Seat No.:	Enrolment No.
Deat 110	Emoniem 10

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER V • EXAMINATION – WINTER - 2012

Subject code: 152103 Date: 17-01-2013 **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) Draw neat diagram showing various steps of operations in Foundry unit & **07** Classify Foundries according to the type of work. **(b)** Define the followings: 07 (i) Core print, (ii) Mould, (iii) Chill, (iv) Chaplet, (v) Gating ratio, (vi) Riser, (vii) G-factor. **Q.2** (a) What is a pattern? Compare different pattern making materials on the basis of 07 Precision-accuracy and durability. (b) What is core? What is the function of the core? List types of cores and explain 07 core baking briefly OR **(b)** List the types of moulding sand. Explain properties of moulding sand. 07 Q.3 07 (a) Explain in brief the salient features of investment casting process. What are the advantages and limitations of investment casting process. (b) What is pattern allowance? Why it is necessary? Explain different types of 07 pattern allowances. OR (a) What is meant by directional solidification? How does it differ from **Q.3** 07 progressive solidification? **(b)** Discuss different techniques for achieving directional solidification. 07 **Q.4** (a) Why proper gating system is necessary for defect free casting? Explain 07 different types of gating systems briefly. **(b)** Discuss Pressure Die-casting process. 07 OR 0.4 Compare Induction furnace with cupola. **07 Q.4** What is inoculation Treatment? Why it is necessary? List types of Innoculants 07 used in foundry. Q.5 **07** (a) Explain Shell moulding process. **(b)** Discuss the variables of centrifugal casting process. What are the advantages 07 and limitations of the process OR (a) List common defects found in castings produced by green sand moulding? And **Q.5** 07 explain anyone in detail. (b) List various Sand testing and explain its significance. **07**
