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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2019

ADVANCED PRODUCTION PROCESSES

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. List any four tool holders used in a turret lathe.
2. List the type of machining centers.
3. State the purpose of broaching.
4. State the dressing process in a grinding wheel.
5. List the basic elements of Robots.

(5×2 = 10)

PART — B

(Maximum marks : 30)

II Answer any *five* of the following questions. Each question carries 6 marks.

1. Explain with neat sketch the bar feeding mechanism in a capstan lathe.
2. Explain the reconfigurable machines and systems.
3. Illustrate the following press working operations.
(a) Piercing (b) Notching (c) shaving.
4. State the advantages of Jigs and Fixtures.
5. List the factors affecting the selection of grinding wheel.
6. Explain with neat sketch the working of ECM.
7. State the principles of CAD and CAM.

(5×6 = 30)

PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

UNIT — I

- III (a) Illustrate the working of a capstan lathe. 8
 (b) Describe with neat sketch the working of hydraulic copying system. 7

OR

- IV (a) Describe the difference between a capstan/turret lathe with a center Lathe. 8
 (b) Illustrate a multi spindle automatic lathe. 7

UNIT — II

- V (a) Illustrate a pull broach. 8
 (b) List the method of gear manufacture. 7

OR

- VI (a) Describe with figure a leaf jig. 8
 (b) Describe with neat sketch working of a cross rail jig boring machine. 7

UNIT — III

- VII (a) Describe various types of natural and artificial abrasive used in a Grinding wheel. 8
 (b) With neat sketch describe the working of a Ultrasonic Machining Process. 7

OR

- VIII (a) Describe the term mounting, truing and dressing in a grinding wheel. 8
 (b) Illustrate powder method metal spraying technique used for surface finishing process. 7

UNIT — IV

- IX (a) Describe various components in N C machine with block diagram. 8
 (b) Illustrate various types of robotic joints. 7

OR

- X (a) Describe the advantages and limitations in FMS. 8
 (b) List the factors influence the selection of robots in manufacturing plant. 7
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