

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-IV (NEW) EXAMINATION – WINTER 2024

Subject Code:3142308

Date:21-11-2024

Subject Name: Fundamentals of Mold Design

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.
4. Simple and non-programmable scientific calculators are allowed.

MARKS

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|------------|-----|---|-----------|
| Q.1 | (a) | List types of Gate used in Mold Design. | 03 |
| | (b) | Discuss the application of any four Gate. | 04 |
| | (c) | Explain about tAB Gate in detail with neat sketch. | 07 |
| | | | |
| Q.2 | (a) | Define: Core, Register Ring ,Cavity | 03 |
| | (b) | Define: Sprue Bush, Runner and Gate, Guide Bush, Guide Pillars | 04 |
| | (c) | Explain about Integer cavity and Integer core plates with neat sketch. | 07 |
| | | OR | |
| | (c) | For a Rectangular product of Polypropylene having length 100mm,width 50mm and height 25mm , wall thickness 2mm through. Calculate the dimensions of rectangular edge gate. | 07 |
| | | | |
| Q.3 | (a) | Explain in brief about Inserts | 03 |
| | (b) | A round cap of size 30 mm x 30 mm , wall thickness 2 mm throughout, is to be molded from material PP Density:0.9 gm/cc. Calculate the weight of the product. Also mention feed system weight. | 04 |
| | (c) | Comparison between Ejector & Retaining Plate. | 07 |
| | | OR | |
| Q.3 | (a) | Define Parting surface of mold. List out various types of Parting surface. | 03 |
| | (b) | Explain about Runner balancing with different examples and neat sketch. | 04 |
| | (c) | Explain about shape and type of Inserts with neat sketch. | 07 |
| | | | |
| Q.4 | (a) | List types of Bolster Plate. List out various types of Ejector system | 03 |
| | (b) | Explain in brief about Locating Ring | 04 |
| | (c) | Sketch any four types of Guide pins used in Mold design. | 07 |
| | | OR | |
| Q.4 | (a) | Explain in brief about Baffle cooling. | 03 |
| | (b) | State importance of cooling in mold design. | 04 |
| | (c) | Explain about Sprue Puller in detail. | 07 |
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| Q.5 | (a) | Choose any product produced in Hand Injection Molding machine. Draw plan & sectional Elevation of the selected product. | 03 |
| | (b) | Draw sectional Elevation of Hand Injection mold for above selected product. | 04 |
| | (c) | Draw plan & Inverted Plan of Hand Injection mold for above selected product. | 07 |
| | | OR | |
| Q.5 | (a) | List types of Runner. | 03 |
| | (b) | List the factors govern the size of Runner | 04 |
| | (c) | Discuss Sleeve Ejection in detail. | 07 |
