

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII • EXAMINATION – WINTER • 2014

Subject Code: 172103**Date: 04-12-2014****Subject Name: Metal Joining Processes****Time: 10:30 am - 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.

- Q.1** (a) List metal joining processes. Explain their importance. **07**
(b) Explain edge preparation and weld joints with sketches. **07**
- Q.2** (a) Discuss different types of gas welding flames with neat sketch. **07**
(b) Explain mode of metal transfer in arc welding. **07**
- OR**
- (b) Explain how gas-metal and slag-metal reactions take place in welding. **07**
- Q.3** (a) What is submerged arc welding? Explain the process and give its advantages. **07**
(b) Write a detailed note on friction welding process. **07**
- OR**
- Q.3** (a) What is electro slag welding? Explain its operation in detail. **07**
(b) Explain the phenomena of weld cracking. **07**
- Q.4** (a) Discuss Tungsten Inert Gas (TIG) welding process in detail. **07**
(b) Explain electron beam welding process with figure. **07**
- OR**
- Q.4** (a) Explain LASER beam welding process. **07**
(b) What is brazing? How it differs from welding. List brazing techniques and explain any one technique. **07**
- Q.5** (a) Define weldability. Explain factors affecting weldability. **07**
(b) Is welder qualification is necessary? Justify giving examples. How do you establish correct welding procedure and do inspection during welding process? **07**
- OR**
- Q.5** (a) List the types of resistance welding. Compare resistance butt and flash butt welding. **07**
(b) What do you mean by Plasma? Explain plasma welding with a neat sketch. **07**
