

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. A proper gating system will produce defect-free casting—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**
