

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER – VIII. EXAMINATION – WINTER 2016

Subject Code: 182301**Date: 22/10/2016****Subject Name: Plastics Mold & Die Design II****Time: 02:30 PM to 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Design a suitable feed system for the product shown in fig[a]. **07**
 (b) Draw a fully injection mould for the product shown in fig[a]. use graph paper for the drawing. **07**

- Q.2** (a) For the product shown in fig.[a], calculate the shot capacity of the machine if a 4 impression mould is desired. **07**
 (b) Fill in the blanks: **07**
1. Machine used for turning is _____
 2. Honing machine is used for _____
 3. To cut complex contours in a mould plate, _____ machine is used.
 4. Drilling machine is used for _____
 5. Difference between shaping and planing machine is _____
 6. The process of making threads in a mould part is called _____
 7. To polish a guide pin, _____ machine is used.

OR

- (b) Discuss Stripper plate Ejection. **07**
- Q.3** (a) Discuss about Rectangular and Round Edge Gate **07**
 (b) Define : Collapsible Core; Mould; Runner, Gate ; Insert ; Bolster; guide pin **07**

OR

- Q.3** (a) Calculate the efficiency of Round; Half Round; Rectangular; Trapezoidal; hexagonal runners. **07**
 (b) Calculate the shot capacity of the injection moulding machine if a product of weight 40 gms is to be moulded in ABS and a 16 impression mould is desired. Assume:
 Bulk factor of PS = 1.9
 Bulk factor of ABS = 1.8
 Specific gravity of PS = 1.04
 Specific gravity of ABS = 1.0

- Q.4** (a) For the product drawing shown in fig[b], pen down the step by step machining techniques. **07**
 (b) Design a rectangular edge gate for a PE box whose dimensions are : length = 130 mm ; width = 80mm ; depth = 30mm; wall thickness = 2 mm. take $n = 0.6$ **07**

OR

Q.4 (a) Differentiate between integer and insert bolster type of moulds. **07**

Q.4 (b) Discuss WIRE EDM Process and its applications **07**

Q.5 (a) [I] Tick the correct one: **07**

1. Material of Guide Pin is (a) OHNS (b) EN-24 (c) EN-8 (d) EN 48B (e) none of these
2. Function of push back pin is [a] To eject the product. [b] to protect the core/cavity while mould opening. [c] to protect the core/cavity while mould closing [d] none of these.
3. Grinding operation removes metal in (a) Millimeters (b) Cms (c) Microns (d) None of these
4. For removal of metal burrs from the holes, the operation done is [a] grinding [b] honing [c] reaming [d] polishing

[II] Discuss Ring Gate.

(b) 1. Applications of tab gate **07**

2. Applications of overlap gate

OR

Q.5 (a) Discuss various types and applications of Pin Ejection. **07**

(b) Discuss requirements of a Gate **07**
