MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

THIRD YEAR SECOND SEMESTER EXAMINATION FOR

DIPLOMA IN MECHANICAL ENGINEERING (PRODUCTION OPTION)

MED – PR313: PRODUCTION TECHNOLOGY IV

DATE: 10/5/2019 **TIME:8.30-10.30 AM**

INSTRUCTIONS:

Answer Question One (Compulsory) and Any Other Two Questions

QUESTION ONE (30 MARKS)

a) Define the following terms (12 marks)

i. production

ii. Facilities

iii. Manufacturing support systems

iv. Automation

v. Plant layout

vi. Manufacturing systems

b) Explain the three types of assembly systems (6 marks)

c) Explain the line balancing problem (4 marks)

d) State eight reasons for automation (8 marks)

QUESTION TWO (20 MARKS)

a) State five reasons against automation (5 marks)

b) Explain the three basic types of automated manufacturing systems (15 marks)

QUESTION THREE (20 MARKS)

a) State any five devıces and equıpment requıred in Computer Integrated Manufacturing (5 marks)

b) Define Flexible Manufacturing Systems (FMS) (3 marks)

c) Write in full the following Computer-Aided Technıques (7 marks)

i. CAD

ii. CAE

iii. CAM

iv. CAPP

v. PPC

vi. CAQ

vii. ERP

c) i Define computer ıntegrated manufacturıng (CIM) and explain where it is mostly used (3 marks)

ii Explain two benefıts of CIM? (2 marks)

QUESTION FOUR (20 MARKS)

a) i Define Flexible Manufacturing Systems (FMS) (3 marks)

ii Outline FOUR elements and FIVE features of Flexible Manufacturing Systems (FMS) (5 marks)

b) Explain the FOUR Manufacturing Support Systems (12 marks)

QUESTION FIVE (20 MARKS)

a) Explain any two basic types of Manufacturing Industries (4 marks)

b) With the aid of diagrams explain the four types of plant layout (16 marks)