

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

B.Tech. II Year II Semester Regular & Supplementary Examinations March/April-2026
MANUFACTURING PROCESSES
(Mechanical Engineering)

Time: 3 Hours**Max. Marks: 70****PART-A**

(Answer all the Questions 10 x 2 = 20 Marks)

- | | | | | | |
|---|---|--|-----|----|----|
| 1 | a | State any four types of patterns | CO1 | L2 | 2M |
| | b | What are the applications of casting? | CO1 | L1 | 2M |
| | c | What are the special features of friction welding? | CO2 | L1 | 2M |
| | d | How can slag inclusions in welding be avoided? | CO2 | L2 | 2M |
| | e | Classify the types of extrusion processes. | CO3 | L1 | 2M |
| | f | What are the disadvantages of forging processes? | CO3 | L1 | 2M |
| | g | Define Stretch forming. | CO4 | L1 | 2M |
| | h | How is hydro forming is similar to rubber forming | CO4 | L2 | 2M |
| | i | What is the difference between model and prototype? | CO5 | L1 | 2M |
| | j | Mention the quality Aspects for Additive Manufacturing | CO5 | L1 | 2M |

PART-B

(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

- | | | | | | |
|---|---|---|-----|----|----|
| 2 | a | What are the steps involved in making of casting? | CO1 | L1 | 5M |
| | b | List the main advantages and applications of the casting process. | CO1 | L1 | 5M |

OR

- | | | | | | |
|---|--|--|-----|----|-----|
| 3 | | What is core? Discuss different types of cores with neat sketch. | CO1 | L1 | 10M |
|---|--|--|-----|----|-----|

UNIT-II

- | | | | | | |
|---|---|---|-----|----|----|
| 4 | a | Explain the classification of welding processes briefly. | CO2 | L1 | 5M |
| | b | Distinguish three types of welding flames and for what applications these are used? | CO2 | L4 | 5M |

OR

- | | | | | | |
|---|---|--|-----|----|----|
| 5 | a | Differentiate between the welding, brazing and soldering processes | CO2 | L4 | 5M |
| | b | Identify the common welding troubles; causes and remedies in welding Process | CO2 | L2 | 5M |

UNIT-III

- | | | | | | |
|---|---|--|-----|----|----|
| 6 | a | What is bulk deformation process? | CO3 | L1 | 5M |
| | b | Write a short notes on i). Recovery ii). Recrystallization iii). Strain growth | CO3 | L2 | 5M |

OR

- | | | | | | |
|---|--|--|-----|----|-----|
| 7 | | Name various types of forgings and Discuss the types of forging in detail. | CO3 | L1 | 10M |
|---|--|--|-----|----|-----|

UNIT-IV

- | | | | | | |
|---|---|--|-----|----|----|
| 8 | a | What are the characteristics of sheet metal? | CO4 | L2 | 5M |
| | b | List out the various types of shearing operations? | CO4 | L2 | 5M |

OR

- | | | | | | |
|---|--|--|-----|----|-----|
| 9 | | Discuss the post processing of Additive manufacturing parts. | CO4 | L2 | 10M |
|---|--|--|-----|----|-----|

UNIT-V

- | | | | | | |
|----|--|---|-----|----|-----|
| 10 | | With neat sketch explain the Extrusion based Additive manufacturing | CO5 | L2 | 10M |
|----|--|---|-----|----|-----|

OR

- | | | | | | |
|----|---|---|-----|----|----|
| 11 | a | Discuss the Basic Principles of Extrusion Based System | CO5 | L2 | 5M |
| | b | Write a short note on classification of Additive manufacturing. | CO5 | L2 | 5M |

***** END *****