

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA ENGINEERING – SEMESTER – IV • EXAMINATION – SUMMER- 2016

Subject Code: 3345504

Date: 20- 05 - 2016

Subject Name: Welding Technology-II

Time: 10:30 AM TO 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.
4. Use of programmable & Communication aids are strictly prohibited.
5. Use of only simple calculator is permitted in Mathematics.
6. English version is authentic.

- Q.1** (a) Define GTAW and describe its working principle with neat sketch. **07**
(b) Define GMAW process. Describe its principle and operation with neat sketch. **07**
- Q.2** (a) Describe Welding Equipment used in MAG welding with neat sketch. **07**
(b) State and describe advantages and limitation of GTAW process. **07**
- OR
- (b) Define stud welding process. List out sequence of operation of stud welding with neat sketch **07**
- Q.3** (a) Draw neat sketch of FCAW process. Describe its working. **07**
(b) List out equipment used in ESW. Describe the function of each of them. **07**
- OR
- Q.3** (a) State and describe advantages and disadvantages of GMAW process. **07**
(b) Draw setup of ESW. Describe working procedure for conventional ESW. **07**
- Q.4** (a) Compare GTAW and PAW with neat sketches. **07**
(b) List out equipments used in ultrasonic welding. Draw and describe the function of equipments. **07**
- OR
- Q. 4** (a) Describe Atomic Hydrogen Welding Equipment with neat sketch. **07**
(b) Compare the DCEP, DCEN, and AC polarities with respect to penetration, heat, cleaning oxides, and electron/ ion flow. **07**
From above polarities, which one is straight polarity and reverse polarity?
- Q.5** (a) Describe five causes and remedies of porosity. Describe the two causes and remedies of lack of penetration. **07**
(b) Define PQR, WPS and WPQ. Compare them with respect to testing, procedure, qualification, and welder. **07**
- OR
- Q.5** (a) Describe three causes and remedies of crack. Describe the four causes and remedies of improper bead shape. **07**
(b) Describe concept of distortion with neat sketch. Draw three types of distortion. **07**
