

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER- VI (Old) EXAMINATION – WINTER 2019****Subject Code: 162503****Date: 11/12/2019****Subject Name: Metal Forming 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) Explain the Types of fractures and its influence in service life of part. **07**
(b) Explain the metal forming processes. Write its advantages, disadvantages and applications. **07**

- Q.2** (a) With the help of schematic diagram explain slip and twinning mechanism that cause plastic deformations in metals and alloys. **07**
(b) Explain Fatigue failure curves and method to improve fatigue Resistance. **07**

OR

- (b) Explain the Stress strain relations in elastic and plastic deformation. **07**
Q.3 (a) Explain Tube production by rolling processes. **07**
(b) Explain the Hot and Cold Working Processes and Its Effect on Mechanical Properties. **07**

OR

- Q.3** (a) Classify the Rolling mills and Explain any two. **07**
(b) How calculate the Rolling Load? Explain **07**
Q.4 (a) Explain the Defects and Properties of Forged Products. **07**
(b) Explain the Force Analysis in forging process. **07**

OR

- Q.4** (a) Differentiate forward extrusion and backward extrusion with neat sketch. **07**
(b) Explain the principal of metal spinning with neat sketch. **07**
Q.5 (a) Classify the Drawing processes. Explain Tube of Wire Drawing Process. **07**
(b) Explain the process of press brake forming. **07**

OR

- Q.5** (a) Explain the Hydrostatic Extrusion. Write its merits and demerits. **07**
(b) Explain the High Velocity Forming and High Energy Rate Forming of metals. **07**
