

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI(NEW) – EXAMINATION – SUMMER 2019****Subject Code:2162508****Date:14/05/2019****Subject Name:Metal Forming Technology****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) What do you mean by Forming of Metals? **03**
(b) Classify the Metal Forming Processes. Explain any one **04**
(c) What is strain rate? Briefly explain factors affecting strain rate. **07**
- Q.2** (a) Explain Hot and Cold Working Processes. **03**
(b) Explain Elastic and Plastic deformation of metal **04**
(c) Explain Metallurgical aspects of metal forming. **07**
- OR**
- (c) Explain the concept of Flow Stresses in Metal Forming with neat sketch. **07**
- Q.3** (a) Which are the process variables in Rolling Process? **03**
(b) Describe various Rolling Defects. **04**
(c) Explain rolling Process with neat sketch. **07**
- OR**
- Q.3** (a) Write a short note on Swaging. **03**
(b) Explain the pipe and tube produce by rolling process. **04**
(c) Define Creep. Explain factors affecting creep resistance. **07**
- Q.4** (a) How the forging is advantageous compare to the casting. **03**
(b) Classify the forging process and explain any one. **04**
(c) Describe various Forging Defects. **07**
- OR**
- Q.4** (a) Explain the hydrostatic extrusion with neat sketch. **03**
(b) Differentiate Forward and backward Extrusion in detail with sketch. **04**
(c) Write a short note on analysis of extrusion process. **07**
- Q.5** (a) Define and classify the Drawing process. **03**
(b) What is Bending? Compare Edge bending, V-bending and U-bending. **04**
(c) Explain the load calculation of wire drawing process. **07**
- OR**
- Q.5** (a) How is the fatigue test performed in the laboratory? **03**
(b) Define (1) Fracture, (2) Creep, (3) Fatigue. **04**
(c) Explain the process of HERF. Write its merits and demerits **07**
