

[Total No. of Questions - 8] [Total No. of Printed Pages - 2]
(2123)

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M. Tech 1st Semester Examination

Welding Technology

PE-104

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : (i) Attempt any five questions.

(ii) All questions carry equal marks.

1. (a) What is an arc blow? Give causes for its occurrence and describe the different method for controlling it.
b) Name the different method of arc initiation and describe briefly how that is achieved in SAW and GTAW processes.
(20)
2. What do you mean by welding? Give the detailed classification of welding and allied processes in a tabular form according to ISO 4063.
(20)
3. What do you mean by Heat Effected Zone (HAZ) with help of neat sketch show the various zone of weldment? Discuss in detail the various properties of HAZ with suitable examples.
(20)
4. What are the requirements of an electric arc welding power source? Describe in brief the DC welding power source with the help of suitable sketches.
(20)
5. Classify and discuss the mode of metal transfer in arc welding and describe their characteristics and use in position welding.
(20)

1588/200

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6. Why coating is provided on electrode? What type of arc welding is obtained when the electrode is bare, light coated and high coated. Discuss with suitable sketches and examples? **(20)**
7. Describe with the help of labeled diagram principle and working of Laser Welding Process. State the advantages, disadvantages and application of the process. **(20)**
8. With the help of suitable diagram draw the setup and a circuit diagram for Gas Tungsten Arc welding and describe the main steps in operation. State the industrial applications of the process. **(20)**