

22608

M.Tech. 2nd Semester (M.E.) CBCS Scheme

Examination, July-2022

WELDING & ALLIED PROCESSES

Paper-MTME22C1

Time allowed : 3 hours]

[Maximum marks : 100

Note : Attempt first common question, which is compulsory, and one question from each of the four sections.

- 1. (i) What do you mean by arc blow?**
- (ii) How is size of the spot weld determined?**
- (iii) Write brief note on explosives used in explosive welding.**
- (iv) What is principle of thermal spraying?**
- (v) What are advantages of robotic welding?**
- (vi) What are the applications of underwater welding?**
- (vii) What do you mean by weld dilution?**
- (viii) Give the application of thermal spraying.**
- (ix) Write short notes on Plasma Cutting.**
- (x) What is function of shielding gases in arc welding?**

10×2=20

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22608

Unit-I

2. What is weld thermal cycle? Discuss the phase transformation during cooling of weld metal in low alloy steel. 20
3. Define Welding arc. Explain the mechanism of arc initiation and its maintenance. 20

Unit-II

4. With the help of neat sketch explain working of submerged arc welding. Also discuss the applications of submerged arc welding. 20
5. Write short notes on : 20
 - (i) Weld dilution
 - (ii) Forces affecting metal transfer

Unit-III

6. Discuss the difficulties in welding of plastics. With the help of neat sketch explain the process of welding of plastic. 20
7. With the help of neat sketch explain the Principle of friction stir processing. Also state its application. 20

(3)

22608

Unit-IV

8. Explain with the help of neat sketch Robotic welding. Mention its advantages and disadvantages. 20
9. Write short notes on : 20
 - (a) Types of Welding robots
 - (b) Robot selection mechanics