

22616

M.Tech 1st Semester (MAE) CBCS Scheme

Examination, December-2017

WELDING AND ALLIED PROCESSES

Paper-MTMA21 C4

*Time allowed : 3 hours]*

*[Maximum marks : 100*

*Note : Attempt five questions in all. Question No. 1 is compulsory. Attempt one question from each section All questions carry equal marks.*

1. Explain the following :
  - (a) Weld thermal cycle. 7
  - (b) Electrical characteristics of an arc. 7
  - (c) Friction welding. 6

**Section-A**

2. Explain the metallurgy of fusion welds, Mechanism and microstructural products in welding. 20
3. Explain Recrystallization and grain growth of HAZ in detail. 20

**Section-B**

4. Describe the role of electrode polarity on and arc behaviour and also discuss arc blow with the help of suitable example.

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5. Explain the various types of electrode used in welding and importance of shielding gases. 20

**Section-C**

6. What do you mean by Metal-Transfer? Explain the terms, circuit/dip transfer, free plight, and globular type. 20
7. Describe the principal of MIG welding with the help of neat sketch. 20

**Section-D**

8. Explain solid plate welding and its main features and its applications. 20
9. (a) Explain "Under water weldings" 10  
(b) Weldings of plastics and its Industrial applications. 10