

Seat No./Enrollment No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BACHELOR OF ENGINEERING – SEMESTER 5 – EXAMINATION – SUMMER 2026

Subject Code: 3152309

Date: 30/05/2026

Subject Name: Plastic Mold & Die 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.**

- Q.1**
- (a) Define Two-Plate Injection Mould. Explain its constructional details. **03**
 - (b) Compare Two-Plate and Three-Plate Moulds. **04**
 - (c) Explain the working of Stripper Plate Mould with a neat sketch. **07**
- Q.2**
- (a) Describe general principles of Mould Cooling. **03**
 - (b) Explain cooling in insert-bolster assembly. **04**
 - (c) Explain the different types of cooling channels used in injection moulds with neat sketches. **07**
- OR**
- Q.2**
- (c) Discuss Runner Ejection Techniques with examples. **07**
- Q.3**
- (a) Write short notes on Sliding Splits. **03**
 - (b) Explain Angled-lift Splits with neat sketches. **04**
 - (c) Discuss the design features of Split Moulds. **07**
- OR**
- Q.3**
- (a) Explain Side Core design features. **03**
 - (b) List types of Side Cavities with examples **04**
 - (c) Design a Side Core mechanism for a mould with undercuts. **07**
- Q.4**
- (a) Define Form Pin and its role in moulding internal undercuts. **03**
 - (b) Explain Stripping Internal Undercuts. **04**
 - (c) Explain mould construction for Internally Threaded Components. **07**
- OR**
- Q.4**
- (a) Discuss mould construction for Externally Threaded Components. **03**
 - (b) Describe Standard Unscrewing Type Mould Systems. **04**
 - (c) Design a threaded mould for a bottle cap. **07**
- Q.5**
- (a) List the parts of an Extrusion Die and state their functions. **03**
 - (b) Explain rheological considerations in die design. **04**
 - (c) Design a straight-through extrusion die with calculations for approach section and land. **07**

OR

- Q.5**
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| (a) Discuss suitable Ejection Systems for injection moulds. | 03 |
| (b) Explain design features of Double Daylight Underfeed Mould. | 04 |
| (c) Decide and justify a suitable Ejection System for a mould with complex geometry. | 07 |
