

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. Vth Semester–Examination – Nov-Dec- 2011****Subject code: 152501****Subject Name: Casting Technology****Date: 22/11/2011****Time: 02:30 pm – 05:30 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) Compare the Casting with other manufacturing processes. **07**
 (b) Define Gating system . Discuss various elements of gating system with neat sketch. **07**

- Q.2** (a) A cupola charge weighs 1000 kg and is made up of the constituents of following compositions, **07**

Proportion	C	Si	Mn	P	S
Constituents					
15% Pig iron No. 1	3.5	2.5	0.7	0.17	0.016
20% Pig iron No. 2	3.5	3.0	0.65	0.11	0.016
30% New Scrap	3.4	2.3	0.5	0.2	0.030
35% Returns	3.3	2.5	0.65	0.16	0.035

(Gates riser etc.)

Work out the final iron analysis for cupola melting.

- (b) Define Following terms. **07**
 (1) De-gasification (2) Core (3) Chills (4) Chaplets
 (5) Runner (6) Riser (7) Sprue

OR

- (b) Explain Centrifugal Casting with advantages , disadvantages and applications. **07**

- Q.3** (a) Explain the difference between pattern and Casting .Also explain various steps involved in making Casting. **07**

- (b) Explain types and properties of Moulding Sand. **07**

OR

- Q.3** (a) List types of Moulding processes. Explain any two types. **07**

- (b) Explain various Pattern Allowances. **07**

- Q.4** (a) Write a short note on Investment Casting with neat sketch. **07**

- (b) Compare (1) Cold Shut with misrun **07**

(2) Blow hole with Pin hole porosity

OR

- Q.4** (a) Write a short note on Shell Moulding Process with neat sketch, **07**

- (b) State the causes and remedies of Blow Holes, Hot Tears and Cold Shut. **07**

- Q.5** (a) Explain Ultrasonic testing for detecting a casting defects. What are the advantages and disadvantages of this method? **07**

- (b) Compare Different Foundry Furnaces. **07**

OR

- Q.5** (a) List the types of Pouring Furnaces. Explain Cupola Furnace in detail. **07**

- (b) Explain Cost estimation and use of Computers in Foundry shop . **07**
