

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2023**

**Subject Code: 3152309**

**Date:13-12-2023**

**Subject Name: Plastic Mold and Die Design**

**Time:10:30 AM TO 01:00 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) Write principles of mold design. **03**  
(b) Give difference between two plate mold and three plate mold. **04**  
(c) Explain stripper plate mold with neat sketch. **07**
- Q.2** (a) Draw neat sketch of two plate mold. **03**  
(b) Explain material selection for cavity, core and back plates. **04**  
(c) Enlist Runner Ejection Techniques and Explain stripper plate ejection system with neat sketch. **07**
- OR**
- (c) Explain the factors affecting the choice of different runner ejection technique. **07**
- Q.3** (a) Give the importance of mold cooling. **03**  
(b) What is the basic difference between dies and mold? **04**  
(c) How cooling insert plays a vital role in enhancing cooling efficiency and achieving better part quality. **07**
- OR**
- Q.3** (a) List out various types of side core and side cavity. **03**  
(b) List the different types of split mold actuation methods. **04**  
(c) Explain Stripping internal undercuts with neat figure **07**
- Q.4** (a) Describe angled-lift splits **03**  
(b) What are the functions of inserts, guide pins and bushes? **04**  
(c) Write short notes on molds for internal threaded components. **07**
- OR**
- Q.4** (a) What are the different methods of thread forming? **03**  
(b) Explain dog-leg cam actuation with neat figure. **04**  
(c) Explain Design of straight through dies with calculations. **07**
- Q.5** (a) What are standard mold parts? **03**  
(b) Explain Mold construction **04**  
(c) Explain finger cam actuation with neat figure. **07**
- OR**
- Q.5** (a) Write short notes on Design Criteria for extrusion die **03**  
(b) Explain the dies function used in extrusion process and its parts with neat sketch. **04**  
(c) Write down different rheological consideration of material during die design **07**

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