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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech IV Year II Semester Regular & Supplementary Examinations July 2021
ADVANCED WELDING PROCESSES
(Mechanical Engineering)

Time: 3 hours

Max. Marks: 60

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

UNIT-I

- 1 a How do you classify welding process? L2 6M
b What is the common fuel gases used in the gas welding process? Describe L1 6M

OR

- 2 a Explain the procedure for coding the electrode for SMAW/MMAW of low and L1 6M
medium alloy steel.
b Explain the meanings of E55RB2L23Fe as per BIS specification for SMAW. L3 6M

UNIT-II

- 3 a With neat sketch explain plasma arc welding process. L2 6M
b Discuss about shielding gases used in GTAW and its effects on weld bead shape. L2 6M

OR

- 4 a Explain the addition of filler metal in TIG welding. L2 6M
b What are the metals that can be welded by TIG and give the area of application? L2 6M

UNIT-III

- 5 a With neat sketch explain joint designs in friction welding. L2 6M
b Give the applications of friction welding process. L3 6M

OR

- 6 a Write short note on process variables of ultrasonic welding. L2 6M
b What are the advantages, disadvantages and applications of ultrasonic welding? L1 6M

UNIT-IV

- 7 a Describe the process of explosion welding and explain its principle of operation. L1 6M
b What are the elements used in explosive welding? Write short note of it. L1 6M

OR

- 8 Define adhesive bonding and nature of adhesive joints. With neat sketch write short L1 12M
notes of joint designs in adhesive bonding.

UNIT-V

- 9 Describe with a neat sketch the constructional features of an electron beam gun. L2 12M

OR

- 10 a Describe the LASER beam welding process with neat sketch. L2 6M
b Discuss the process variables in LASER beam welding. L2 6M

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