

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER – VIII. EXAMINATION – WINTER 2016

Subject Code: 182101**Date: 21/10/2016****Subject Name: Metal Working Processes****Time: 02:30 PM to 05:00 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) What is recrystallization? Discuss the factors affecting recrystallization. **07**
(b) Classify and differentiate metal working processes depending on temperature. **07**
- Q.2** (a) What do you mean by workability? Discuss it. **07**
(b) Explain different forging operations with neat sketch. **07**
- OR**
- (b) Discuss variables in wire drawing process. **07**
- Q.3** (a) Discuss close die forging process in detail with functions of flash and flash gutter. **07**
(b) Define or explain: Neutral Point and Angle of Bite. Derive equations for L_P and Δh_{MAX} . **07**
- OR**
- Q.3** (a) List different rolling defects with neat sketch and discuss their causes and remedies. **07**
(b) Write note on residual stresses. **07**
- Q.4** (a) What are aim and limitations of metal working process analysis? List and briefly explain different methods of analysis of metal working processes. **07**
(b) List different temperature measuring equipment and write note on optical pyrometer. **07**
- OR**
- Q.4** (a) With neat sketch explain different types of rolling mills. **07**
(b) Explain different extrusion processes with neat diagram. **07**
- Q.5** (a) What are different rolling variables? Discuss them. **07**
(b) Briefly discuss extrusion ratio, lubrication and defects in extrusion. **07**
- OR**
- Q.5** (a) Explain shearing and deep drawing as method of sheet metal working. **07**
(b) Write note on HERF. **07**
