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

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V (OLD) - EXAMINATION – SUMMER 2017

Subject Code: 152103 **Date: 01/05/2017**

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.**

Q.1	**(a)**	Explain importance of foundry technology regarding the modern scenario.	**07**
	(b)	Classify foundries and explain different sections found in a foundry.	**07**
Q.2	**(a)**	State types of patters used in foundry. With neat sketch, Explain Skeleton and Multi Piece pattern in detail.	**07**
	(b)	State types of pattern material used in foundry. Explain any two in detail.	**07**
		OR	
	(b)	Explain the following terms: 1) Cores, 2) Core Box, 3) Core Prints, 4) Chaplets, 5) Riser, 6) Gates and 7) Methoding.	**07**
Q.3	**(a)**	Give a comparative explanations regarding Green Sand Moulding and Dry Sand Moulding.	**07**
	(b)	Explain the role of additives and binders for sand preparation in mould making.	**07**
		OR	
Q.3	**(a)**	Explain the following test: 1) Permeability Test, 2) Clay Washing Test, 3) Core Gas Determination Test.	**07** **(2+2+3)**
	(b)	Explain CO_2 – Silicate Process in detail.	**07**
Q.4	**(a)**	Explain the steps involved in Investment Casting Process.	**07**
	(b)	Explain Shell Moulding Process in detail, also explain peel back defect.	**07**
		OR	
Q.4	**(a)**	Explain constructional features of Cupola furnace.	**07**
	(b)	Explain with sketch Gating System with all the components involved.	**07**
Q.5	**(a)**	Explain Directional and Progressive Solidification in detail; explain how directional solidification can be achieved.	**07**
	(b)	Explain how to increase riser efficiency, also explain Blind Risers.	**07**
		OR	
Q.5	**(a)**	Explain any 5 casting defects with causes and remedies.	**07**
	(b)	Explain how to carry out wedge test, and the importance of results obtained.	**07**

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