Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Engineering - SEMESTER–III • EXAMINATION – SUMMER 2013

Subject Code: 330202 **Date: 11-06-2013**

Subject Name: Manufacturing Process and Material Technology

Time: 02:30 pm - 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.**
4. **English version is considered to be Authentic.**

Q.1	(a)	List various defects in welding process. Explain any four.	**07**
	(b)	(i) Explain Mass production and Batch production.	**05**
		(ii) Explain "Shrinkage Allowance".	**02**
Q.2			
	(a)	Explain the various types of Mechanical properties required for Engineering Material.	**07**
	(b)	Define Re-crystallization temperature. Explain various factors affecting it.	**07**
		OR	
	(b)	Differentiate between Hot working and Cold working.	**07**
Q.3			
	(a)	Define Heat treatment and give the purpose of it.	**07**
	(b)	(i) Explain Annealing process in detail.	**05**
		(ii) Give equipments needed for Gas welding.	**02**
		OR	
Q.3	(a)	Explain Quenchng media for heat treatment.	**07**
	(b)	(i) Write short note on Induction hardening process.	**05**
		(ii) Select material for Piston and connecting rod with justification.	**02**
Q.4			
	(a)	List various defects of casting and explain any three of them.	**07**
	(b)	(i) List types of pattern and explain any two with diagram.	**04**
		(ii) Explain wire drawing process with diagram.	**03**
		OR	
Q. 4	(a)	Define Pattern and enlist material used for pattern. Compare Wooden pattern with Metal pattern.	**07**
	(b)	(i) Explain working principle of Milling machine with a neat sketch.	**04**
		(ii) Explain following terms a) Turning b) Grooving	**03**
Q.5			
	(a)	Explain working principle of "Arc Welding".	**07**
	(b)	(i) Explain Quick return mechanism of Shaper machine	**05**
		(ii) Differentiate between Brazing and Welding	**02**
		OR	
Q.5	(a)	Explain Forging process and state advantages and limitations of it.	**07**
	(b)	(i) Draw a neat diagram of lathe machine and explain its major parts.	**05**
		(ii) State safety precautions to be taken during welding process.	**02**

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