

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV(New) EXAMINATION – SUMMER 2016

Subject Code:2143407**Date:26/05/2016****Subject Name:Mould Manufacturing Technology****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.

Q.1	Short Question	Marks
		14
	<ol style="list-style-type: none"> 1. Carbon steels are identified according to their carbon content percentage. Low-carbon steel contains less than _____% carbon. 2. The lathe operates on the principle of _____ 3. What does CNC signify _____ 4. The rate at which the cutting too and work piece move in relation to one another is called _____ 5. Examples of Non-ferrous metals _____ 6. Example of Zink alloy _____ 7. Example of aluminum alloy _____ 8. Least count of Vernier caliper _____ 9. Least count of Micrometer _____ 10. _____ can be checked using Dial gauge. 11. Expand CMM _____ 12. Mould Cost includes mainly _____ 13. _____ process is used to protect mould steel from corrosion. 14. _____ material can be used for manufacturing core of a mould. 	
Q.2	<ol style="list-style-type: none"> (a) What are the properties of steels used for mould making? (b) Write a short note on life of a mould. (c) What are the applications of Zink Alloys in mould materials? 	03 04 07
	OR	
	<ol style="list-style-type: none"> (c) What are the advantages and applications of epoxies for mould construction? 	07
Q.3	<ol style="list-style-type: none"> (a) What is the importance of surface treatment of mould materials? (b) What are the advantages of vacuum hardening process? (c) What are the applications of chemical etching process in mould manufacturing? 	03 04 07
	OR	
Q.3	<ol style="list-style-type: none"> (a) What are the advantages of Hard chrome plating? (b) Write a short note on nickel plating process. (c) What are the different mould polishing techniques to be followed to achieve the required finish? Explain. 	03 04 07
Q.4	<ol style="list-style-type: none"> (a) What are the different measuring instruments used in Tool Room? (b) What are the dimensions that can be measured by using Height Gauge & Slip gauge? (c) Build the following dimensions using M-87 Slip Gauge set. (i) 49.3825 mm (ii) 87.3215 mm 	03 04 07
	OR	
Q.4	<ol style="list-style-type: none"> (a) What are the applications of Pantograph engraving machine? (b) What are the advantages of CNC Machines over Conventional Machines? (c) Explain about the Working of CNC Milling machine. 	03 04 07

- Q.5** (a) Why dial gauges are used in manufacturing of moulds? **03**
(b) What are the instruments used for measuring tapers & angles? **04**
(c) What are the different kinds of tools used in mould assembly? Mention it's function. **07**

OR

- Q.5** (a) Why maintenance of moulds to be done? What are the advantages? **03**
(b) What are the different parts of basic moulds? **04**
(c) What is the procedure for estimating mould cost? What precautions to be followed while estimating mould cost? **07**
