** objectives of production planning and control (5 marks)

b) List **FIVE** documents used in production planning and control (5 marks)

c) Differentiate between physical and cost standard cost and in each case give examples (5 marks)

d) Outline **FIVE** important elements in production planning and control. (5 marks)

QUESTION FOUR

a) With the aid of a neat labelled diagram, illustrate the product lifecycle describing all the stages. (10 marks)

b) List **FOUR** product policy that can be adopted in an organization (5 marks)

c) Explain any **FIVE** dimensions of quality control (5 marks)