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TME – 033

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

PAPER ID : 0494 Roll No.

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)**

   (a) Classification of welding processes.

   (b) Gas welding and cutting.

   (c) Submerged arc welding.

   (d) Resistance welding.

   (e) Advantages and applications of DC welding.

   (f) Low temperature welding techniques.

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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.

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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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