"PVCNSSK" GOVT. POLYTECHNIC BILASPUR at KALOL

PTSC-7

PLANNED THEORY SYLLABUS COVERAGE

GPB	Department: Mechanical Engg. Subject:- Manufacturing Technology-II
	Sem. & Branch 4th ME Duration: 3year
SYLLABUS COVERAGE	Total Periods:- 56 Theory : 56 Practical ----------

Sr No	Period Nos	Topic	Details	Instruction Reference	Additional Study Recommend	Remarks
1.	1-8	Gas Welding	1.1. Principle of operation 1.2. Oxyacetylene flame 1.2.1. Types of flame 1.3. Welding Techniques 1.4. Filler rods and fluxes for gas welding 1.5. Gas welding equipment and accessories 1.6. Acetylene gas generator	Elements of workshop Technology by SK Choudhary and Hazra, Asia Publishing House 2.Workshop Technology by BS Raghuwanshi. DhanpatRai and Sons Delhi 3.Workshop Technology Vol. I, II & III by Chapman; Standard Publishers &Distributors, New Delhi.		
2	9-14	Electric arc Welding	2.1 Introduction to arc welding with procedures, equipment and applications. 2.2 Types of arc 2.3 Types of electrode used 2.4 Specifications of electrodes			
3	15-18	Resistance Welding	3.1 Spot welding 3.2 Seam welding 3.3 Projection welding 3.4 Percussion welding			
4	19-24	Jigs and Fixtures	4.1 Importance and use of Jigs and fixtures. 4.2 Principles of Location 4.3 Locating Devices 4.4 Purpose of Clamping elements 35 4.5 Types of clamps 4.6 Types of drilling jigs 4.7 Types of milling and welding fixtures			
5	25-30	Metal Forming Processes	5.1 General Idea of following processes: • Die stamping • Drawing • Spinning • Rolling • Extruding • Forging • Tube drawing • Powder Metallurgy			

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Sr No	Period No	Topic	Details	Instruction Reference	Additional Study Recommend	Remarks
6	31-38	Grinding	6.1. Purpose of grinding 6.2. Types of grinding machines and their working- Cylindrical, surface, centre less, tool and cutter grinder, Jig Grinder. 6.4. Various elements of grinding wheel - abrasive, grade, structure, bond. 6.5. Codification of grinding wheel 6.6. Selection of grinding wheel 6.7. Dressing, truing, balancing and mounting of wheel. 6.8. Wheel and work speeds and feeds. 6.9. Defects and remedies in grinding.	1.Elements of workshop Technology by SK Choudhary and Hazra, Asia Publishing House 2. Workshop Technology by BS Raghuwanshi, DhanpatRai and Sons Delhi 3. Workshop Technology Vol. I, II & III by Chapman; Standard Publishers &Distributors, New Delhi.		
7	39-46	Metal Finishing Processes	7.1 Purpose of finishing surfaces 7.2 Surface roughness- Definition and units. 7.3 Honing Process: its applications 7.4 Description of hones 7.5 Brief idea of honing machines 7.6 Lapping Process; its application 7.7 Description of lapping compounds and tools. 7.8 Brief idea of lapping machines. 7.9 Super finishing process; its applications. 7.10 Use of super finishing attachment on Centre lathe 7.11 Polishing 7.12 Buffing			
8	47-56	Modern Machining Methods: - Principle. process details, advantages limitations and applications of the following processes	8.1. Electro discharge machining 8.2. Wire Cut EDM 8.3. Electric chemical machining 8.4. Chemical machining 8.5. Ultrasonic machining 8.7. Laser Beam machining. 8.8. Plasma arc machining 8.6 Additive Manufacturing			

APPROVED	SIGN HOD/OIC
DATE -- 13/02/2023.	