

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

B.Tech. IV Year I Semester Regular & Supplementary Examinations October/November-2025
MODERN MACHINING METHODS

(Mechanical Engineering)

Time: 3 Hours

Max. Marks: 60

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

UNIT-I

- 1 Discuss the Modern Machining Methods with their advantages in the current industry. CO1 L1 12M

OR

- 2 a Illustrate a neat sketch, and explain the working process of the Ultrasonic Machining Process (USM). CO1 L4 6M
b Mention the advantages, disadvantages, and applications of the Ultrasonic Machining Process CO1 L1 6M

UNIT-II

- 3 a List out Types and Mechanisms of tool wear. CO2 L2 6M
b List the advantages, disadvantages and applications of EDM (Electrical Discharge Machining). CO2 L2 6M

OR

- 4 Explain the parts and working principle of EDM (Electrical Discharge machining) with a neat sketch. CO2 L2 12M

UNIT-III

- 5 Discuss the need for Electro Chemical Machining (ECM) and its applications. CO3 L4 12M

OR

- 6 a Write the advantages, disadvantages and applications of Electro Chemical Machining (ECM). CO3 L2 6M
b Discuss the types and significant techniques used for Chemical Machining Operations CO3 L3 6M

UNIT-IV

- 7 Explain the working principle of the Ion Beam Machining (IBM) process with a schematic diagram. CO4 L1 12M

OR

- 8 a Write the advantages, disadvantages, and applications of Laser Beam Machining (LBM). CO4 L3 6M
b Write the advantages, disadvantages, and applications of Ion Beam Machining CO4 L2 6M

UNIT-V

- 9 Discuss briefly about the need of Micro fabrication Techniques, its advantages, disadvantages, and applications. CO5 L2 12M

OR

- 10 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

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