Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V • EXAMINATION – SUMMER 2013

Subject Code: 152103 **Date: 21-05-2013**

Subject Name: Foundry Technology

Time: 10.30 am - 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.**

Q.1	**(a)**	What is casting? What is foundry? Briefly explain steps to produce casting.	**07**
	(b)	Discuss advantages of casting over other fabrication processes.	**07**
Q.2	**(a)**	What is pattern? List types of patterns. Explain loose piece pattern with sketch.	**07**
	(b)	Why core is required? What is core print? List types of core boxes and explain any one.	**07**
		OR	
	(b)	Why some positive and negative allowances are given to pattern? List and explain these allowances.	**07**
Q.3	**(a)**	Discuss in detail about the ingredients of moulding sand highlighting their importance.	**07**
	(b)	Explain special additives to moulding sand with their effects on mould or casting.	**07**
		OR	
Q.3	**(a)**	List different moulding processes. What is the difference between green and dry sand moulding?	**07**
	(b)	With a schematic diagram explain sand mould features. Explain briefly steps of green sand moulding.	**07**
Q.4	**(a)**	Discuss in detail about investment casting process.	**07**
	(b)	What is directional solidification? How it can be achieved in castings?	**07**
		OR	
Q.4	**(a)**	What is gating system? With a schematic explain various elements of a gating system. ñA proper gating system will produce defect-free castingò- justify.	**07**
Q.4	**(b)**	Write a note on shell moulding process.	**07**
Q.5	**(a)**	Why riser is necessary? Why location of riser is important? With a sketch show types of risers.	**07**
	(b)	List types of casting defects and discuss their causes and remedies.	**07**
		OR	
Q.5	**(a)**	List different types of melting furnaces used in foundry. With a sketch explain cupola operation.	**07**
	(b)	Explain pressure die casting process.	**07**

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