



Printed Pages : 3

TME - 033

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0494

Roll No.

**B. Tech.**

**(SEM. VIII) EXAMINATION, 2008-09  
ADVANCED WELDING TECHNOLOGY**

Time : 3 Hours]

[Total Marks : 100

- Note :** (1) Attempt all five questions.  
(2) All questions carry equal marks.  
(3) Be precise in your answer.  
(4) No second answer book will be provided.

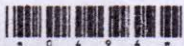
**1** Write short notes on any **four** of the following : **5×4**

- (a) Explosive welding
- (b) Modes of metal transfer
- (c) Hard facing
- (d) Ultrasonic welding
- (e) TIG versus MIG welding
- (f) Solering and Brazing

**2** Answer any **two** of the following : **10×2**

- (a) What is schaeffler diagram? How it can be used for the selection of electrode?

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- (b) Explain the principle of electron beam welding with a neat diagram. What is the mechanism of high electron penetration? What do you understand by work accelerated and self accelerated electron gun?
- (c) Explain with the help of a diagram the laser beam welding. What is the principle of a laser generation?

3 Answer any **two** of the following : **10×2**

- (a) What do you mean by underwater welding? Describe in brief. How arc stability could be improved in it? What are the advantages and limitations of wet underwater welding?
- (b) What is the principle behind Ultrasonic welding? Describe ultrasonic welding with a neat sketch.
- (c) What is metallising process? How the surface of work must be prepared for this process? Also describe the nature of bond between sprayed metal and work.

4 Answer any **two** of the following : **10×2**

- (a) Briefly describe with neat sketches the procedure commonly followed for the welding of pipe lines on site. What is stove-pipe technique of welding pipe-lines?
- (b) What are the similarities and differences between casting of metals and fusion welds?
- (c) Explain in brief the various defects and distortions in welding.



5 Answer any **two** of the following : **10×2**

- (a) Define weldability of materials and mention the factors on which weldability depends.
- (b) What is weld decay? How can weld decay be avoided?
- (c) What are the characteristics of the HAZ? Also explain the factors affecting HAZ.

