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. (a) Explain the process of recrystallization. 0.1 07 **(b)** Differentiate between hot working process and cold working process. 07 (a) Explain Neutral point, Angle of bite, Forward slip in terms of rolling. Derive 0.2 07 equation for calculating projected length of arc during rolling. (b) What is meant by rolling process? With neat sketch explain different rolling 07 mill. 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 (a) Write note on optical pyrometer. 07 0.3 (b) What is the aim of study of deformation in forming process? Give its **07** assumptions and limitations. 0.4 Write brief note on shearing and deep drawing process. 07 (a) **(b)** Discuss forging defects with their causes and remedies. 07 OR (a) What do you understand by extrusion? Briefly explain different extrusion **07** 0.4

(b) Write note on High Energy Rate Forming and superplasticity. **07** 07

(a) List the defects in rolling process. Discuss it with causes and remedies. **(b)** What are different forging operations? Briefly explain them.

processes and role of lubricant in extrusion.

(a) Draw neat sketch of stress strain diagram and explain any five mechanical 0.5 properties.

(b) Write note on wire drawing.

Q.5

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