

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2021****Subject Code:2162506****Date:10/08/2021****Subject Name: Metal Joining 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.

- Q.1** (a) Compare the welding process with casting and riveting. **03**  
 (b) Write down Advantages and Disadvantages of welding. **04**  
 (c) Classify Welding processes based on following criteria. (1) Metallurgical aspect, (2) Based on Automation adopted (3) Based on types of energy used (4) Based on types of principle (5) Based on type of shielding. **07**
- Q.2** (a) Write down gas welding techniques **03**  
 (b) Write a short note on air-acetylene welding **04**  
 (c) Explain oxy hydrogen welding with principle, advantages, disadvantages and limitation with neat diagram. **07**
- OR**
- (c) Explain gas welding equipment's and also write a application of gas welding **07**
- Q.3** (a) Describe Gravity Welding with neat diagram. **03**  
 (b) Write short note on CO<sub>2</sub> welding. **04**  
 (c) Explain Electro Flux Shielded Metal arc welding with principle, advantages, disadvantages and limitation & neat diagram. **07**
- OR**
- Q.3** (a) Write Down the applications of Carbon arc welding **03**  
 (b) Describe GTAW Welding with neat diagram. **04**  
 (c) Explain Electro Slag welding arc welding with principle, advantages, disadvantages and limitation & neat diagram **07**
- Q.4** (a) Differentiate between Flash Butt welding and Percussion Welding **03**  
 (b) Write a short note on Upset welding **04**  
 (c) Explain Explosive welding in detail. **07**
- OR**
- Q.4** (a) Differentiate between friction welding and inertia welding. **03**  
 (b) Write Down Application of applications of Spot welding **04**  
 (c) Explain Thermit Welding in detail. **07**
- Q.5** (a) Write down type of defects in weldments **03**  
 (b) List any four welding defects its causes and remedies. **04**  
 (c) Write down Classification and Coding of mild steel and low alloy steel electrodes as per Indian and American System. **07**
- OR**
- Q.5** (a) Write Various types of weld joints **03**  
 (b) Draw any four weld symbols **04**  
 (c) Enlist any seven electrode coatings its compositions, characteristics and uses **07**