

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – I • EXAMINATION – SUMMER • 2013****Subject code: 715003****Date: 06-06-2013****Subject Name: Advanced Manufacturing Processes****Time: 10.30 am – 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.

- Q.1** (a) Differentiate between conventional and Non conventional processes. **07**
(b) How the developments in the area partly responsible for evolution of advanced machining techniques? **07**
- Q.2** (a) Derive the equation for volumetric material removal rate due to throwing mechanism for USM. **07**
(b) With the help of a neat diagram explain the working principle of WJM and its applications. **07**
- OR**
- (b) What is the basic function of catcher? What problem do you expect in the absence of during WJM? Draw the neat figure of different type catchers. **07**
- Q.3** (a) Explain the working principle of EDM; Also explain how it is differ from wire cut EDM? **07**
(b) Explain the production of Laser beam and working principle of LBM. **07**
- OR**
- Q.3** (a) With the neat sketch explain Ultrasonic welding and its applications. **07**
(b) Write and explain five important process parameters of USM, Draw of sketch showing effects of two of these two variables on MRR. **07**
- Q.4** (a) Differentiate between EBW and LBW. **07**
(b) Explain contour roll forming process with neat sketch of an application. **07**
- OR**
- Q.4** (a) Explain the process of Magnetic pulse forming. What are its characteristics and advantages? **07**
(b) Enumerate the process of Explosive forming process and its applications. **07**
- Q.5** (a) Explain Metal mould casting process and also stated its application. **07**
(b) Explain squeeze casting processes and stated its advantages. **07**
- OR**
- Q.5** (a) Enumerate and explain sequence of operations is involved in Continues casting. **07**
(b) Write merit and demerit of advanced casting process over conventional casting processes. **07**
