

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, APRIL – 2021**

ADVANCED PRODUCTION PROCESSES

[Maximum Marks: 75]

[Time: 2.15 Hours]

PART-A

(Answer *any three* questions in one or two sentences. Each question carries 2 marks)

I

1. Define automation.
2. List the methods used for the manufacture of gear.
3. What is non conventional machining?
4. Define robotics.
5. Define Flexible Manufacturing systems. (3×2=6)

PART-B

(Answer *any four* of the following questions. Each question carries 6 marks)

II

1. What is the purposes of machining centers and list the types?
2. Describe the hexapod machines.
3. Explain with the sketches, the principle of gear hobbing.
4. State the advantages of jigs and fixtures.
5. Explain the working principles of a centre less grinder.
6. State the advantages of EDM.
7. Describe the AGVS. (4×6=24)

PART-C

(Answer *any of the three units* from the following. Each full question carries 15 marks)

UNIT-I

- III (a) Describe the parts of turret lathes by drawing sketches. (8)
(b) Describe with sketch, Hydraulic copying system. (7)

OR

- IV (a) Classify the multi spindle automatic lathes. (8)
(b) State the principle of automatic control. (7)

UNIT – II

- V (a) Explain the broaching tool details with neat sketch. (8)
(b) Explain the principle of location. (7)

OR

- VI (a) Describe the press working operations. (8)
(b) Describe: (i) universal jigs (ii) indexing jigs. (7)

UNIT – III

- VII (a) Explain the method of mounting and Dressing of a grinding wheel. (8)
(b) Describe the working of AJM. (7)

OR

- VIII (a) Explain the various types of natural and artificial abrasives. (8)
(b) Define the honing, lapping and super finishing. (7)

UNIT – IV

- IX (a) Explain the robotic arm, robotic hands and grippers. (8)
(b) List the components of FMS. (7)

OR

- X (a) Explain the various components of N.C machines with block diagram. (8)
(b) Explain the principles of CIM. (7)
