

(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) EVEN SEMESTER THEORY EXAMINATION,
2009-2010

ADVANCED WELDING PROCESSES

Time : 3 Hours

Total Marks : 100

- Note : (i) Attempt all questions.
(ii) All questions carry equal marks.

1. Write short notes on any four of the following :
(4x5=20)
- Classification of welding processes.
 - Gas welding and cutting.
 - Submerged arc welding.
 - Resistance welding.
 - Advantages and applications of DC welding.
 - Low temperature welding techniques.

2. Answer **any two** of the following : (2x10=20)

- (a) Explain the working principle of PLASMA ARC welding process giving suitable sketch. Also give its advantages and disadvantages over other welding processes.
- (b) Giving suitable sketches explain the working of Ultrasonic welding technique. Where such welding method is used ? What are its advantages and limitations ?
- (c) Explain the working of Laser Beam welding. Compare its advantages and disadvantages with that of Electron beam welding.

3. Answer **any two** of the following : (2x10=20)

- (a) What do you understand by 'UNDER WATER WELDING' ? Explain giving suitable sketch, also give its limitations, applications and advantages.
- (b) What do you understand by Hard Facing ? How it is done ? What are the advantages of Hard facing ?
- (c) Explain the term 'CLADDING'. Where it is needed and how it is done ?

4. Answer **any two** of the following : (2x10=20)

- (a) What do you understand by HAZ ? What is its importance ? Which welding process has the minimum HAZ ?
- (b) Discuss various important aspects/points considered while designing a Weld.
- (c) List various techniques of Non Destructive Testing of welded joints. Explain the working of any one technique.

5. Answer **any two** of the following : (2x10=20)

- (a) What do you understand by 'WELDABILITY' ? How the alloying elements affect the weldability of the material ? Explain.
- (b) How the cooling rate affects the property of the welded joint ? Explain giving suitable reasons.
- (c) Explain the reasons responsible for WELD DECAY. How can this be avoided and why ?

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