

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

Term-End Examination

June, 2013

**BIMEE-001 : UNCONVENTIONAL
MANUFACTURING PROCESSES**

Time : 3 hours

Maximum Marks : 70

Note : Answer any five questions.

1. (a) Write down the classification of un-conventional manufacturing processes. 5
- (b) Explain working of wire cut Electro-Discharge Machining (WEDM). 9
2. (a) Explain with the help of diagram the "Automatic Feedback circuit". 7
- (b) Write down the advantages and disadvantages of EDM. 7
3. (a) In an ECM process for machining iron, it is desired to obtain a metal removal rate of $1 \text{ cm}^3/\text{min}$. Determine the amount of current required for the process, assuming that, Atomic weight of Iron = 56 gm, Valency at which dissolution occurs = 2, density of iron = 7.8 gm/cm^3 and Faraday's constant = 1609 amp-min. 7
- (b) Discuss Electro-chemical grinding. 7

4. (a) Explain photo chemical machining briefly. 7
(b) Explain Hot Machining in brief. 7
5. (a) Briefly discuss giving its applications the process of Explosive Fabrication. 7
(b) List down the characteristics of PAM process, and mention its applications. 7
6. (a) In what ways the electrochemical grinding differs from ordinary grinding process ? Give point wise response. 7
(b) Give a schematic diagram of Laser Beam Machining with its main components. 7
7. Answer *any two* of the following : 7x2=14
(a) Photo - Lithography process
(b) Under water welding
(c) Hydro Spark forming
(d) Laser for surface Treatment
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