

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – WINTER 2013****Subject Code: 162502****Date: 29-11-2013****Subject Name: Welding 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) Define “Welding” as per AWS. Compare temporary joining processes with permanent joining processes. **07**
(b) Explain codification of SMAW electrodes as per IS and AWS standards. **07**
- Q.2** (a) Describe various gas welding flames in detail with applications of each of them. **07**
(b) State the functions of flux coating over the MMAW electrodes. Describe other methods of shielding used for various fusion weldings. **07**
- OR**
- (b) What do you mean by arc blow? State and explain the factors that causes arc blow. **07**
- Q.3** (a) State the requirements of a power source used in arc welding. Explain A.C. and D.C. power sources with relative advantages and disadvantages. **07**
(b) State the principle and explain the equipment used in SAW. **07**
- OR**
- Q.3** (a) Differentiate between Soldering, Brazing and Welding. Soldering and Brazing are classified as Liquid Solid Phase Bonding Processes – Justify. **07**
(b) State and discuss various parameters that control the weld bead quality in GMAW. **07**
- Q.4** (a) Explain solid state welding process. Compare the advantages and disadvantages of solid state welding processes with fusion welding. **07**
(b) Differentiate between GTAW and GMAW processes. **07**
- OR**
- Q.4** (a) Describe explosive welding process with its advantages and limitations. **07**
(b) Enlist the types of welding defects. Explain any three defects in light of their causes and remedies. **07**
- Q.5** (a) List destructive and non destructive testing methods used for weldments. Explain any one non destructive technique. **07**
(b) State the principle of resistance welding and explain the resistance welding cycle with neat sketch. List various resistance welding processes. **07**
- OR**
- Q.5** (a) Explain the objectives of Preheating and explain any one method of Preheating. **07**
(b) Explain Thermit welding process with neat sketch. **07**
