

GUJARAT TECHNOLOGICAL UNIVERSITY**Diploma Semester -III Remedial Examination April - 2010****Subject code: 335502****Subject Name: MATERIALS & METALLURGY****Date: 21 /04 / 2010****Time: 03.00 pm – 05.30 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) Classify the engineering materials. Explain technological properties of metals and alloys. **07**
(b) Draw any five commercial forms of metal and write its IS number and application **07**
- Q.2** (a) Classify the ferrous metal. Explain chemical composition, characteristics and application of Pig Iron. **07**
(b) Explain effect of different alloying elements on properties of steel **07**
- OR**
- (b) What do you mean by Stainless steel. Explain different types of stainless steel. **07**
- Q.3** (a) Explain material test certificate with suitable example **07**
(b) What is Phase diagram ? Explain interpretation of phase diagram with neat sketch. **07**
- OR**
- Q.3** (a) Draw & explain T.T.T. diagram and show different micro-constituents observed on it **07**
(b) Explain metallurgical microscope with neat sketch **07**
- Q.4** (a) Explain important properties & application of Aluminum **07**
(b) Explain properties & application of plastic **07**
- OR**
- Q.4** (a) Explain properties & application of Glass **07**
(b) What is Adhesives Materials. Explain adhesion process with neat sketch **07**
- Q.5** (a) Draw heat treatment diagram. Define annealing process. Explain purpose of annealing process. **07**
(b) write short note on ASME Sec II **07**
- OR**
- Q.5** (a) What is quenching medium ? List different types of quenching medium. Explain effect of quenching medium on properties of metal **07**
(b) Define the term Creep & Explain Creep curve. **07**
