



# **MURANG'A UNIVERSITY OF TECHNOLOGY**

## **SCHOOL ENGINEERING AND TECHNOLOGY**

DEPARTMENT OF ELECTRICAL AND ELECTRONICS

UNIVERSITY ORDINARY EXAMINATION

2021/2022 ACADEMIC YEAR

**FOURTH YEAR SECOND SEMESTER BACHELOR OF TECHNOLOGY  
EDUCATION IN MECHANICAL ENGINEERING.**

EMT 416– INDUSTRIAL ENGINEERING

DURATION: 2 HOURS

### **INSTRUCTIONS TO CANDIDATES:**

1. Answer Question one and Any other two questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

## **SECTION A**

### **QUESTION ONE: COMPULSORY (30 MARKS).**

- a) Define the following technologies as outlined in inventory control:
  - (i) Demand
  - (ii) Safety stock
  - (iii) Order cycle
  - (iv) Lead time
  - (v) Inventory turnover. (5marks)
- b) List five advantages of master schedule. (5marks)
- c) Describe four types of inventories under inventory control (4marks)
- d) State five benefits of inventory control. (5marks)
- e) Discuss six objectives of production planning and control. (6marks)
- f) Outline five advantages of work study. (5marks)

## **SECTION B: ANSWER ANY TWO QUESTIONS.**

### **QUESTION TWO: (20 MARKS)**

- a) Describe three manufacturing systems in production planning control (6marks)
- b) State four advantages of product layout (line layout) (4marks)
- c) Discuss five principles of plant layout. (10 marks)

### **QUESTION THREE: (20 MARKS)**

- a) Outline six benefits derived from sound maintenance management system. (6 marks)
- b) State and explain five benefits that managers derive from studying theories of management. (10 marks)
- c) List four functions of maintenance department. (4 marks)

### **QUESTION FOUR: (20 MARKS)**

- a) Discuss Hawthorne effect as projected by Elton Mayo and Mary Parker (5 marks)
- b) Describe five techniques used in Condition monitoring under Condition based maintenance(10 marks)
- c) Explain the procedure of carrying out Work-study. (5marks)