

**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**  
(AUTONOMOUS)

**B.Tech. IV Year I Semester Regular & Supplementary Examinations December-2024**  
**MODERN MACHINING METHODS**  
(Mechanical Engineering)

**Time: 3 Hours****Max. Marks: 60**

(Answer all Five Units 5 x 12 = 60 Marks)

**UNIT-I**

- 1 a What are the advantages, disadvantages and applications of Non-Traditional Machining Methods? CO1 L1 6M  
b Explain the working principle of water jet machining (WJM). CO1 L1 6M

**OR**

- 2 a Illustrate the Constriction parts of Ultrasonic Machining. CO1 L1 6M  
b What are the advantages, disadvantages, and applications of Abrasive Jet Machining (AJM)? CO1 L1 6M

**UNIT-II**

- 3 a With a neat sketch, explain the working of a Wire Electrical Discharge Machining Process (WEDM). CO2 L1 6M  
b Give a brief note on the advantages, disadvantages, and applications of the Electrical Discharge Grinding (EDG) process. CO2 L4 6M

**OR**

- 4 a What are the functions and properties of Dielectric? CO2 L2 6M  
b What is flushing, and explain any two methods of flushing in the EDM process? CO2 L3 6M

**UNIT-III**

- 5 a Discuss the function of electrolytes in this process of ECM. CO3 L1 6M  
b Write short note on electrolytes used in Electro Chemical Machining (ECM). CO3 L1 6M

**OR**

- 6 Explain the working principle of the Electro-Chemical Honing (ECH) process with a schematic diagram and specify the parameters. CO3 L2 12M

**UNIT-IV**

- 7 a Explain the parts of Laser Beam Machining (LBM) briefly. CO4 L1 6M  
b Write the advantages, disadvantages, and applications of Ion Beam Machining. CO4 L2 6M

**OR**

- 8 Draw the schematic layout of Plasma Arc Machining (PAM) set-up and explain its parts. CO4 L2 12M

**UNIT-V**

- 9 a Discuss about the Micro Fabrication Technique-Doping. CO5 L2 6M  
b Write a short note on doping technique of Sol-gel method. CO5 L1 6M

**OR**

- 10 Explain about the Micro Fabrication Technique of Physical vapor deposition with a neat diagram. CO5 L1 12M

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