

Roll No.

Total No. of Pages: 02

MAY 2014

B. Tech. (ME) (Sem:-)

NON TRADITIONAL MACHINING PROCESSES

SUBJECT CODE: DE/PE-2.0

PAPER ID: A2411

TIME : 03 Hours

Maximum Marks : 60

Instructions to Candidates:

- 1) Section – A is compulsory consisting of Ten questions carrying Two marks each.
- 2) Section –B contains Five questions carrying Five marks each and students has to attempt any four questions
- 3) Section – C contains Three questions carrying Ten marks each and students has to attempt any two questions

Section- A

Q1.

- a) Name the common dielectric fluids used in EDM
- b) What are the requirements of tool material for EDM? Name the common tool material
- c) List the advantages of ECG over conventional grinding
- d) What type of work is more suitable for LBM?
- e) Name the abrasives and carrier gases used in AJM.
- f) What prompted the development of unconventional machining processes
- g) What is the concept of hybrid machining process?
- h) Explain the working principle of Photochemical machining
- i) What is the mechanism of material removal in USM process?
- j) Explain the function of servo- mechanism in EDM.

Section- B

- Q2. Explain the effect of H₂ bubble formation on Electro chemical machining process
- Q3. Explain the characteristic of abrasives and abrasives slurry in ultrasonic machining process.
- Q4. Discuss the effect of following process parameters of abrasive flow machining on MRR and surface finish: (i) Abrasive size, (ii) Mass flow rate, (iii) Standoff Distance.
- Q5. Sketch the various feed mechanism used to feed the tool in Ultrasonic Machining Process
- Q6. Explain the Resistance-Capacitance -Relaxation circuit used in EDM process.

Section- C

- Q7. Explain with the help of neat diagram the working principle of Ultrasonic Machining Process. Discuss its various process parameters and their effect on material removal rate (MRR) and surface finish.
- Q8. Explain the working principle of Electrochemical Machining (ECM) and also elaborate the electrochemistry of the ECM process.
- Q9. Write note on
- Hybrid Machining
 - Chemical Machining.

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