

# “PVCNSSK” G.P BILASPUR AT KALOL (H.P)

PLANNED SYLLABUS COVERAGE						
SYLLABUS COVERAGE	Department: Mechanical Engg. Semester:- 6th		Subject –WELDING TECHNOLOGY			
	Course - Diploma		Duration – 3 Years			
	Total Periods -56			Theory –56 hours		
Sr No	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1	1-12	Introduction To Welding:	-Principle of welding; Classification of welding processes; Advantages, Limitations of welding; Welding applications ; Weldability. Gas Welding: Principle of operation; Oxyacetylene flame ; Types of flame ; Combustion of flame ; Welding Techniques ; Filler rods And fluxes for gas welding ; Gas welding equipment and accessories ; Oxygen gas cylinders ; Acetylene gas cylinders ; Acetylene gas generator ; Pressure Regulator ; Oxygen and Acetylene Hoses ; Welding Torch.	Manufacturing Technology: Vol.1- Foundry, Forming and Welding by P.N.Rao ; McGraw HillHigher Education publication		
2.	13-26	Arc Welding	Arc welding process ; Striking the arc ; Arc length ; Arc blow ; Arc welding machines- types and details ; AC and DC welding and effects of polarity ; Electrodes- classification, specifications and selection ; Coated electrodes ; Welding defects. Resistance Welding: Principle ; Advantages, disadvantages ; Applications ; Spot welding ; Seam welding ; Projection welding ; Butt Welding; Upset butt welding ; Flash butt welding ; Percussion welding	A Text-Book of Welding Technology by O.P. Khanna		
3	27-34	Other Welding Processes:	Submerged arc welding ; TIG welding ; MIG welding ; Electro slag welding ; Plasma arc welding ; Ultrasonic welding ; Thermit welding ; Atomic hydrogen welding ; Electron beam welding ; Laser beam welding.	Modern welding technology Book by Howard B. Cary		

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4	35-44	Brazing & Soldering	Brazing: Principle ; Procedure ; Brazing filler alloys; Brazing fluxes; Advantages, Limitations and applications Soldering: Principle ; Solders; Soldering fluxes; Soldering Methods; PCB Soldering	Practical Welding Technology Book by RudyMohler			
5	45-56	Welding Of Different Materials  Weld Defects And Testing:	Welding Cast iron, Alloy Steel, tool Steel, Aluminium, Magnesium, Stainless, Copper.  Types of weld Defects; their causes and prevention ; Destructive testing of welds; Non Destructive tests- Fluorescent penetration test, magnetic particle test, ultrasonic test, radiographic test	Welding: Principles and Applications Book by Larry Jeffus			

APPROVED	SIGN HOD
DATE :- 27/01/2026	