| O.P.Code: 20ME0342 | R20 | H.T.No. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|

**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**
(AUTONOMOUS)
**B.Tech. IV Year I Semester Regular Examinations February-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 | 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 | L2 | 6M |
| | | **OR** | | | |
| 2 | a | Explain the working principle of water jet machining (WJM). | CO1 | L4 | 6M |
| | b | What are the advantages, disadvantages and applications of water jet machining (WJM). | CO1 | L1 | 6M |

**UNIT-II**

| | | | | | |
|---|---|---|---|---|---|
| 3 | a | List out the Parameters that effect EDG and limitations. | CO2 | L2 | 6M |
| | b | 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 | List the advantages, disadvantages and applications of WIRE Electrical Discharge machining. | CO2 | L2 | 6M |

**UNIT-III**

| | | | | | |
|---|---|---|---|---|---|
| 5 | a | Discuss the function of electrolytes in this process of ECM | CO3 | L1 | 6M |
| | b | Write the advantages, disadvantages and applications of Electro Chemical Machining (ECM). | CO3 | L2 | 6M |
| | | **OR** | | | |
| 6 | | Discuss the types and significant techniques used for Chemical Machining Operations. | CO3 | L1 | 12M |

**UNIT-IV**

| | | | | | |
|---|---|---|---|---|---|
| 7 | | Differentiate between Plasma Arc Machining (PAM) and Laser Beam Machining (LBM). | CO4 | L1 | 12M |
| | | **OR** | | | |
| 8 | | Differentiate between Plasma Arc Machining and Ion Beam Machining. | CO4 | L2 | 12M |

**UNIT-V**

| | | | | | |
|---|---|---|---|---|---|
| 9 | | Discuss briefly about the need of Micro fabrication Techniques, its advantages, disadvantages, and applications. | CO5 | L2 | 12M |
| | | **OR** | | | |
| 10 | | Explain about the Micro Fabrication Technique - Lithography with neat Lithography flow diagram. | CO5 | L1 | 12M |

***** END *****