Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov/Dec– 2017**

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| **Code :** | **14ME2047** | **Duration :** | **3hrs** |
| **Sub. Name :** | **WELDING TECHNOLOGY** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. |  | Explain Submerged arc welding with neat sketch, principal, operation, advantage, disadvantage and application | CO1 | 20 |
| (OR) | | | | |
| 2. | a. | Outline the Braze welding procedure in detail. | CO1 | 15 |
| b. | Identify the variables in Resistance welding with neat sketch. | CO1 | 5 |
| 3. |  | For the structure shown in fig.1, determine the two fillet weld lengths *l1* and *l2*. Assume working stress in shear in fillet welds as 800 kg/cm2 and size (*S*) of fillet as 20 mm.    Fig.1 | CO1 | 20 |
| (OR) | | | | |
| 4. | a. | Analyze the Factors affecting dilution | CO1 | 5 |
|  | b. | Calculate the total cost of manual flux shielded metal arc welding using the data given below:  Weld length = 2 meters  Welding speed = 12 m/hr  Operating factor = 30%  Labor& overhead charges per hr = Rs. 25  Electrode consumption = 0.35 kg/metre  Electrode price = Rs. 20 per kg  Arc voltage = 22 volts  Arc current = 200 Amps  E = 0.6  Rate per kWhr = Rs. 0.80 | CO1 | 15 |
| 5. |  | Discuss the methods employed for welding Aluminium and aluminium alloy components under any two heads. | CO1 | 20 |
| (OR) | | | | |
| 6. |  | List the various practical ways for minimizing the distorsion caused by contraction. | CO1 | 20 |
| 7. | a. | Outline the various factors promoting entrapment of inclusion. | CO1 | 5 |
|  | b. | Explain Magnetic particle inspection in non-destructive testing of welding process. | CO1 | 15 |
| (OR) | | | | |
| 8. |  | Explain Plasma arc welding in detail with neat sketch. |  | 20 |
|  | | Compulsory: |  |  |
| 9. |  | Discuss the basic welding processes, used to join thermoplastics. |  | 20 |

ALL THE BEST