Printed Pages : 1 **Roll No.** | | | | | | | | | | | **EME012**

B. TECH.

THEORY EXAMINATION (SEM–VI) 2016-17

UNCONVENTIONAL MANUFACTURING PROCESSES

Time : 3 Hours ***Max. Marks : 100***

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION – A

1. Attempt all of the following questions: 10 x 2 = 20

(a) What is cladding?

(b) What are the different types abrasives used in AJM?

(c) What are the characteristics of Laser used in Laser machining?

(d) Name some of the tool material used in EDM.

(e) What are the properties are expected from the electrolyte used in the ECM?

(f) Enlist the limitations of conventional machining process.

(g) How non-traditional machining processes are classified?

(h) Write any four application of EBM.

(i) What are functions of dielectric fluid used in EDM?

(j) How is the plasma generated in PAM?

SECTION – B

2. Attempt any five of the following questions: 5 x 10 = 50

(a) Explain the principle & methodology of LBM with neat sketch. List out the advantages and limitations of LBM.

(b) With neat sketch explain the process of AJM .List its application and limitations.

(c) Describe the working principle and elements of chemical machining.

(d) Discuss in detail about the USM process variables that influence the rate of material removal.

(e) With neat sketch explain the process of ECG and its applications.

(f) Explain in detail the ECM process with neat sketch and also mention the advantages and application.

(g) **Write a short note on:**

(i) Metallizing (ii) Explosive forming

(h) Write short note on:

(i) Water hammer forming (ii) Electro-hydraulic forming

SECTION – C

Attempt any two of the following questions: 2 x 15 = 30

3. What is EBM? Sketch its set up and indicate its main parts and explain the principle of operation.

4. With neat sketch describe the EDM equipment, its working, applications and advantages.

5. **Explain the following:**

(i) Photo-lithography process

(ii) Electro-magnetic forming

(iii) Explosive welding