

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**Diploma Engineering - SEMESTER – III • EXAMINATION – WINTER 2012**

**Subject code: 335503****Date: 04/01/2013****Subject Name: Welding Technology-1****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

1. Attempt any five 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) State importance of attitude, skill and knowledge of welding shop supervisor. **07**  
 (b) 1) Explain factor affecting selection of power sources **07**  
 2) Classify the welding power source
- Q.2** (a) Explain causes & remedies of FIVE welding defects with neat sketch **07**  
 (b) Explain in brief following welding terminology (Any 4) **07**
1. Current rating
  2. O.C. voltage
  3. Short circuit current
  4. Duty cycle
  5. Insulation
- OR**
- (b) 1) Compare :- MMAW Electrodes E-7018 and E-6013 **07**  
 2) Compare :- SMAW and SAW
- Q.3** (a) Explain selection of following consumables. **07**  
 Cellulosic , Rutile , Oxidizing , Iron oxide  
 (b) Explain electrode coating ingredients and their function **07**
- OR**
- Q.3** (a) 1) Compare Polarity 'DCRP & DCSP' with neat sketch **07**  
 2) State advantage of ESW process.  
 (b) Give classification and coding of electrode as per 'AWS' with example **07**
- Q.4** (a) Explain factor affecting selection of types of edge preparation. **07**  
 (b) Describe working principle of 'SMAW'. With neat sketch. **07**
- OR**
- Q.4** (a) Explain and Draw neat sketch of welding position in SMAW **07**  
 (b) Explain in brief :- Advantages and disadvantages of overlay welding process **07**
- Q.5** (a) Prepare WPS typical pro-forma as per ASME sec IX for SMAW for carbon steel **07**  
 (b) Explain in brief :- 1) Factors affecting "arc blow". **07**  
 2) Causes and remedies of arc blow.
- OR**
- Q.5** (a) Explain working principle of SAW with neat sketch **07**  
 (b) Explain in brief :- F-number, P-number, A- number **07**

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