## **GUJARAT TECHNOLOGICAL UNIVERSITY**

M. E SEMESTER – II • EXAMINATION – WINTER • 2013			
Subject code: 1720907 Date: 23-06-2			
Sul	bject	Name: Design for Manufacturing	
Tir	ne: 1(	<b>).30 am – 01.00 pm Total Marks: 70</b>	
Ins	struc	tions:	
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Discuss type of forces acting on the moulding flask. Enlist methods of risering design, explain design steps of modulus method	07 07
Q.2	(a) (b)	Explain Cupola with neat sketch and gives the charge calculation. Design procedure for gating system design. <b>OR</b>	07 07
	(b)	Calculate the optimum pouring time for casting whose mass is 20kg and having an average section thickness of 15mm. The materials of casting are grey cast iron and steel. Take the fluidity of iron as 28inches.	07
Q.3	(a)	Classify the product design for sand casting. Explain design for economical moulding.	07
	<b>(b)</b>	Discuss the advantages limitation of Die casting dies with its applications. OR	07
Q.3	(a) (b)	Provide the design steps for calculate the rolling lead. Design procedure for the shape of forging to be obtained from the die.	07 07
Q.4	<b>(a)</b>	What is the maximum pressure for backward extrusion for carbon steel in cold extrusion process?	07
	<b>(b)</b>	Design procedure for õDRAWö die design. OR	07
Q.4	(a) (b)	With neat sketch provide the effect of shear on the maximum load on punch. Explain with neat diagram of generative type computer aided process planning.	07 07
Q.5	(a)	Explain in brief computer aided design system for product oriented manufacturing system.	07
	(b)	Describe part oriented mould and core design. OR	07
Q.5	(a)	Function of intelligent fixture in computer aided process oriented design for manufacturing.	07
	<b>(b)</b>	Describe the factors affecting process plan selection.	07

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