

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV(New) • EXAMINATION – WINTER 2016

Subject Code:2143407

Date:18/11/2016

Subject Name:Mould Manufacturing Technology

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.

		MARKS
Q.1	Short Questions	14
	1 What is least count of Micrometer?	
	2 What is least count of Vernier Caliper?	
	3 Which are Non Metallic materials used for Mould making?	
	4 What is case hardening?	
	5 Why hard chrome plating used in surface treatment of mould material?	
	6 What is Hydro Copying?	
	7 What is CMM?	
	8 Dial Gauge is used for measured _____.	
	9 What are the properties of steels used for mould making?	
	10 Why Silicon used in Mould Construction?	
	11 What is the shrinkage allowance for Aluminum?	
	12 _____ material mainly used for Mould making.	
	13 Which allowance consider during Mould design?	
	14 What does VMC signify _____.	
Q.2	(a) What is the minimum wall thickness required for cavity in mould? How to calculate it?	03
	(b) What are the different properties of steels required for mould making?	04
	(c) Explain Non-ferrous metals for mould construction.	07
	OR	
	(c) What is the application of Aluminum alloys –Beryllium copper in mould making?	07
Q.3	(a) How to measure the dimensions by using slip gauges? Explain.	03
	(b) Explain the step by step process in mould assembly.	04
	(c) What is the importance of height gauge in mould making? What are the different types of dimensions that can be measured on height gauge?	07
	OR	
Q.3	(a) Explain vacuum hardening for surface treatment.	03
	(b) Explain function of CNC EDM machine in Mould making.	04
	(c) What are the advantages and applications of epoxies for mould construction?	07
Q.4	(a) What are the instruments used for measuring tapers & angles?	03
	(b) Explain Rapid Prototyping.	04

	(c) Explain Mould making techniques.	07
	OR	
Q.4	(a) Explain Pantograph engraving for Mould making.	03
	(b) Explain about the different steps involved in polishing of mould parts.	04
	(c) What is heat treatment? What are the different types of heat treatment processes used in mould making? Explain about any one process.	07
Q.5	(a) Write a short note on Life of Moulds.	03
	(b) How to repair moulds? Explain how to protect moulds against corrosion.	04
	(c) What is the procedure for estimating mould cost? What precautions to be followed while estimating mould cost?	07
	OR	
Q.5	(a) Explain use of Jig Boring machine in Mould making.	03
	(b) Write a short note on Nitriding & Chemical Etching.	04
	(c) Explain tool room measuring instruments. (any three)	07
