| Seat No.: | Enrolment No. |
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER III (NEW)– • EXAMINATION – SUMMER 2015

| Su | ıbject | Code: 2133403 Date: 02/06/2015 | |
|------------|------------|---|----|
| Su | biect | Name: Engineering Materials and Metallurgy | |
| | - | 2.30pm-05.00pm Total Marks: 70 | |
| | truction | <u>-</u> | |
| | 1. | Attempt all questions. | |
| | 2. | Make suitable assumptions wherever necessary. | |
| | 3. | Figures to the right indicate full marks. | |
| Q.1 | (a) | Explain Types of Solid Solution with neat sketch. | 07 |
| | (b) | What do you mean by Iron Carbon Equilibrium Diagram. Draw Line Diagram of Iron Carbon Equilibrium diagram and explain peritectic reaction | 07 |
| Q.2 | (a) | Differentiate Annealing and Normalizing Process. | 07 |
| | (b) | Draw and Explain TTT Diagram. | 07 |
| | | OR | |
| | (b) | What is the difference between Hardness and Hardenability. Explain Jominey End Quench Test for measurement of Hardenability. | 07 |
| Q.3 | (a) | Explain Types of Case Hardening Process. | 07 |
| | (b) | What is the difference between cast iron and steel. Explain Grey Cast iron with sketch. | 07 |
| | | OR | |
| Q.3 | (a) | Explain effects of Mn, Si, Cr, Mo, V on Steel. | 07 |
| | (b) | Explain Copper alloys. | 07 |
| Q.4 | (a) | What do you mean by superconductor and explain Type 1 and Type 2 Superconductors. | 07 |
| | (b) | Differentiate thermoplastic and Thermosetting Plastic. | 07 |
| | | OR | |
| Q.4 | (a) | Write a short note on Bio-Degradable Plastics. | 07 |
| | (b) | Write a short note on Nano-Materials. | 07 |
| Q.5 | (a) | Explain Tension Test on Materials. | 07 |
| | (b) | Explain Compression Test on Materials. | 07 |
| | | OR | |
| Q.5 | (a) | Explain Fatigue Test on Materials. | 07 |
| | (b) | Explain Creep Test on Materials. | 07 |
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