

GUJARAT TECHNOLOGICAL UNIVERSITY
Diploma Engineering - SEMESTER-III • EXAMINATION – SUMMER 2013

Subject Code: 332105**Date: 15-06-2013****Subject Name: Metal Forming and Powder Metallurgy****Time: 02:30 pm - 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.
4. English version is considered to be Authentic.
- 5.

- Q.1** (a) Differentiate between hot metal working and cold metal working process. **07**
(b) Define powder metallurgy and give its importance. **07**
- Q.2** (a) List the merits and demerits of powder metallurgy. **07**
(b) Define the terms: **07**
(1) strip, (2) plate, (3) sheet, (4) slab, (5) bloom, (6) ingot, (7) billet.
- OR**
- (b) Define the terms: **07**
(1) malleability, (2) formability, (3) elasticity, (4) toughness, (5) ductility, (6) hardness, (7) residual stress.
- Q.3** (a) Explain the wire drawing process with neat and clean figure. **07**
(b) List rolling defects and explain any three with its remedies. **07**
- OR**
- Q.3** (a) Explain direct extrusion process with neat figure. **07**
(b) List wire drawing defects and explain any three with its remedies. **07**
- Q.4** (a) Define rolling and classify rolling mill based on number of roll stands with neat figure. **07**
(b) Give the classification of forging process and explain any one process with neat sketch. **07**
- OR**
- Q. 4** (a) Explain in brief (any two): (1) coining, (2) spinning, (3) blanking. **07**
(b) List the powder metallurgy techniques. Explain any one with neat sketch. **07**
- Q.5** (a) Give the flow diagram of production of porous bearing by powder metallurgy. **07**
(b) Describe tube drawing process with neat sketch. **07**
- OR**
- Q.5** (a) Write short note on forging hammer and press. **07**
(b) Give the list of metal forming processes with their advantages. **07**
