

- (d) What do you mean by flux and welding electrodes ? 3
- (e) Explain welding arc initiation. 3
- (f) Define automatic welding. 2
- (g) What do you mean by robotic welding ? 3

SECTION - A

2. (a) Define welding. Classify the welding processes. 10
- (b) Describe briefly the phase transformation during cooling of weld metal in low alloy steel. 10
3. What do you mean by welding arc ? Explain the various arc forces. Discuss the mechanism of arc initiation and maintenance. 20

SECTION - B

4. (a) Elaborate the forces affecting metal transfer during welding. Also discuss weld dilution. 10

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- (b) Describe the TIG welding in detail with neat sketch. 10
5. What do you mean by CO₂ welding ? How it is differ from MIG welding ? What is the principle of operation and also, discuss welding parameters ? 20

SECTION - C

6. (a) What is friction stir welding ? Describe briefly the steps involved in the friction stir welding. 10
- (b) What is plastic welding ? Discuss difficulties in plastic welding. 10
7. What do you mean by underwater welding process (UWWP) ? What are the various methods of UWWP ? Explain its various applications. 20

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P. T. O.

SECTION – D

8. What is semiautomatic welding ? Differentiate between automatic and semiautomatic welding. Explain how welding mechanization influencing manufacturing industries ? 20
9. Write short notes on the following : 2 × 10 = 20
- (a) Welding automation
- (b) Flexible automated welding

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Roll No.

22608

**M. Tech. 2nd Semester (ME) CBCS
Scheme Examination – June, 2023**

WELDING & ALLIED PROCESSES

Paper : MTME22C1

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt five questions in all. Question No. 1 is compulsory. Attempt four more question from the Sections A, B, C & D by selecting at least one question from each Section.

1. (a) Weldability 3
- (b) What is HAZ ? 3
- (c) Weld dilution 3

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P. T. O.