

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 & Classify Foundries according to the type of work. **07**
- (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 Precision-accuracy and durability. **07**
- (b) What is core? What is the function of the core? List types of cores and explain core baking briefly **07**
- OR**
- (b) List the types of moulding sand. Explain properties of moulding sand. **07**
- Q.3** (a) Explain in brief the salient features of investment casting process. What are the advantages and limitations of investment casting process. **07**
- (b) What is pattern allowance? Why it is necessary? Explain different types of pattern allowances. **07**
- OR**
- Q.3** (a) What is meant by directional solidification? How does it differ from progressive solidification? **07**
- (b) Discuss different techniques for achieving directional solidification. **07**
- Q.4** (a) Why proper gating system is necessary for defect free casting? Explain different types of gating systems briefly. **07**
- (b) Discuss Pressure Die-casting process. **07**
- OR**
- Q.4** (a) Compare Induction furnace with cupola. **07**
- Q.4** (b) What is inoculation Treatment? Why it is necessary? List types of Inoculants used in foundry. **07**
- Q.5** (a) Explain Shell moulding process. **07**
- (b) Discuss the variables of centrifugal casting process. What are the advantages and limitations of the process **07**
- OR**
- Q.5** (a) List common defects found in castings produced by green sand moulding? And explain any one in detail. **07**
- (b) List various Sand testing and explain its significance. **07**
