

(Following Paper ID and Roll No. to be filled in your
Answer Books)

Paper ID : 140669

Roll No.

--	--	--	--	--	--	--	--	--	--

B.TECH.

Theory Examination (Semester-VI) 2015-16

UNCONVENTIONAL MANUFACTURING PROCESSES

Time : 3 Hours

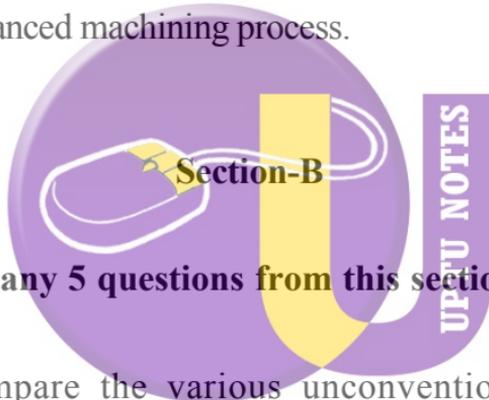
Max. Marks : 100

Section-A

1. Attempt all parts. All parts carry equal marks. Write answer of each part in short. (2×10 = 20)

- (a) Reuse of abrasives is not recommended in AJM. Why?
- (b) Define plasma.
- (c) What is LASER?
- (d) Write the principle of P.A.M
- (e) What are the main functions of electrolyte in the ECM?

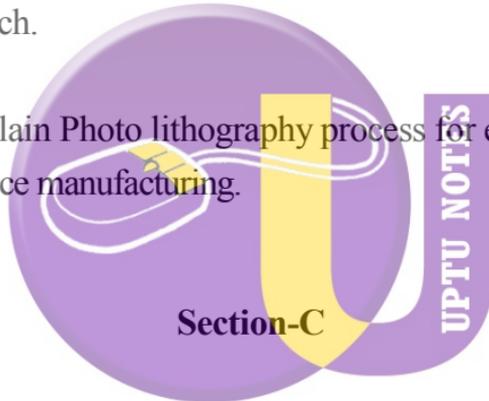
- (f) What are functions of dielectric fluid used in EDM?
- (g) What is ultrasonic transducer?
- (h) What is metalizing?
- (i) What are the Process parameters affecting the MRR in AJM?
- (j) Enlist the requirement that demands the use of advanced machining process.



2. **Attempt any 5 questions from this section.** (10×5=50)

- (a) Compare the various unconventional machining process on the basis of type of energy employed, material removal rate, and mechanism of metal removal.
- (b) Discuss in detail about the AJM process variables that influence the rate of material removal.
- (c) Explain the principle of ECG with sketch and write its application

- (d) With neat sketch explain the process of USM. List its application and limitations.
- (e) Explain the process of electrical discharge machining, its process parameters and applications.
- (f) Describe the chemistry involved in ECM process and also mention the advantages and application.
- (g) Explain the principles and elements of EBM with neat sketch.
- (h) Explain Photo lithography process for electronic device manufacturing.



Note : Attempt any 2 questions from this section. (15×2 = 30)

3. Explain the principle & methodology of PAM with sketch. List out the advantages and limitations of PAM.
4. With neat sketch describe the wire cut EDM equipment, its working, applications and advantages.

5. Explain the following:

(i) Water hammer forming

(ii) Explosive forming

(iii) Electro-magnetic forming

