**Seat No.: _____** **Enrolment No._____**

# GUJARAT TECHNOLOGICAL UNIVERSITY

**BE - SEMESTER–VI (NEW) - EXAMINATION – SUMMER 2016**

**Subject Code:2162106** **Date:09/05/2016**

**Subject Name: Foundry Technology**

**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.**

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|---|---|---|---|
| **Q.1** | **(a)** | Define foundry and Draw neat diagram indicating various steps of operations in foundry unit. | **07** |
| | **(b)** | Define following:<br>(1) Mould (2) Gating Ratio (3) Riser (4) Core print (5) Chaplet (6) Pattern (7) Cope & drag | **07** |
| **Q.2** | **(a)** | Write a short note on the "Color code Used in pattern making". | **07** |
| | **(b)** | What is core? Why it is necessary? State name and draw neat sketch of various types of core boxes. | **07** |
| | | **OR** | |
| | **(b)** | What is pattern allowance? Why it is necessary? Explain different types of pattern allowances. | **07** |
| **Q.3** | **(a)** | Explain shell Moulding with its salient features. | **07** |
| | **(b)** | Explain the process of green sand moulding with diagrams wherever necessary. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Describe about the pressure die casting with its salient features. | **07** |
| | **(b)** | What are the characteristics are required in moulding sand? | **07** |
| **Q.4** | **(a)** | Explain the sequence of operations of melting in a cupola furnace. | **07** |
| | **(b)** | State importance of gating system in casting. And Explain different types of gate with respect to casting process. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Draw a neat sketch of a cupola furnace and indicate various zones and temperatures and explain its working. | **07** |
| | **(b)** | Discuss the factors to be considered in Gating Design for good quality casting. | **07** |
| **Q.5** | **(a)** | Write a short note on following:<br>(1) Gating Ratio (2) Blind Riser (3) Feeding Distance | **07**<br>**(2+2+3)** |
| | **(b)** | State name of Casting Defects with their Causes and Remedies. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Discuss "What kind of casting modification is possible by friction stir processing?" | **07** |
| | **(b)** | Discuss different techniques to achieve Directional solidification. | **07** |

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