Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER–I(New course)• EXAMINATION – WINTER- 2015

Subject Code: 2710807 **Date: 04/01/2016**

Subject Name: Advanced Materials Processing Technologies

Time:2:30 pm to 5:00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Enlist the non-conventional finishing processes and explain any one in brief.	**07**
	(b)	Discuss the material removal mechanism of abrasive jet machining with neat sketch.	**07**
Q.2	**(a)**	Describe the model that predicts the material removal rate of any one non-conventional machining process.	**07**
	(b)	Write the advantages and disadvantages of abrasive flow machining.	**07**
		OR	
	(b)	Write the advantages and disadvantages of magneto rheological abrasive finishing process.	**07**
Q.3	**(a)**	Enlist the process parameters of magnetic pulse forming and discuss their effect.	**07**
	(b)	Write the short note on rubber forming process.	**07**
		OR	
Q.3	**(a)**	Explain the working principles of powder rolling process with neat sketch.	**07**
	(b)	Write the short note on super plastic forming.	**07**
Q.4	**(a)**	Enlist the hybrid processes of micro-EDM and describe any one in brief.	**07**
	(b)	Explain any two measuring techniques that are use in micro-machining.	**07**
		OR	
Q.4	**(a)**	Write the difference between turning process and micro-turning process.	**07**
	(b)	Enlist the properties that must satisfy by thin film in surface micromachines and discuss any one of them.	**07**
Q.5	**(a)**	Write the short note on solid free form fabrication.	**07**
	(b)	Enlist the various types of laser use in macro-manufacturing and micro-manufacturing.	**07**
		OR	
Q.5	**(a)**	Write the short note on ion implantation technique used for fabrication of micro-devices.	**07**
	(b)	Write the industrial applications of laser.	**07**

****