

Total No. of Questions : 08

M.Tech.(PE) (Sem.-1)
WELDING TECHNOLOGY
Subject Code : PE-504
Paper ID : [E0444]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

- Q1. a) Explain different methods of arc initiation in TIG welding.
b) Explain working of rectifiers and inverters with the help of diagrams.
- Q2. a) Explain the effect of flux ingredients and shielded gases on the quality of the weld.
b) What are the main factors that must be considered before selecting an electrode for a given application?
- Q3. a) Explain plasma arc welding process along with its applications.
b) Explain different modes of metal transfer in welding.
- Q4. a) What is duty cycle? What is its importance? A power source is rated at 200A and 60% duty cycle. Calculate the maximum output current for a duty cycle of 100%.
b) Explain submerged arc welding process along with its applications.
- Q5. a) Explain technique, method and scope of friction welding.
b) Explain effect of polarity on melting and metal transfer rate.
- Q6. a) Explain solidification mechanism and different types of microstructures obtained in weld metal.
b) Explain the process of high energy rate welding along with its applications.
- Q7. a) What is arc blow? What is its effect? How can it be controlled?
b) Explain the effect of alloying elements on welding of ferrous metals.
- Q8. Explain technique, scope and applications of Electron beam welding with the help of a diagram.