

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (old) - EXAMINATION – SUMMER 2017

Subject Code:182101

Date:02/05/2017

Subject Name: Metal Working Processes

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.

- Q.1** (a) Explain the process of recrystallization. **07**
(b) Differentiate between hot working process and cold working process. **07**
- Q.2** (a) Explain Neutral point, Angle of bite, Forward slip in terms of rolling. Derive equation for calculating projected length of arc during rolling. **07**
(b) What is meant by rolling process? With neat sketch explain different rolling mill. **07**
- OR**
- (b) What is forging process? Explain them with neat sketches. **07**
- Q.3** (a) Discuss Plane strain forging analysis. **07**
(b) Discuss extrusion variables and extrusion defects with cause and remedies. **07**
- OR**
- Q.3** (a) Write note on optical pyrometer. **07**
(b) What is the aim of study of deformation in forming process? Give its assumptions and limitations. **07**
- Q.4** (a) Write brief note on shearing and deep drawing process. **07**
(b) Discuss forging defects with their causes and remedies. **07**
- OR**
- Q.4** (a) What do you understand by extrusion? Briefly explain different extrusion processes and role of lubricant in extrusion. **07**
(b) Write note on High Energy Rate Forming and superplasticity. **07**
- Q.5** (a) List the defects in rolling process. Discuss it with causes and remedies. **07**
(b) What are different forging operations? Briefly explain them. **07**
- OR**
- Q.5** (a) Draw neat sketch of stress strain diagram and explain any five mechanical properties. **07**
(b) Write note on wire drawing. **07**
