



Printed Pages : 3

TME - 033

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

PAPER ID : 0494

Roll No.

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B. Tech.

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

Time : 3 Hours]

[Total Marks : 100

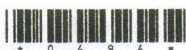
- Note :** (1) Attempt all five questions.
(2) All questions carry equal marks.
(3) Be precise in your answer.
(4) No second answer book will be provided.

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

- Explosive welding
- Modes of metal transfer
- Hard facing
- Ultrasonic welding
- TIG versus MIG welding
- Solering and Brazing

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

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



- (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.
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