Seat No.:	Enrolment No.

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V • EXAMINATION - SUMMER 2013

Subj	ect	Code: 151901 Date: 14-05-2013	
Subj	ect i	Name: Manufacturing Processes - II	
_		0.30 am - 01.00 pm Total Marks: 70	
Instru			
		Attempt all questions.	
		Make suitable assumptions wherever necessary.	
		Figures to the right indicate full marks.	
	4.	Draw neat sketches in support of your answers wherever applicable.	
Q.1	(a)	Sketch the cross section of sand mould which is ready for pouring and label the	05
<b>C</b>	()	various important parts.	
	(b)	What type of allowances is generally incorporated into a casting pattern? Explain	05
	(c)	What are chills? State their functions?	04
			0=
Q.2	(a)	Explain with neat sketches types of gating systems used in casting.	07
	(b)	<ul><li>i) What is the benefit of a split pattern over a one piece or solid pattern?</li><li>ii) What defects are likely to be caused due to (i) Undersized core, (ii) Oversized</li></ul>	03 04
		core? State only properties of core sand.	U4
		OR	
	(b)		07
	(-)	types of cores.	
<b>Q.3</b>	(a)	•	5
	(1.)	Why? State of least a products, which are manufactured by rolling process.	_
	(b)	Discuss suitability of casting process over welding process for making reduction	5
	(c)	gear box body.  What would be the consequence of having different speeds of the two rolls during	4
	(0)	rolling?	4
		OR	
Q.3	(a)	What are the advantages and disadvantages of hot working of metals?	5
	(b)	What mechanical property is most important for its swaging? What type of stress	5
		is	
		experienced by the material being swaged?	
	(c)	What is the role of electrode coatings in shielded metal arc?	4
Q.4	(a)	What is meant by balancing a die in a drop forging? Explain with example	5
(,,	(b)		5
	(c)	Give examples of typical products manufactured by the following forging	4
		processes and why? i) Machine forging ii) Smith forging iii) Drop forging.	
		OR	
Q.4	(a)	Compare shell moulding and precision investment casting from the standpoint of	5
		process and products.	
	(b)	Explain cupola furnace with neat sketch showing temperature zones and	5
		important reactions that are taking places in it.	,
	(c)	How do you compare forged components with cast components?	4

Q.5	(a)	What are the common welding troubles, causes and remedies for them?	5
	(b)	Explain with neat sketch resistance spot welding process along with advantages	5
	, ,	and limitations.	
	(c)	Why electrodes for A.C. welding are generally coated with potassium silicate	4
		binder and those for D.C. arc welding with sodium silicate?	
		OR	
Q.5	(a)	Explain with neat sketch injection moulding process. What are the limitations of this process?	5
	(b)	Enlist types of super finishing processes. Discuss the selection criteria for appropriate super finishing process.	5
	(c)	Write a short note on friction welding.	4

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