

**"PVC" NSSK GOVT POLYTECHNIC BILASPUR**  
**PLANNED THEORY SYLLABUS COVERAGE**

Department: Mechanical Engg.			Subject: THEORY OF MACHINES			
Sem. & Branch: 4th / Mech. Engg.			Duration: 3 Year			
Syllabus coverage		Total periods:-56			Practical : Yes	
SR. NO	Period no	Topic	Details	Instruction Reference	Additional study	Remarks
1	1-8	Simple Mechanisms	1 Introduction to link, kinematic pair, lower and higher pair, Kinematic chain, mechanism, Inversions. 2 Different types of mechanisms 3 Mechanical advantage of a linkage 4 Cams and followers: Terminology and classification	1. Theory of Mechanism and Machine by A. Ghosh and A.. Malik, East West Press 2. Theory of Machines by R.S. Khurmi and J.K. Gupta, S. Chand and company Ltd. 3. Theory of Machine by S.S. Rattan, Tata McGraw Hill	1. Theory of Machine by S.S. Rattan, Tata McGraw Hill 2. Mechanisms and Machine Theory by JS Rao and Dukkupati, Wiley Eastern, New Delhi	
2	09-20	Friction	1 Frictional torque in screws, both for square and V threads 2 Introduction to frictional clutches 3 Friction in journal bearing 4 Different types of bearings and their applications			
3	21-33	Power Transmission	1 Power transmission through screw and efficiency 2 Flat belt and V belt drives :- ( Ratio of tensions; Power transmitted, centrifugal tension, Condition for maximum power) 3 Chain drive, different types of chains and their applications 4 Gear and its nomenclature, types of gears and their applications; simple and compound gear trains; power transmitted by simple and compound gear trains			
4	34-42	Flywheel	1 Principle and applications of flywheel. 2 Turning moment diagram of flywheel for different engines 3 Fluctuation of speed and fluctuation of energy (with simple numerical)			
5	43-50	Governor	1 Principle of governor 2 Construction and working of Watt, Porter and Hartnel Governor. (with simple numerical)			
6	50-58	Balancing	1 Concept of balancing 2 Introduction to balancing of rotating masses (with simple numerical) 3 Concept of gyroscope.			
7	59-66	Vibrations	1 Vibrations, its type and damping, causes of vibrations in machines, their harmful effects and remedies			

Approved	Sign HOD/ IOC
Date: 10-02-2023	