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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)**B.Tech IV Year I Semester Regular Examinations November/December-2022****ADVANCED WELDING PROCESSES**

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 60

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

UNIT-I

- 1 a What are the gas welding techniques? L1 6M
b Give the applications of gas welding. L1 6M

OR

- 2 a Classify the arc welding consumables. L1 6M
b What are the main purposes of electrode coatings? L1 6M

UNIT-II

- 3 a What are the applications of PAW? L3 6M
b What are the types of fluxes and their compounding? L2 6M

OR

- 4 a Give the advantages and disadvantages of GTAW. L1 6M
b What are the variants in GTAW and explain hot wire GTAW? L3 6M

UNIT-III

- 5 a What are the different methods of controlling current in a welding transformer? L1 6M
b Define duty cycle of a welding power source and explain its role in the selection of a power source. L2 6M

OR

- 6 Illustrate the process variables in LASER beam welding. L2 12M

UNIT-IV

- 7 a Discuss the working principle of friction stir welding. L2 6M
b What are the advantages and limitations of friction stir welding? L1 6M

OR

- 8 a Describe the process of explosion welding and explain its principle of operation. L2 6M
b What are the elements used in explosive welding? Write short note of it. L1 6M

UNIT-V

- 9 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

OR

- 10 Enumerate the effect of flame cutting speed and gas pressure on kerf and drag. L3 12M

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