

Seat No.: _____

Enrolment No. _____

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

Subject code: 715003N

Date: 19-06-2014

Subject Name: Advanced Manufacturing Processes

Time: 02:30 pm - 05:00 pm

Total Marks: 70

Instructions:

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

- Q.1** (a) List the various seven reasons which are responsible for evolution of advanced manufacturing processes. **07**
- (b) What do you mean by hybrid process? Explain need of such process through suitable example. **07**
- Q.2** (a) Write the working principal of water jet machining process with neat sketch. **07**
- (b) Explain the electron beam machining process with neat sketch. **07**
- OR**
- (b) What are the process parameters of laser beam machining? Explain effect of any two parameters on material removal for the same process. **07**
- Q.3** (a) What are the advantages of metal mold casting process over the sand mold casting process? **07**
- (b) Write the short note on continuous casting process and its application. **07**
- OR**
- Q.3** (a) What do you mean by evaporative pattern? How the use of such pattern contribute in enhancing the overall quality of casting. **07**
- (b) Write the short note on ceramic shell casting process and its application. **07**
- Q.4** (a) Explain the working principal of electron beam welding process. **07**
- (b) Enlist the advantages and disadvantages of laser beam welding process? **07**
- OR**
- Q.4** (a) With the neat sketch explain Ultrasonic welding and its applications. **07**
- (b) How the high-energy-rate forming process is different from the conventional forming processes. Explain its working principal. **07**
- Q.5** (a) Explain the working principal of electrohydraulic forming through sketch and enlist the process parameters of same. **07**
- (b) Write short note on electromagnetic forming process. **07**
- OR**
- Q.5** (a) Explain the working principal of stretch forming process through sketch. **07**
- (b) What are the advantages and disadvantages of contour roll forming process? **07**
