PLANNED SYLLABUS COVERAGE

"PVCNSSK" G.P Bilaspur	Department: Mechanical Engg. Subject – Welding Technology				
	Course - Diploma		Duration – 3 Years		
SYLLABUS COVERAGE	Total Periods -56		Theory –56 hours		
Sr No	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1	1-4	Introduc-tion to Welding	1.1 Principle of welding 1.2 Classification of welding processes 1.3 Advantages, Limitations of welding. 1.4 Welding applications 1.5 Weld ability	Welding Technology by O.P. Khanna, Forming and Welding by P.N.Rao Welding Technology by GD garg		
2.	5-11	Gas Welding	2.1 Principle of operation 2.2 Oxyacetylene flame 2.2.1 Types of flame 2.2.2 Combustion of flame 2.3 Welding Techniques 2.4 Filler rods And fluxes for gas welding 2.5 Gas welding equipment and accessories 2.5.1 Oxygen gas cylinders 2.5.2 Acetylene gas cylinders 2.5.3 Acetylene gas generator 2.5.4 Pressure Regulator 2.5.5 Oxygen and Acetylene Hoses 2.5.6 Welding Torch	-----do------		
3.	12-18	Arc Welding	3.1 Arc welding process 3.2 Striking the arc 3.3 Are length 3.4 Are blow 3.5 Arc welding machines- types and details 3.6 Selection of welding machines 3.7 AC and DC welding and effects of polarity 3.8Electrodes-classification, specifications and selection 3.9 Coated electrodes 3.10 Welding positions 3.11 Welding procedures 3.12 Welding defects	------do------		

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Sr No	**Period Nos**	**Topic**	**Details**	**Instruction Reference**	**Additional Study Recommended**	**Remarks**
4	19-25	**Resistance Welding**	4.1 Principle 4.2 Advantages, disadvantages 4.3 Applications 4.4 Spot welding 4.5 Seam welding 4.6 Projection welding 4.7 Butt Welding 4.7.1 Upset butt welding 4.7.2 Flash butt welding 4.8 Percussion welding	-------do---		
5	26-35	**Other Welding Processes**	5.1 Submerged arc welding 5.2 TIG welding 5.3 MIG welding 5.4 Electro slag welding 5.5 Plasma are welding 5.6 Ultrasonic welding 5.7 Thermit welding 5.8 Atomic hydrogen welding 5.9 Electron beam welding 5.10 Laser beam welding 5.11 Automated welding	-------do---		
6	36-40	**Brazing**	6.1 Principle 6.2 Procedure 6.3 Brazing filler alloys 6.4 Brazing fluxes 6.5 Advantages, Limitations and applications	-------do---		
7	41-46	**Soldering**	7.1 Principle 7.2 Solders 7.3 Soldering fluxes 7.4 Soldering Methods 7.5 PCB Soldering	-------do---		
8	47-51	**Welding Of Different Materials**	8.1 Welding Cast iron, Alloy Steel, tool Steel, Aluminium, Magnesium, Stainless, Copper	-------do---		
9	52-56	**Weld Defects And Testing**	9.1 Types of weld Defects; their causes and prevention. 9.2 Destructive testing of welds 9.3 Non Destructive tests- Fluorescent penetration test, magnetic particle test, ultrasonic test, radiographic test	-------do---		

APPROVED	SIGN HOD
DATE :- 30/8/2022	