

THIAGARAJAR POLYTECHNIC COLLEGE, SALEM**Autonomous Final Semester 2020 Examinations**DIPLOMA IN MECHANICAL ENGINEERING &
DIPLOMA IN PRODUCTION ENGINEERINGReg. No. **INDUSTRIAL ENGINEERING AND MANAGEMENT****Year/Sem: III / VI (EVEN-III)****Time : 2hrs****Date & Session: 23.09.2020/FN****Max. Marks : 50****PART-A****(4 x 2 = 8 Marks)****Note: (i) Answer any FOUR questions. (ii) All the questions carry equal marks.**

- 1 What is plant layout?
- 2 What is meant by accident proneness?
- 3 Define productivity.
- 4 Explain the term Employee rating factor.
- 5 Define scheduling.
- 6 Classify sampling plan.
- 7 Define motivation.
- 8 What is meant by minimum stock?

PART-B**(4 x 3 = 12 Marks)****Note: (i) Answer any FOUR questions. (ii) All the questions carry equal marks.**

- 9 What are the principles of good plant layout?
- 10 State the objectives of method study.
- 11 Explain the concept of critical path method.
- 12 List out the styles of leadership.
- 13 Explain the types of training given to employee.
- 14 Write short notes on public deposits.
- 15 State the objectives of good stock control system.
- 16 Mention the advantages of first piece inspection.

PART-C**(3 x 10 = 30 Marks)****Note: i) Answer any THREE questions. ii) All the questions carry equal marks.**

- 17 Explain the various factors to be considered in selection of site of an industry. 10
- 18 State the important provisions of factories act 1948 governing safety and welfare of workers. 10
- 19 Explain the importance of good working conditions. 10
- 20 Explain the various types of inspection. 10
- 21 Explain the principles of management as told by Henry Fayol. 10
- 22 Explain with a block diagram, how the selling price of a product is determined? 10

THIAGARAJAR POLYTECHNIC COLLEGE, SALEM**Autonomous Final Semester 2020 Examinations**DIPLOMA IN MECHANICAL ENGINEERING &
DIPLOMA IN PRODUCTION ENGINEERINGReg. No. **COMPUTER AIDED DESIGN AND MANUFACTURING****Year/Sem: III / VI (EVEN-III)****Time : 2 hrs****Date & Session: 24.09.2020/FN****Max. Marks : 50****PART-A****(4 x 2 = 8 Marks)****Note: (i) Answer any FOUR questions. (ii) All the questions carry equal marks.**

- 1 State any two activities of CAD.
- 2 Define transformation.
- 3 Define CAM.
- 4 Give any two names of ERP software.
- 5 What is the function of the code M06?
- 6 Define rapid tooling.
- 7 Define CIM.
- 8 Expand DFMA.

PART-B**(4 x 3 = 12 Marks)****Note: (i) Answer any FOUR questions. (ii) All the questions carry equal marks.**

- 9 What is the need of Graphic standard?
- 10 Write down any three advantages of wire frame modeling.
- 11 Write a note on part family.
- 12 What is the purpose of JIT?
- 13 Explain tool length compensation.
- 14 State and explain subprogram syntax.
- 15 List any three types of FMS layouts.
- 16 Write the use of an end effector.

PART-C**(3 x 10 = 30 Marks)****Note: i) Answer any THREE questions ii) All the questions carry equal marks.**

- 17 Discuss briefly about solid modeling techniques with neat sketches. 10
- 18 Explain step by step procedure for finite element analysis in detail. 10
- 19 With a neat sketch explain master production schedule. 10
- 20 Draw and explain 3D printing in rapid proto typing. 10
- 21 Briefly explain various types of AGVs. 10
- 22 (i) Write a note on sequential engineering. 5
(ii) Draw the basic structure of house of quality. 5

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Autonomous Final Semester 2020 Examinations

DIPLOMA IN PRODUCTION ENGINEERING

Reg. No.

MECHATRONICS

Year/Sem: III / VI (EVEN-III)

Time : 2 hrs

Date & Session: 25.09.2020/FN

Max. Marks : 50

PART-A

(4 x 2 = 8 Marks)

Note: (i) Answer any FOUR questions. (ii) All the questions carry equal marks.

- 1 Define system.
- 2 List out the types of displacement and position sensors.
- 3 What is gear train?
- 4 What is PCV?
- 5 What is mathematical model?
- 6 What is a buffer?
- 7 Define PLC.
- 8 What is a bathroom scale?

PART-B

(4 x 3 = 12 Marks)

Note: (i) Answer any FOUR questions. (ii) All the questions carry equal marks.

- 9 Explain about force sensor.
- 10 What are the mechanical aspects of motor selection?
- 11 Compare pneumatic and hydraulic systems.
- 12 Sketch the model of car suspension system.
- 13 What is interfacing? Draw its block diagram.
- 14 Explain about internal relay.
- 15 Write design process stages.
- 16 Explain about vibration monitoring.

PART-C

(3 x 10 = 30 Marks)

Note: i) Answer any THREE questions ii) All the questions carry equal marks

- 17 Explain any two microprocessor based controllers. 10
- 18 Explain the following: 10
 - (i) Velocity and motion sensors.
 - (ii) Liquid level sensors.
- 19 Explain the types of Ball and Roller bearings. 10
- 20 Explain the electrical system building block with an example. 10
- 21 Explain the master and jump controls. 10
- 22 Explain the pick-and-place robot with neat sketch. 10