

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2023**

ADVANCED PRODUCTION PROCESSES

[Maximum Marks: **100**]

[Time: **3 Hours**]

PART-A

[Maximum Marks: **10**]

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

1. List any four machining centers.
2. Define pitch of a broach tooth.
3. Name any four artificial abrasives.
4. List any four non-conventional methods of machining.
5. Define industrial robot.

(5 x 2 = 10)

PART-B

[Maximum Marks: **30**]

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

1. Describe RMS principle.
2. Explain pantograph copying system with the help of necessary sketch.
3. List the difference between jigs and fixtures.
4. Explain any three gear finishing methods.
5. Explain electric discharge machining with neat sketch.
6. Explain the elements of NC machine tools with block diagram.
7. Explain the Computer Aided Process Planning.

(5 x 6 = 30)

PART-C

[Maximum Marks: **60**]

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

UNIT – I

- III. a. Explain the parts of a capstan lathe with a neat sketch. (10)
- b. Explain the advantages and limitations of automatic machines. (5)

OR

- IV. a. Explain the turret head indexing mechanism with the help of a neat sketch. (8)
- b. Explain electric copying system with neat sketch. (7)

UNIT – II

- V. a. Illustrate a pull broach. (8)
- b. What is an inverted die? (7)

OR

- VI. a. Explain with neat sketch working of progressive die. (8)
- b. Explain the advantages and limitations of broaching process. (7)

UNIT- III

- VII. a. Explain LBM process with neat sketch. (8)
- b. Explain about artificial and Natural abrasives with examples. (7)

OR

- VIII. a. Explain electrochemical machining with neat sketch. (8)
- b. List the advantages and limitations of grinding. (7)

UNIT - IV

- IX. a. Explain Open loop and Closed loop NC machine feedback systems with neat sketch. (8)
- b. Explain basic elements of FMS. (7)

OR

- X. a. Briefly explain the basic elements of Robots. (8)
- b. Briefly explain the principle and applications of AGV. (7)
