



TECHNICAL UNIVERSITY OF MOMBASA

DEPARTMENT OF MECHANICAL AND AUTOMOTIVE ENGINEERING

FIFTH YEAR SECOND SEMESTER UNIVERSITY EXAMINATION FOR THE DEGREE
IN BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

EMG 2516 INDUSTRIAL MANAGEMENT

END OF SEMESTER EXAMINATIONS

SERIES: DECEMBER, 2013

TIME: 2 HOURS

INSTRUCTION TO CANDIDATES

You should have the following for this examination:-

- *Answer Booklet.*

This paper consists of **FIVE** questions.

Answer **ANY THREE** Questions.

This paper consists of **THREE** printed pages.

Question ONE

Provide two weaknesses and **TWO** strengths each for the following decision making methods:

- (a) Decision making by consensus
- (b) Decision making by majority vote
- (c) Decision making by minority
- (d) Decision making by authority without group discussion
- (e) Decision making by expert

(20 marks)

Question TWO

(a) Motivation is a key function of management. Outline how you would motivate staff of a given company if you are the new appointed General Manager. **(10 marks)**

(b) Describe **FIVE** operative functions of personnel management. **(10 marks)**

Question THREE

(a) Outline the contributions to the classical scientific management theory by:

(i) Henry Gantt

(ii) Frank and Lillian

(10 marks)

(b) Differentiate between Socio-Technical theory of management and the Human Relations Theory. **(10 marks)**

Question FOUR

(a) (i) A company is pursuing ISO-9001 Certification. Identify **SIX** processes that must be defined and documented by the organization.

(ii) Draw the documentation pyramid of a quality management system.

(9 marks)

(b) An academic institution is to be ISO Certified. This requires accreditation of its laboratories. Identify **NINE** documents that the accreditation team will need to verify.

(8

marks)

(c) State **THREE** benefits of accreditation. **(3 marks)**

Question FIVE

(a) Outline **SIX** general objectives of detailed design of factory layouts. **(6 marks)**

(b) A cake factory has been contracted to supply a supermarket chain with a specialty designed cake. The required volumes warrant a special production line to perform the finishing decorating and packing of the cake. The elements are as shown.

- A De-tin and trim – 0.12 minutes
- B Reshape with cuts – 0.30 minutes
- C Clad in almond fondant – 0.36 minutes
- D Clad in white fondant – 0.25 minutes
- E Decorate, red icing – 0.17 minutes
- F Decorate, green icing – 0.05 minutes
- G Decorate, blue icing – 0.10 minutes
- H Affix transfers – 0.08 minutes
- I Transfer to base and pack – 0.25 minute

- (i) Draw elements listing and precedence diagram for the specialty cake production.
- (ii) Determine the required number of stages for the production if the initial order for the supermarket is 5,000 and the factory works for 40 hours a week.
- (iii) Allocate the elements to the various stages.

(14 marks)