

**B.Tech. – VIEP – MECHANICAL ENGINEERING  
(BTMEVI)**

00825

**Term-End Examination**

**December, 2014**

**BIMEE-001 : UNCONVENTIONAL MANUFACTURING  
PROCESSES**

*Time : 3 hours*

*Maximum Marks : 70*

---

**Note :** Answer any **five** out of seven questions. All questions carry equal marks.

---

---

1. (a) What exactly are the items that can be considered with respect to the analysis of economics of various non-traditional machining processes ? Briefly explain by naming some typical items. 7
- (b) Make a comparison among various non-traditional machining processes in terms of the following : 7
  - Perforation
  - Contouring a surface
2. Explain suitable machining process for
  - (a) Cutting a glass plate into two pieces. 7
  - (b) Ultra precision machining in microprocessors. 7

3. (a) Discuss in detail the method of generating the ultrasonic characteristics of the various types of tool holders and tool feed mechanisms in USM. 8
- (b) Briefly discuss the mechanisms involved in material removal by USM. 6
4. (a) Explain the production of laser beam and working principle of laser beam machining. 8
- (b) Discuss the factors that influence the quality of the cut in PAM. 6
5. (a) With a neat sketch explain the process of explosive welding. 8
- (b) Write the advantages, disadvantages, and applications of metalizing. 6
6. (a) Describe the working principle and equipment for electromagnetic forming. 8
- (b) Differentiate between electro discharge machining and electro discharge forming. 6
7. (a) Describe the working principle of Photo-Lithography process. 7
- (b) How can welding processes be used for cladding application ? Discuss. 7
-