Atal Bihari Vajpayee Govt Institute of Engineering & Technology

DEPARTMENT OF MECHANICAL ENGINEERING

LESSON PLAN

Academic Year	**January 2026- June 2026**
Scheme	**N-2022**
Semester	**Sixth**
Course Code	**MEPE302-3**
Course Name	**Welding Technology**
Course Type	**Program Elective Core Course**
L-T-P	**3-1-0**
Name of Faculty	**PARUL DHIMAN**
Semester Start & End Dates	**27-01-2026 TO 27-05-2026**

STUDY AND EVALUATION SCHEME

Sr. No.	Name of the Subject	Th.	Pr.	Internal Assessment			External Assessment					Total Marks	Credit
				Th.	Pr.	Total	Th.	Hrs.	Pr.	Hrs.	Total		
1	Welding Technology	04	---	40	---	40	60	03	---	---	60	100	03

On the successful completion of this course, students will be able to:-

CO1	Understand the basics of welding and to know about the various types of welding processes.
CO2	Understand the principle and working of gas and arc welding processes.
CO3	Understand the principle and working of resistance welding processes.
CO4	Understand the concept and working of various special welding processes.
CO5	Understand the principle and concept of Brazing and soldering, Welding of Different Materials, welding defects and testing of welded joints.

Reference Books:

1. Manufacturing Technology: Vol. 1 - Foundry, Forming and Welding by P.N.Rao; McGraw Hill Higher Education publication
2. A Text-Book of Welding Technology by O.P. Khanna

Teaching Plan:

Unit No	No. of Lect. Planned	Topic to be covered	Proposed date (as per time table)	Actual Date	Remarks
1.Introduction To Welding and Gas Welding	1	Principle of welding	27.01.2026		
	2	Classification of welding processes	29.01.2026		
	3	Advantages and limitations of welding	30.01.2026		
	4	Welding applications and Weldability	02.02.2026		
	5	Principle of Gas Welding Operation	03.02.2026		
	6	Oxyacetylene flame and Types of flame	05.02.2026		
	7	Combustion of flame and Welding Techniques	06.02.2026		
	8	Filler rods And fluxes for gas welding	09.02.2026		
	9	Gas welding equipment and accessories	10.02.2026		
	10	Oxygen gas cylinders and Acetylene gas cylinders	12.02.2026		
	11	Acetylene gas generator	13.02.2026		
	12	Pressure Regulator and Oxygen and Acetylene Hoses	16.02.2026		
	13	Welding Torch	17.02.2026		
2.Arc Welding and Resistance Welding	14	Arc welding process	19.02.2026		
	15	Striking the arc and Arc length and Arc blow	20.02.2026		
	16	Arc welding machines- types and details	23.02.2026		
	17	AC and DC welding and effects of polarity	24.02.2026		
	18	Electrodes-classification, specifications and selection and Coated electrodes	26.02.2026		
	19	Welding defects	27.02.2026		
	20	Principle of resistance welding	02.03.2026		
	21	Advantages and disadvantages	03.03.2026		
	22	Applications of resistance welding	05.03.2026		
	23	Spot welding	06.03.2026		
	24	Seam welding	09.03.2026		
	25	Projection welding	10.03.2026		
	26	CLASS TEST-1	12.03.2026		
	27	Butt Welding and Upset butt	13.03.2026		

		welding			
	28	Flash butt welding	17.03.2026		
	29	Percussion welding	19.03.2026		
3Other Welding Processes	30	Submerged arc welding	20.03.2026		
	31	TIG welding	23.03.2026		
	32	MIG welding	24.03.2026		
	33	Electro slag welding	27.03.2026		
	34	Plasma are welding	30.03.2026		
	35	Ultrasonic welding	31.03.2026		
	36	Thermit welding	02.04.2026		
	37	Atomic hydrogen welding	06.04.2026		
	38	Electron beam welding	07.04.2026		
	39	CLASS TEST-2	09.04.2026		
	40	Laser beam welding	10.04.2026		
4.Brazing and Soldering	41	Principle of Brazing	13.04.2026		
	42	Procedure of Brazing	16.04.2026		
	43	Brazing filler alloys	17.04.2026		
	44	Brazing fluxes	20.04.2026		
	45	Advantages and disadvantages	21.04.2026		
	46	Applications of Brazing	23.04.2026		
	47	Principle of Soldering	24.04.2026		
	48	Soldering fluxes	27.04.2026		
	49	Soldering Methods	28.04.2026		
	50	PCB Soldering	30.04.2026		
5.Welding Of Different Materials and Weld Defects And Testing	51	Welding Cast iron and alloy steel	04.05.2026		
	52	Tool steel and aluminium	11.05.2026		
	53	Stainless and Magnesium	12.05.2026		
	54	Copper	14.05.2026		
	55	Types of weld Defects	15.05.2026		
	56	Defect causes and prevention	18.05.2026		
	57	Destructive testing of welds	19.05.2026		
	58	Non-Destructive tests-Fluorescent penetration test	21.05.2026		
	59	Magnetic particle test	22.05.2026		
	60	Ultrasonic test	25.05.2026		
	61	Radiographic test	26.05.2026		

Home Assignments

Ass. No	Contents of Syllabus Covered	Proposed date	Actual Date	Remarks
1	Unit-1&2	16.03.2026		
2	Unit-3&4	23.04.2026		
3				

Class /House Test

Name of Test	Syllabus Covered in Tests (Unit/Chapter Wise)	Proposed date	Actual Date	Remarks
Class Test-I	30% of whole syllabus	As per HPTSB Academic Calendar Schedule		
Class Test-II	60% of whole syllabus			
House Test	80% of whole syllabus			

Signature of Course Teacher with Name

Approved by

OIC/HoD/Principal

Signature: _ _ _ _ _ _ _ _ _