TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL & AUTOMOTIVE ENGINEERING

UNIVERSITY EXAMINATION FOR:

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

EMG 2516 : INDUSTRIAL MANAGEMENT

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date May 2016

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 question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

(a) Briefly explain any **three** critical skills a required in management. **(6marks)**

(b) Table 1. Shows the cost in $ of locating four machines; 1, 2, 3, and 4 in locations A, B, C, D, and E.

Table 1:

	LOCATION				
MACHINE	A	B	C	D	E
1	10	7	6	11	9
2	6	4	7	9	8
3	8	6	5	6	7
4	9	5	3	12	10

Determine the optimal location for the machines below using the assignment method. **(10 marks)**

;

(c) Explain the relationship between the following terms;

(i) Productivity and Production

(ii) Productivity and Profitability **(4marks)**

(d) Explain briefly how benchmarking can help companies with continuous improvement. **(5marks)**

(e) Show the Structure of ISO 9000's standards on a flow chart. **(5marks)**

Question TWO

(a) Briefly describe the evolution of Total Quality Management**.** **(8 marks)**

(b) Outline at least **four** key elements of Ishikawa's philosophy on quality. **(4marks)**

(c) Quality affects all aspects of the organization and has dramatic cost implications. Explain the various types of costs of quality. **(8 marks)**

Question THREE

(a) Explain **any three** factors to be considered when selecting a facility layout method. **(6 marks)**

(b) State any **two** specific objectives of undertaking a facility layout study. **(2 marks)**

(c) The desired daily output for an assembly line is 360 units. This assembly line will operate 450 minutes per day. Table 2contains information on this product's task times and precedence relationships.

Table 2.

Task	Task time (s)	Immediate predecessor
A	30	_
B	35	A
C	30	A

D	35	B
E	15	C
F	65	C
G	40	E,F
H	25	D,G

(i) Draw the precedence diagram,

(ii) Determine the work station cycle time,

(iii) Balance this line using the largest number of following tasks and the longest task time as a second criterion.

(iv) Determine the efficiency. **(12 marks)**

Question FOUR

(a) State the various forms of Industrial ownerships in Kenya and give two advantages and two disadvantages of each. **(8marks)**

(b) Briefly explain any **four** functions of management. **(8marks)**

(c) State **four** benefits of work study as a technique of scientific management **(4marks)**

Question FIVE

(a) Discuss the following methods of replenishment procedures in inventory control.

(i) Fixed quantity method

(ii) Fixed interval method **(10marks)**

(b) Explain the functions of inventory control with respect to the following:

(i) Raw materials

(ii) Work in progress **(6marks)**

(c) State any **four** techniques of increasing productivity. **(4 marks)**