

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI • EXAMINATION – SUMMER • 2014

Subject Code: 163402

Date: 21-05-2014

Subject Name: Metal Forming 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) Explain the two theories to determine the stresses of ductile material subjected to plastic yielding. **07**
- (b) Classify forming process. Explain in brief about any one process. **07**
- Q.2** (a) What is elastic deformation and plastic deformation in metal forms process? **07**
- (b) Describe the flow curve of a ductile material subjected to tensile force. **07**
- OR**
- (b) Write short notes on Strain rate workability and residual Stress in metal forming. **07**
- Q.3** (a) What is rolling process? Write different types of rolling process. Explain in brief about any one rolling process. **07**
- (b) Describe the analysis of rolling process. **07**
- OR**
- Q.3** (a) Define forging process. What is the difference between open die forging and closed die forging? **07**
- (b) Describe the advantages and limitation of forging process. **07**
- Q.4** (a) What are the different variables affecting Extrusion, explain. **07**
- (b) Describe Hydro- Static Extrusion with neat sketch. **07**
- OR**
- Q.4** (a) Define draw ratio. How to find the force required to draw a symmetrical cup. Assume required parameters. **07**
- (b) Explain the process of cold drawing and wire drawing with suitable sketch. **07**
- Q.5** (a) Define Sheering, Blanking, and Bending process of sheet metal forming. **07**
- (b) What are the different types of Dies used in press working? Explain about any one die in detail. **07**
- OR**
- Q.5** (a) Explain about explosive forming process with suitable diagram. **07**
- (b) What are the advantage and limitation of Electromagnetic forming process? **07**
