

SIXTH SEMESTER DIPLOMA EXAMINATION IN MECHANICAL  
ENGINEERING—OCTOBER, 2013

ADVANCED PRODUCTION PROCESS

[Time : 3 hours

(Maximum marks : 100)

Marks

PART—A

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

1. List any four tool holding devices used in turret/capstan lathe.
2. Define spring back in bending.
3. Differentiate piercing and blanking.
4. Name two artificial abrasives.
5. What is numerical control ?

(5×2=10)

PART—B

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

1. Compare capstan lathe and turret lathe.
2. List the different types of gear generation process.
3. Explain the principle of location of a rectangular block in a jig.
4. Summarise the steps involved in the manufacture of a grinding wheel.
5. Discuss any two methods of preparing metal powder.
6. Discuss about positioning machines and contouring machines.
7. State the advantages of NC and CNC machines over conventional machine tools.

(5×6=30)

PART—C

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

UNIT – I

- III (a) Show the layout of swiss type automatic screw machine and explain the working. 8
- (b) Explain the bar feeding mechanism in a turret/capstan lathe. 7

OR

- IV (a) Illustrate the construction and working of a capstan lathe. 8
- (b) Identify the size and specification of a turret lathe. 7

## UNIT - II

- V (a) Explain continuous broaching with the help of neat sketch. 8  
 (b) Explain the construction and working of power press. 7

OR

- VI (a) Explain the working of a jig boring machine. 8  
 (b) What are the essential characteristics in the proper design of jigs and fixtures ? 7

## UNIT - III

- VII (a) Explain the function and working of a cylindrical centre type grinder with the help of a neat sketch. 8  
 (b) Explain electric discharge machining with the help of neat sketch. 7

OR

- VIII (a) Discuss about lapping, honing and super finishing. 8  
 (b) Discuss the process involved in preparing powder compact components. 7

## UNIT - IV

- IX (a) Differentiate closed loop system and open loop system of control. 8  
 (b) Enumerate the advantages and disadvantages of flexible manufacturing system. 7

OR

- X (a) Interpret the role of AGVs in increasing flexibility in flexible manufacturing system. 8  
 (b) Enumerate the factors influencing the selection of robots. 7
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