

SYLLABUS

2nd Year

**Common for All Engineering Trades under CTS
(For All 2 year Trades)**

Duration: One Year

S.no.	Syllabus	Time	Marks
I	Friction 1 Advantages and disadvantages, Laws of friction, co-efficient of friction, angle of friction, simple problems related to friction 2 Friction – Lubrication 3 Co-efficient of friction, application and effects of friction in workshop practice	14	7
II	Centre of Gravity 1 Centre of gravity and its practical application	6	4
III	Area of cut – out regular surfaces and area of irregular surfaces 1 Area of cut – out regular surfaces – circle, segment and sector of circle 2 Related problems of area of cut – out regular surfaces – circle, segment and sector of circle 3 Area of irregular surfaces and application related to shop problems	16	9
IV	Algebra 1 Addition, Subtraction, Multiplication & Divisions 2 Algebra – Theory of indices, Algebraic formula, related problems	12	8
V	Elasticity 1 Elastic, plastic materials, stress, strain and their units and young's modulus 2 Ultimate stress and working stress	9	4
VI	Heat Treatment 1 Heat treatment and advantages 2 Different heat treatment process – Hardening, Tempering, Annealing, Normalising, Case Hardening	3	3
VII	Profit and Loss 1 Simple problems on profit & loss 2 Simple and compound interest	12	8
VIII	Estimation and Costing 1 Simple estimation of the requirement of material etc., as applicable to the trade 2 Problems on estimation and costing	12	7
	Total	84	50