

Subject Code:2SC1000425	Subject Title: Vacuum Pump, Pressure Gauges and Instruments
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COURSE OBJECTIVE:

This course is designed to get basic Concept of Vacuum pump, Pressure Gauges and Instruments

LEARNING OUTCOMES:

- Develop an actual understanding about Various Instruments.
- To know the basic Applications of Instruments.

Teaching scheme (hours) per week		credit		Theory Examination		Practical Examination		Total
Theory	Practical	Theory	Practical	University Assessment	Cont. Assessment	University Assessment	Cont. Assessment	
2	---	2	---	35	15	---	---	50

Unit	Content	Lectures	Wt.(%)
1	Vacuum Pumps, Pressure Gauges: Exhaust Pumps and their characteristics (15.1), Rotary Oil Pumps (15.2), Molecular Pump(15.3), Diffusion Pump(15.4), Other methods of Producing Low Pressures(15.5), Pressure Gauges - McLeod Gauge, Pirani Gauge, Thermocouple Gauge, Ionization Gauge,(15.7). Errors in measurement: Errors of observations, Types of errors, Normal law of errors, Average, standard and probable errors, Percentage error.	7	50
2	Instrument: Travelling Microscope, Cathetometer, and Optical bench. Objective and Eyepiece, Kellner's Eyepiece, Huygens Eyepiece, Ramsden Eyepiece, Comparison of Ramsden Eyepiece and Huygens Eyepiece, Gauss Eyepiece, Telescopes, Refracting Astronomical Telescope, Reflecting Telescope, Newton's Telescope, Other reflecting Telescopes. Electrical Instruments: Moving coil Galvanometer, Ballistic Galvanometer, Calibration of Ballistic Galvanometer using different methods, Multimeters, Digital multimeter, Earphone and Headphone. Basic Reference	7	50

Basic Reference book:

1. An Advanced Course in Practical Physics by D.Chattopadhyay, P.C. Rakshit, B.SAHA, New Central Book Ltd.
2. A text book of OPTICS by Dr. N, Subrahmanyam, Brijlal, Dr, M,N, Avadhanulu S.Chand.
3. Mechanics by D.S.Mathur S.Chand.(For Vacuum pumps)