|--|

## GUJARAT TECHNOLOGICAL UNIVERSITY M. E. - SEMESTER – I • EXAMINATION – WINTER • 2014

Subj	ect c	code: 2715003 Date: 12-01-2015	
•		Name: Advanced Manufacturing Process	
		:30 pm - 05:00 pm Total Marks: 70	
lnsti		ions:	
		Attempt all questions.	
		Make suitable assumptions wherever necessary.	
Q.1		Figures to the right indicate full marks.  How non conventional machining differs from conventional machining? Give	07
	(a)	your comment.	U/
	(b)		07
	(0)	1). Metal casting involves: Pouring into a having the	
		Required shaped and then allowing it to solidify.	
		Cold forming is performed by heating the metal its re- Crystalline temperature.	
		<ol> <li>is the last operation before final finishing in the casting process.</li> </ol>	
		4). The AWJM uses along with water for cutting.	
		5). The dielectric fluid used in EDM is	
		<ol> <li>The is more powerful amongst the other lasers and is Primarily used for cutting and profiling.</li> </ol>	
		<ol> <li>The principal advanced machining methods used for machining brittle and Hard non-conducting materials are</li> </ol>	
Q.2	(a)		07
CONTRACTOR	(b)	Write the working principal of laser beam machining process with neat sketch and also discuss applications.	07
		OR	
	(b)	Explain the electron beam machining process with neat sketch and stated advantages.	07
Q.3	(a)		07
	(b)	What are the advantages of metal mold casting process over the sand mold casting process?	07
		OR	
Q.3	(a)		07
	(b)	Write merit and demerit of advanced casting process over conventional casting process.	07
Q.4	(a)	Enlist the advantages and disadvantages of electron beam welding process.	0
	(b)	Explain the working principal of laser beam welding process?  OR	0
Q.4	(a)	With neat sketch and briefly explain ultrasonic welding process and its applications.	0
	(b)		0

Q.5	(a)	How HERF process is different from the conventional forming processes. Explain its working principal.	07
	(b)	Write short note on electromagnetic forming process.	07
		OR	
Q.5	(a)	Enlist method of stretch forming processes. Explain its applicability, advantages and limitations?	07
	(b)	Explain electro hydraulic forming process and stated its advantages.	07
		******	