

GUJARAT TECHNOLOGICAL UNIVERSITY
BE –SEMESTER (NEW SYLLABUS) EXAMINATION- WINTER 2017

Subject Code: 2173409**Date:****Subject Name: Plastic Mold & Die Design****Time:****Total Marks: 70****Instructions:**

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

		MARKS
Q.1	(a) What are the materials used to make injection molding tool?	03
	(b) Explain Gate and Runner Balancing with Neat sketches.	04
	(c) Explain in detail the design considerations for Extrusion die	07
Q.2	(a) What is Runner Layout? What are the factors to be considered for the design of Runner layout?	03
	(b) Explain the Fundamental principles of mold design.	04
	(c) Explain how cooling of Shallow cores can be achieved.	07
OR		
Q.3	(c) What are the different parts of Molding Tool?	07
	(a) The optimum size of Gate will depend on which factors.	03
	(b) Explain the Design considerations of Diaphragm Gate.	04
	(c) Explain different types of Runners and Their efficiencies with neat sketches.	07
OR		
Q.3	(a) What is O-Ring and what are its functions.	03
	(b) Explain how runner Size is calculated.	04
	(c) Explain Heat Rod/Thermal pin cooling system with neat diagram and explain how heat transfer capabilities of a heat-rod can be obtained.	07
Q.4	(a) Name different types of heat treatment techniques.	03
	(b) What are the factors to be considered while designing a Runner?	04
	(c) Explain Electroforming technique with neat sketch	07
OR		
Q.4	(a) Explain different types of zones in Extruder screw.	03
	(b) Explain typical compression molding cycle with neat diagram.	04
	(c) Explain a. Valve ejection system b. Sleeve ejection system c. Pin Ejection System d. Stripper plate ejection system with neat sketches.	07
Q.5	(a) What are the advantages of Compression molding?	03
	(b) What are the factors affecting in calculation of loading well height?	04
	(c) Explain A. Semi-Automatic Open Flash Mould B. Semi Automatic Fully Positive Mould C. Semi Automatic Landed Positive compression Mould With Neat Diagrams.	07
OR		
Q.5	(a) What are the disadvantages of Transfer Molding?	03
	(b) Explain typical Transfer Molding cycle with neat diagram	04
	(c) Explain pot and plunger type compression mold with neat sketches.	07
