

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2020****Subject Code:2173409****Date:28/01/2021****Subject Name:Plastic mold & Die design****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any **FOUR** questions out of **EIGHT** questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

**MARKS**

<b>Q.1</b>	(a) What are the machines used for fabrication of molds.	<b>03</b>
	(b) What are the design considerations and constraints for split mould?	<b>04</b>
	(c) What are parts of Conventional Injection Mold and Suggest best materials to Manufacture them with neat sketch	<b>07</b>
<b>Q.2</b>	(a) What is Honing Operation?	<b>03</b>
	(b) What is Shrinkage and how it can be calculated? What is warpage?	<b>04</b>
	(c) Explain the Working principle of EDM-wire cut machine with neat sketch	<b>07</b>
<b>Q.3</b>	(a) What are the parts of Extruder screw and their functions	<b>03</b>
	(b) For a 8 – cavity Mould explain the concept of Runner and Gate Balancing	<b>04</b>
	(c) What is Transfer Molding? Explain the Design principles of Pot and Plunger transfer mold with appropriate sketches.	<b>07</b>
<b>Q.4</b>	(a) What is Transfer Pot and Loading chamber?	<b>03</b>
	(b) Explain the working principle of Form Pin.	<b>04</b>
	(c) What is Extrusion? What are the die Design Goals of Extrusion Die and suggest the ways to accomplish the same.	<b>07</b>
<b>Q.5</b>	(a) What is Gate? What are the factors that required selecting the optimum size of Gate?	<b>03</b>
	(b) What is Bolster? Name the types of Bolsters available and what are the materials used for construction of bolsters.	<b>04</b>
	(c) Explain the working Principle of Finger cam actuation mechanism with neat sketch and necessary calculations	<b>07</b>
<b>Q.6</b>	(a) What is Runner efficiency and how it is calculated?	<b>03</b>
	(b) What is Sprue? Write a short Note on Sprue Design and Its types with appropriate sketches	<b>04</b>
	(c) What is Runner? How many Types of Runners were there with neat sketches? How runner size and layout is calculated? Suggest the best runner.	<b>07</b>
<b>Q.7</b>	(a) Explain Transfer Molding Cycle with neat sketch.	<b>03</b>
	(b) Explain Flash Type compression mold with neat sketch.	<b>04</b>
	(c) Explain Different types of Gates with neat sketches? Explain how Auto-Degating can be achieved?	<b>07</b>
<b>Q.8</b>	(a) What are the fundamentals to be considered in designing Transfer Molds?	<b>03</b>
	(b) Explain how Integer Core and cavity cooling can be achieved with neat diagram.	<b>04</b>
	(c) What is Parting surface? Explain How parting surfaces are classified.	<b>07</b>

\*\*\*\*\*