

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V • EXAMINATION – WINTER 2013****Subject Code: 152501****Date: 27-11-2013****Subject Name: Casting 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) Explain the casting process. Explain the steps involved in making casting with its merits and demerits. **07**
- (b) Compare the Casting with other manufacturing processes. **07**
- Q.2** (a) Define Gating system. Discuss various elements of gating system with neat sketch. **07**
- (b) What is pattern? Write the advantages and disadvantages of different types of pattern materials. **07**
- OR**
- (b) What is the purpose of various pattern allowances? Explain shrinkage allowance, draft allowance, finishing allowance, camber allowance and indicate their value for some of the common metals. **07**
- Q.3** (a) Give the detail classification of foundry sand with its application. **07**
- (b) Describe moulding sands. Write in detail about properties of moulding sand. Any five. **07**
- OR**
- Q.3** (a) Explain cupola furnace with neat sketch. **07**
- (b) Differentiate between (i) annealing, (ii) normalizing and (iii) tempering of castings. **07**
- Q.4** (a) Explain duties and responsibilities of a foundry engineer **07**
- (b) With neat sketch, describe the Investment casting process, its merits-demerits and applications of the process **07**
- OR**
- Q.4** (a) Explain the fettling processes of casting in detail. **07**
- (b) Write short note on modernization of foundries. **07**
- Q.5** (a) Give the classification of casting defects. Explain the causes and remedies of surface defects and dimensional defects. **07**
- (b) With a neat sketch, give the principle of operation and application of pressure die casting and gravity die casting process. **07**
- OR**
- Q.5** (a) Show the layout for small, medium and large foundry. How does a good layout help in higher productivity and quality in foundry? Explain with an example. **07**
- (b) Explain Cost estimation and use of Computers in Foundry shop. **07**

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