

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VIII • EXAMINATION – SUMMER 2014

Subject Code: 182101**Date: 05-06-2014****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) In terms of rolling define angle of bite, neutral point and discuss different types of rolling mill with neat sketch. **07**
- (b) With reference to temperature classify metal working process and differentiate between them. **07**
- Q.2** (a) What do you mean by forging? Explain different types of forging processes with neat sketch. **07**
- (b) Write detailed note on rolling variables. **07**
- OR**
- (b) Discuss the process of annealing of cold worked metal. **07**
- Q.3** (a) List the defects occurring in rolled products and discuss their causes and remedies. **07**
- (b) For rolling derive equation to determine length of arc of contact and relation between angle of bite and frictional coefficient. **07**
- OR**
- Q.3** (a) Write short note on residual stresses. **07**
- (b) Discuss workability in detail. **07**
- Q.4** (a) With neat sketch explain different forging operations. **07**
- (b) Discuss causes and remedies of forging defects. **07**
- OR**
- Q.4** (a) Discuss the importance of flash in forging and lubrication in extrusion. **07**
- (b) With neat sketch compare different types of extrusion processes and discuss extrusion defects. **07**
- Q.5** (a) Discuss variables and defects in wire drawing. **07**
- (b) Write in short on different sheet metal working processes. **07**
- OR**
- Q.5** (a) Discuss plain strain forging analysis. **07**
- (b) Draw stress strain curve for brittle and ductile materials and classify metal working processes. **07**
