

6th SEMESTER
WELDING TECHNOLOGY
SKILL ENHANCEMENT COURSE (SEC)

WTC620S WELDING TECHNOLOGY-III

CREDITS: THEORY: 2, PRACTICAL: 2
MAX MARKS: THEORY: 30, PRACTICAL: 30
MIN MARKS: THEORY: 12, PRACTICAL: 12

THEORY (2 CREDITS)

UNIT-I

Welding Defects: classification of welding defects, general sources of welding defects. Welding inspection and quality control: visual inspection and measurement; destructive tests - tensile test, impact test and bend test; non-destructive tests - liquid penetrant test; pressure and leak test- kerosene test, hydrostatic pressure test.

Repair and maintenance welding: selection of welding processes for repair work; types of welding repairs and maintenance.

UNIT II

Welding symbols, codes and standards.

Weldability of specific materials: welding of carbon steel, cast iron, aluminium and its alloys.

Introduction of advanced welding processes: recent trends in welding technology, friction stir welding, robotic arm arc welding, laser welding technology; under water welding.

LIST OF PRACTICALS (2 CREDITS):

- 1) Finishing of welded joints using grinder.
- 2) Testing of weld joints by visual inspection.
- 3) Carry out dye penetrant test on welded joint.
- 4) Test a pressure vessel using hydrostatic pressure testing.
- 5) Perform a kerosene test on open vessel.
- 6) Perform a tensile and an impact test on a welded joint.
- 7) Repair of a broken machine component using any welding process.

LIST OF RECOMMENDED BOOKS:

1. Welding Engineering and Technology by Dr. R.S. Parmer, 2nd Edition, Khanna Publishers.
2. Welding Technology and Design by V. M. Radakrishnan, New Age International.
3. Materials and Processes in Manufacturing by E. Paul Degarmo, J.T. Black, Ronald A. Kohser. Eighth Edition, Prentice Hall India.
4. Elements of Workshop Technology Vol. I and II by S. K. Hajra Choudhury, A.K. Hajra Choudhury, Nirjhar Roy, Media Promoters & Publishers Pvt. Ltd.