

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2019****Subject Code: 2152506****Date: 06/06/2019****Subject Name: Foundry Technology****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.

MARKS

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| Q.1 | (a) Write basic steps of casting process. | 03 |
| | (b) Compare casting process with metal joining process. | 04 |
| | (c) Explain the pattern allowance in brief. | 07 |
| Q.2 | (a) Discuss about pollution control in foundry. | 03 |
| | (b) Write short note on pattern materials. | 04 |
| | (c) Explain any seven casting defect with causes and its remedies. | 07 |
| | OR | |
| | (c) Explain inspection of casting and explain any two non-destructives testing of casting. | 07 |
| Q.3 | (a) Draw any six patterns. | 03 |
| | (b) Discuss any four required properties of molding sand. | 04 |
| | (c) Explain directional solidification with neat sketch. | 07 |
| | OR | |
| Q.3 | (a) Define following terms:- permeability, Green compressive strength, mould hardness | 03 |
| | (b) Write basic steps of Permanent Mold Casting Technique. | 04 |
| | (c) Explain hand moulding tools with sketch. | 07 |
| Q.4 | (a) Draw schematic diagram of induction furnace. | 03 |
| | (b) Write a short note on cupola furnace. | 04 |
| | (c) Write a brief about riser location and design. | 07 |
| | OR | |
| Q.4 | (a) Draw schematic diagram of electric arc furnace. | 03 |
| | (b) Explain the principle of electric arc furnace. | 04 |
| | (c) Explain Gating System with its elements with neat sketch. | 07 |
| Q.5 | (a) Write basic steps involved in the sand casting process. | 03 |
| | (b) Discuss slush casting. | 04 |
| | (c) Write a short note on Annealing and Normalizing heat treatment process. | 07 |
| | OR | |
| Q.5 | (a) Write basic steps involved in the investment casting process. | 03 |
| | (b) Explain the gravity die casting. | 04 |
| | (c) Write a short note on Hardening and Tempering heat treatment process. | 07 |
