

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – SUMMER 2013****Subject Code: 162502****Date: 27-05-2013****Subject Name: Welding Technology****Time: 10.30 am - 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** (a) Define welding. State its advantages and limitations compared to riveting and bolting processes. **07**
- (b) Explain the Gas Tungsten Arc Welding (GTAW) process with sketch. State its advantages and limitations. **07**
- Q.2** (a) State various types of weld defects. Explain causes and remedies for any 4 of them. **07**
- (b) Explain leftward and rightward techniques of Gas welding. **07**
- OR**
- (b) Which are the sources of power in arc welding? Explain them briefly. **07**
- Q.3** (a) Describe the welding cycle in resistance spot welding process. **07**
- (b) Describe friction welding. State its applications, advantages and limitations. **07**
- OR**
- Q.3** (a) Explain the principle and working of seam welding with a neat sketch. **07**
- (b) What is pre-weld and post-weld heat-treatment? Why are they in the course of? **07**
- Q.4** (a) What is heat affected zone (HAZ)? How does it occur? How it can be removed? **07**
- (b) Explain Submerged Arc Welding (SAW) with a sketch. State its advantages and limitations. **07**
- OR**
- Q.4** (a) What do you understand by Non-Destructive Testing (NDT)? Explain Magnetic Particle Test (MPT) for weld-bead with its limitations. **07**
- Q.4** (b) Draw sketch for any 4 types of weld joints. State the applications of all of them. **07**
- Q.5** (a) State the functions of electrode in Manual Metal Arc Welding (MMAW) process. Differentiate between consumable and non-consumable electrode. **07**
- (b) Which are the different types of flames in Oxy-Acetylene Welding process? Explain them with sketch. **07**
- OR**
- Q.5** (a) Explain Flux Cored Arc Welding (FCAW) process with sketch. Draw the cross section of electrode used in this process. **07**
- (b) Write a short note on coding of electrodes as per American system. **07**
