

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-V • EXAMINATION – SUMMER • 2015

Subject Code: 152103**Date: 11/05/2015****Subject Name: Foundry Technology****Time: 02.30pm-05.00pm****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)** Define foundry. Draw a flow chart showing major foundry activities. **07**
How does a captive foundry differ from a jobbing foundry?
- (b)** Define the followings: (i) Core print, (ii) Mould, (iii) Chill, (iv) **07**
Chaplet, (v) Gating ratio, (vi) Riser, (vii) G-factor.
- Q.2 (a)** Give a list of pattern making materials? What factors would you **07**
consider for selecting material for pattern making? Explain with
example.
- (b)** What is core? Why it is necessary? What are different types of core **07**
boxes? Draw figure for each type.
- 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. **07**
What are the advantages and limitations of investment casting process.
- (b)** Name various allowances considered during pattern making. Explain **07**
the significance of each allowance
- OR**
- Q.3 (a)** Explain the process of green sand moulding with diagrams **07**
Wherever necessary.
- (b)** Explain what is meant by directional solidification. What are the **07**
methods used for promoting directional solidification?
- 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**
- Q.4 (a)** Draw a neat sketch of a cupola furnace and indicate various zones and **07**
temperatures.
- Q.4 (b)** Give a list of furnaces used in a foundry for melting purpose & **07**
compare induction furnace with cupola furnace
- Q.5 (a)** What is inoculation Treatment? Why it is necessary? List types of **07**
Innoculants used in foundry.
- (b)** Give the salient features of shell moulding process. **07**
- OR**
- Q.5 (a)** List various Sand testing and explain its significance. **07**
- (b)** List common defects found in castings produced by green sand **07**
moulding? And explain anyone in detail.
