

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME - SEMESTER- I (NEW) - • EXAMINATION – WINTER 2018**

**Subject Code: 2715003****Date:14-Dec-2018****Subject Name: Advance Manufacturing Processes****Time: 10.30 am to 1.00 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) How the developments in the area partly responsible for evolution of advanced machining techniques? **07**  
 (b) Explain current development in non-conventional processes. **07**
- Q.2** (a) Sketch and explain different feasible dielectric flushing techniques applicable in case of EDM. **07**  
 (b) What is the principal difference between AJM & AWJM and Where are these processes used? **07**
- OR**
- (b) Explain the electron beam machining process with neat sketch. **07**
- Q.3** (a) Explain with neat sketch AWJM and Its advantages. **07**  
 (b) Explain with a neat diagram the principle of ultrasonic welding and also state the advantages and disadvantages for the same. **07**
- OR**
- Q.3** (a) With the neat sketch explain Electron beam welding and its applications. **07**  
 (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.4** (a) Write merit and demerit of advanced casting process over conventional casting process. **07**  
 (b) Enlist the advantages and disadvantages of electron beam welding process? **07**
- OR**
- Q.4** (a) Explain vacuum mould casting process and stated its advantages. **07**  
 (b) Enlist methods of stretch forming processes. Explain applicability, advantages and limitations of stretch forming processes. **07**
- Q.5** (a) Write short note on electromagnetic forming process. **07**  
 (b) What are the advantages of metal mold casting process over the sand mold casting process? **07**
- OR**
- Q.5** (a) Explain the Electro hydraulic forming. What are its characteristics and advantages? **07**  
 (b) Explain ceramic shell casting process and its advantages. **07**

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