

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2018

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 holding devices used in turret and capstan lathes.
2. State the applications of broaching.
3. List any two non-conventional methods of machining.
4. Explain the term numerical control.
5. Differentiate piercing and blanking.

(5 × 2 = 10)

PART — B

(Maximum marks : 30)

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

1. Compare capstan lathe and turret lathe.
2. Draw and explain the nomenclature of the broach tooth.
3. Discuss about different types of bonds used for holding abrasive grains together.
4. State the advantages of CNC machines over conventional machine tools.
5. Explain the turret head indexing mechanism with the help of a neat sketch.
6. Describe the principle of gear hobbing.
7. Explain the principle of ultrasonic machining with a neat sketch.

(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) Explain the parts of a turret lathe with a neat sketch. 8
 (b) Describe pantograph copying system with the help of necessary sketch. 7

OR

- IV (a) Explain the bar feeding mechanism of a turret lathe. 10
 (b) Mention the characteristics of a machining centre. 5

UNIT — II

- V (a) Explain the working of combination die with a suitable figure. 10
 (b) List the difference between jigs and fixtures. 5

OR

- VI (a) Explain continuous broaching with the help of neat sketch. 8
 (b) List various types of drill jigs. Explain channel and template jig with figure. 7

UNIT — III

- VII (a) Describe the working of centre less grinder with suitable figure. 10
 (b) Explain about natural and artificial abrasives with examples. 5

OR

- VIII (a) Explain electric discharge machining with the help of neat sketch. 8
 (b) Discuss about lapping, honing and super finishing operations. 7

UNIT — IV

- IX (a) Describe various types of joints used in robots with suitable sketches. 10
 (b) Discuss about Computer Aided Process Planning [CAPP]. 5

OR

- X (a) Explain the various components of a NC machine with block diagram. 10
 (b) List any five applications of robots. 5