

Seat No.: \_\_\_\_\_

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## **GUJARAT TECHNOLOGICAL UNIVERSITY**

**DIPLOMA ENGINEERING – SEMESTER – 4(NEW) • EXAMINATION – SUMMER 2018**

**Subject Code: 3345504**

**Date: 04-May-2018**

**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. English version is considered to be Authentic.**

**Q.1 (a)** (i) List out the function of shielding gas in GTAW process. (3 Marks) **7**  
(ii) State the ionization potential of any four shielding gas and its importance. (4 Marks)

**(b)** (i) Draw GMAW Principle with their equipments with neat sketch. (3Marks) **7**  
(ii) Label the sketch. (2 Marks)  
(iii) Evaluate : GMAW process is better than SMAW process. (2 Marks)

**Q.2 (a)** (i) Define MAG Welding. (2 Marks) **7**  
(ii) List out welding equipments used in MAG welding. (2 Marks)  
(iii) Describe their use. (3 Marks)

**(b)** (i) State the function of flux in FCAW process. (4 Marks) **7**  
(ii) State the similarities and dissimilarities in FCAW and GMAW process. (3 Marks)

**OR**

**Q.2 (b)** (i) List out seven Welding Parameters of FCAW process. **7**  
(ii) Describe its effect on weld bead.

**Q.3 (a)** Describe principle of ESW process with neat sketch. **7**  
**(b)** Describe principle of PAW with neat sketch. **7**

**OR**

**Q.3 (a)** List out advantages, disadvantages, application of ESW process. **7**  
**(b)** Compare transfer and non transfer PAW process with neat sketch. **7**

**Q.4 (a)** State the steps involved in stud welding with neat sketch. **7**

- (b) State the principle of below welding processes. (NO sketch is required) **7**
- (i) Explosive welding. (2 Marks)
  - (ii) Laser beam, welding. (2 Marks)
  - (iii) Ultrasonic Welding. (2 Marks)
  - (iv) List out one different applications for above welding processes. (1 Mark)

**OR**

- Q.4** (a) Describe principle of stud welding with neat sketch. (4Marks) **7**  
List out advantages and disadvantages of stud welding. (3Marks)

- (b) Describe underwater welding. **7**

- Q.5** (a) (i) Prepare the welding procedure for any type of joint in pressure vessel. **7**  
(ii) Assume the data wherever required, also mention your assumption.

- (b) List, Causes and remedies of any seven weld Defects. **7**

**OR**

- Q.5** (a) Describe the importance of ASME section IX. **7**

- (b) Describe the distortion in detail with their types with neat sketch. **7**