

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2020****Subject Code:2152506****Date:22/01/2021****Subject Name:Foundry Technology****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any **FOUR** questions out of **EIGHT** questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) List the main advantages of the casting process.	03
	(b) State the reasons why casting is chosen over welding processes.	04
	(c) Describe any three allowances given on pattern with sketch.	07
Q.2	(a) State the essential ingredients of a molding sand.	03
	(b) Sketch the cupola furnace showing all the parts of it.	04
	(c) Sketch different types of cores used in foundry practice.	07
Q.3	(a) Discuss the reasons why a sprue should be tapered.	03
	(b) Analyze the reasons, “why natural sand is often not suitable for molding purposes”.	04
	(c) Draw a sketch of gating system and mention functions of each part.	07
Q.4	(a) State the principle of induction furnace.	03
	(b) Write a short note on top and bottom gates.	04
	(c) Report the causes and remedies of the following defects : Blow holes, Hot tears and Mis-runs.	07
Q.5	(a) List some of the advantages and disadvantages of permanent mould casting.	03
	(b) Explain the principle of shell molding process in brief.	04
	(c) Outline the precision investment casting process with typical applications of the process.	07
Q.6	(a) State the difference between centrifugal and true centrifugal casting.	03
	(b) Describe the principle of Slush casting in brief.	04
	(c) Differentiate between the principles of gravity die casting and pressure die casting with required explanation.	07
Q.7	(a) List the various patterns that are usually used in foundry.	03
	(b) Describe the advance material handling facilities in a modern foundry company.	04
	(c) Differentiate between NDT and DT used for casting defects.	07
Q.8	(a) Write down the principle of electric arc furnace.	03
	(b) Explain the importance of automation in foundry.	04
	(c) Produce a list of casting internal defects with its cause and remedy.	07
