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Question Paper Code : 40900

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2025.

Sixth/Seventh Semester

Mechanical Engineering

ME 8073 — UNCONVENTIONAL MACHINING PROCESSES

(Common to : Manufacturing Engineering/Mechanical Engineering
(Sandwich)/Mechanical and Automation Engineering/Production Engineering)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the need of unconventional machining process?
2. Expand and define MRR.
3. State the principles of EDM process.
4. What is LBM? Give an example.
5. Infer the need of amplifying maskants.
6. State the purpose of etchants.
7. List out the benefits of Abrasive Flow machining.
8. When do we use Magnetic Abrasive Finishing?
9. Outline the functions of NDT Processes.
10. What are the effects of NDT processes?

PART B — (5 × 13 = 65 marks)

11. (a) Explain the classification, merits, demerits and applications of Abrasive Jet Machining. (13)

Or

- (b) Discuss the merits, demerits, need and applications of Water Jet Machining. (13)

12. (a) Describe the working principle, equipment, process parameters and surface finish for Wire cut EDM. (13)

Or

- (b) Explain the principles, equipment, types and applications of Electron Beam Machining. (13)

13. (a) Compare and explain the procedure of chemical Machining and electro chemical machining. (13)

Or

- (b) Describe the principles, process parameters, MRR and applications of ECM. (13)

14. (a) Elaborate the working principles, equipments, effect of process parameters and applications of chemo-mechanical polishing. (13)

Or

- (b) Summarize the working principle of abrasive flow machining and magneto rheological abrasive flow finishing. (13)

15. (a) Explain the recent developments in non-traditional machining processes pertaining to its specifications and process parameters. (13)

Or

- (b) Compare and contrast various non-traditional machining processes based on its process variations and MRR. (13)

PART C — (1 × 15 = 15 marks)

16. (a) Illustrate with neat sketches the Plasma Arc Machining in terms of principles, applications and benefits. (15)

Or

- (b) Show the real life applications of ECG and ECH in auto ancillary industries. (15)