

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI(NEW) – EXAMINATION – SUMMER 2019

Subject Code: 2162106

Date:14/05/2019

Subject Name: Foundry Technology

Time: 10:30 AM TO 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.

			MARKS
Q.1	(a)	Differentiate the terms "Pattern" and "casting".	03
	(b)	Illustrate the criteria to be selected before manufacturing of pattern for castings	04
	(c)	Explain the advantages, limitations, and applications of foundry practice	07
Q.2	(a)	Describe the basic steps of foundry with help of Flow chart.	03
	(b)	Identify the pattern which is use for manufacturing big casting by one moulder and describe it with schematic sketch	04
	(c)	Explain the salient feature of cupola furnace with schematic sketch	07
OR			
	(c)	What do you mean by pattern allowances? Why its necessary to be provided during Manufacturing? Explain in brief about shrinkage allowance.	07
Q.3	(a)	Enlist the basic requirements of core.	03
	(b)	Explain how green strength and permeability are affected by Grain shape of the sand.	04
	(c)	What do you mean by investment casting? Explain the investment casting process with advantages limitation and application.	07
OR			
Q.3	(a)	which pattern is used for manufacturing of master pattern? Explain in brief	03
	(b)	why machining allowance is provided to the pattern?	04
	(c)	Write note on sodium silicate CO ₂ process	07
Q.4	(a)	list out the patterns that can be used for mass production and also describe the salient feature of any one.	03
	(b)	Write applications of shell moulding process	04
	(c)	List various casting defects and suggest the remedies for it.	07
OR			
Q.4	(a)	Draw the schematic figure of core box which is used for manufacturing L shape Pipe bends	03
	(b)	What is importance of binder in sand casting process? List various binders.	04
	(c)	Differentiate the semi centrifugal and true centrifugal casting.	07
Q.5	(a)	Could low c steel be melted in cupola?-Justify	03
	(b)	Compare and contrast sweep pattern and segmental pattern.	04
	(c)	What do you mean by investment casting? Explain the investment casting process with advantages limitation and application.	07
OR			
Q.5	(a)	What are chaplets? Draw different types chaplets	03
	(b)	State the function of Runner, Riser and gating system in casting process	04
	(c)	Explain gravity die casting technique in detail.	07
