

TED (15) 5094
(Revision -2015)

Reg. No.....
Signature

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2019**

INJECTION MOULD DESIGN

[Maximum Marks: 100]

[Time: 3 Hours]

PART-A

[Maximum Marks: 10]

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

- I. 1. State the main application of cylindrical grinding machine for mould making.
2. What is the function of a guide pillar in a mould?
3. List the main elements of ejector plate assembly?
4. Identify the function of a gate in mould.
5. What do you mean by parting surface of a mould? (5x 2 = 10)

PART-B

[Maximum Marks: 30]

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

- II. 1. Describe the lathe operations turning, facing and boring.
2. Draw a neat sketch of runner and gate system in a two impression mould.
3. State the function of ejector grid? Draw a neat sketch of inline ejector grid.
4. What are the methods generally adopted for mould cooling?
5. Write the principle of pressure casting.
6. What are the factors to be consider while designing the size of the runner?
7. What are the advantages of air ejection techniques? (5x 6 = 30)

PART-C

[Maximum Marks: 60]

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

UNIT -I

- III. (a). With a neat sketch explain the parts of a lathe? (8)
(b). State the difference between planing machine and shaping machine. (7)

OR

- IV. (a). Draw a neat sketch of a horizontal type milling machine and explain functions of
Each parts (8)

- (b). Explain the sequence of operations of making a guid pillar in a mould. (7)

UNIT -II

- V. (a). Illustrate the manufacture of cavity insert by electro-deposition technique. (8)
(b). Explain the methods of fitting inserts into a bolster plate. (7)

OR

- VI. (a). Describe solid bolster and frame type bolster. (8)
(b). List the seven stages involved in bench fitting. (7)

UNIT -III

- VII. (a). Illustrate stripper bar ejection techniques. (8)
(b). What is the function of ejector grid? Describe frame type ejector grid. (7)

OR

- VIII. (a). Illustrate the valve ejection techniques. (8)
(b). Describe ejector plate return system by spring return method. (7)

UNIT -IV

- IX. (a). What is meant by balancing of runner? Draw the balanced runner layouts for three and four similar impressions ? (8)
(b). Describe the cooling system for integer type cavity plate of a mould. (7)

OR

- X. (a). List any five types of gates used in the mould. Write the empirical relationship For gate depth. (8)
(b). Explain the factors affecting the runner layout. (7)