

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**DIPLOMA ENGINEERING – SEMESTER – III • EXAMINATION – WINTER- 2015**

**Subject Code: 3332303****Date: 07-12 - 2015****Subject Name: Mold Fabrication Technology-I****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.
4. Use of programmable & Communication aids are strictly prohibited.
5. Use of only simple calculator is permitted in Mathematics.
6. English version is authentic.

- Q.1** Answer any seven out of ten. **14**
1. Write any four differences of metal and non metal.
  2. Define melting point.
  3. Give the examples of ferrous metal and non ferrous metal.
  4. Write the effect of Vanadium on the properties of cast iron.
  5. List the properties of Lead.
  6. Give the applications of Brass.
  7. List various case hardening processes.
  8. Explain in brief about flame hardening.
  9. Name different parts of lathe machine.
  10. Write the operations carried out by milling machine.
- Q.2** (a) List the applications of engineering materials **03**
- OR
- (a) Discuss the effect of Nickel on the properties of cast iron. **03**
- (b) Write the uses of cast iron. **03**
- OR
- (b) Explain the effect of sulphur on the properties of steel. **03**
- (c) Classify the engineering materials. **04**
- OR
- (c) Give the applications of non ferrous metals. **04**
- (d) Write classification of carbon steel and explain low carbon steel. **04**
- OR
- (d) Briefly explain properties of copper. **04**
- Q.3** (a) Discuss briefly the defects of the hardened steel. **03**
- (a) Explain the objectives of heat treatment process. **04**
- OR
- (a) Write short note on Nitriding process. **07**
- (b) Explain various operations carried out by lathe machine. **07**
- OR
- (b) Describe constructional details of drilling machine. **07**
- Q.4** (a) Write advantages and disadvantages of shaping machine. **07**
- OR
- (a) Write short note : Boring machine **07**
- (b) Draw horizontal milling machine and label all parts. **07**
- Q.5** (a) Differentiate Annealing process and Normalizing process. **07**
- (b) Explain properties of engineering materials. **07**