



Printed Pages : 3

TME14

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

PAPER ID : 0406

Roll No.

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**B.Tech**

**(SEM VII) ODD SEMESTER THEORY EXAMINATION 2009-10  
UNCONVENTIONAL MANUFACTURING PROCESS**

*Time : 3 Hours]*

*[Total Marks : 100*

**Note :** *Attempt all questions.*

**1** Attempt any **two** parts of the following : **10×2=20**

- (a) How do you classify unconventional machining process ? What are the main parameters to be considered while selecting a particular process ?
- (b) Give a comparison of the unconventional processes in terms of process, material removal rate and applications.
- (c) Explain the need for the use of unconventional machining process compared to the conventional ones.

**2** Attempt any **two** parts of the following : **10×2=20**

- (a) In abrasive jet machining explain the influence of nozzle geometry, abrasive type and type of carrier gas.

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1

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(b) Briefly explain the working of Electro Discharge Machining (EDM) process giving suitable sketch. What are the important parameters that control the material removal rate in EDM ?

(c) What are the principal features of Electro Chemical Machining (ECM) process ? Briefly explain the various process parameters that affect material removal rate in ECM.

3 Attempt any **two** of the following :  $10 \times 2 = 20$

(a) Explain Laser Beam Machining process giving suitable sketch. Give advantages, disadvantages and its applications.

(b) Write a note on Electron beam machining. Compare its advantages with Laser beam machining.

(c) Giving suitable sketch explain the working of ultrasonic machining process. Give the applications of USM.

4 Attempt any **two** parts of the following :  $10 \times 2 = 20$

(a) What do you understand by Cladding ? How it is done ? Explain in detail.

(b) Explain the working of plasma arc cutting equipment giving suitable sketch. Where this process is suitably applied ? Can this process be used for welding also ? Explain.

(c) Write a note on underwater welding, its application, advantages and disadvantages.

5 Attempt any **two** parts of the following :  $10 \times 2 = 20$

(a) What is Electrodischarge forming ? Discuss its working and application.

(b) Explain the working of Explosive forming giving suitable sketch. Discuss its application.

(c) Write short notes on :

(i) Water hammer forming

(ii) Explosive compaction.

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