Seat No.:	Enrolment No.
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## **GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-VII • EXAMINATION – SUMMER 2013** 

Subject Code: 1/2103			Date: 28-05-2013	
•	e: 02.	Name: Metal Joining Processes .30 pm - 05.00 pm Total Marks	<b>: 70</b>	
ilisti u	1. 2. 1	Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.		
Q.1	(a)	Define welding. Discuss the factors which are considered in choosing a welding process for a specific application.	07	
	<b>(b)</b>	Describe briefly weld pool solidification.	07	
Q.2	(a) (b)	Explain the effect of gases on metal transfer.  Explain different joint design and edge preparation in detail with neat sketch.	07 07	
		OR		
	<b>(b)</b>	What is arc welding? Explain characteristics of arc.	07	
Q.3	(a)	Briefly discuss how residual stresses and distortion occur in welded structures? How this stress could be minimized and eliminated?	07	
	<b>(b)</b>	Explain how gas-metal and slag-metal reactions takes place in welding.	07	
		OR		
Q.3	(a) (b)	Explain SAW with a neat sketch. List different methods for arc initiation. Explain GTAW process.	07 07	
Q.4	(a) (b)	Explain the principle of laser beam welding with a neat diagram What do you mean by plasma? Explain plasma welding with a neat sketch.	07 07	
		OR		
Q.4 Q.4	(a) (b)	What is electroslag welding? Explain its operation in detail.  Discuss different types of flames in gas welding.	07 07	
Q.5	(a)	List the types of resistance welding. Compare resistance butt and flash	07	
	<b>(b)</b>	butt welding.  Define soldering. Write in brief about Soldering alloys and it's applications.	07	
		OR		
Q.5	(a) (b)	Explain the phenomena of weld cracking.  Define Brazing . Write in brief about Soldering alloys and it's applications	07 07	

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