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SIXTH SEMESTER DIPLOMA EXAMINATION IN MECHANICAL ENGINEERING — MARCH, 2015

# ADVANCED PRODUCTION PROCESS

[Time: 3 hours

(Maximum marks: 100)

#### PART-A

### (Maximum marks: 10)

Marks

 $(5 \times 2 = 10)$ 

 $(5 \times 6 = 30)$ 

- Answer the following questions in one or two sentences. Each question carries 2 marks.
  - 1. List any four tool holding devices used on turret and capstan lathes.
  - 2. What do you mean by tool layout?
  - 3. How do you classify Broaching process according to the method of operation?
  - 4. List any three methods of gear manufacturing.
  - 5. What do you mean by Honing?

## PART-B

### (Maximum marks: 30)

- II Answer any five of the following. Each question carries 6 marks.
  - 1. List the limitations of Broaching process.
  - 2. Explain the advantages and disadvantages of grinding.
  - 3. List the advantages of CNC machines.
  - 4. Describe computer aided process planning.
  - 5. With the help of a neat sketch explain the tool layout.
  - 6. Describe the characteristics and capabilities of machining centres.
  - 7. List any six application of Robots.

### PART-C

# (Maximum marks: 60)

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

#### UNIT-I

- III (a) Describe and draw gear terminology.
  - (b) Explain the parts of a Turret Lathe with a neat sketch.

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<ul> <li>IV (a) List the areas of uses of automatic machines.</li> <li>(b) Explain the working of single spindle automatic lathe.</li> <li>UNIT—II</li> <li>V (a) Write short notes on thermo setting plastics.</li> <li>(b) Explain Jig Boring Machine with a neat sketch.</li> <li>OR</li> <li>VI (a) State the advantages of Jigs and Fixtures.</li> <li>(b) Briefly explain the any two gear generating process.</li> <li>UNIT—III</li> <li>VII (a) What do you mean by precision grinding.</li> <li>(b) Briefly describe the working of ECM:</li> <li>OR</li> <li>VIII (a) List the different types of bonds used for grinding machines.</li> <li>(b) Briefly explain the working of centre less grinder.</li> <li>UNIT—IV</li> <li>IX (a) What do you mean by Flexible manufacturing.</li> <li>(b) Explain briefly the components of FMS.</li> <li>OR</li> <li>X (a) State the advantages of CAD and CAM.</li> <li>(b) Briefly describe any two configurations of robot with diagram.</li> </ul>	- 1 4 			Marks
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