

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

CBCS - Semester - Grading Pattern

B. Sc. :: PHYSICS :: SEMESTER-I

Elective (Subject) Courses

ES PHY-01

Instrumentation Measurement and analysis

(In force from June 2020)

UNIT-I:

Vernier Calipers: Introduction, Theory, Figure, Description of the instrument, Detail study of Least count, Errors, Positive error, negative error, Determination of magnitude of positive and negative errors.

Micrometer Screw: Introduction, Theory, Figure, Description of the instrument, Definition of pitch and its determination, study of least count, Meaning of the error and explanation of positive and negative errors. Determination of positive and negative errors. Method of taking observation with the help of Micrometer Screw.

Spherometer : Introduction, Theory, Figure, Description of the instrument, To determine the pitch of the screw, To determine the least count of the spherometer, Zero error, Derivation of the formula for the radius of curvature of a curved surface.

UNIT-II

Wheatstone Bridge: Introduction, Theory with figure, The figure of meter bridge used in laboratory, construction of Meter bridge.

Post-Office box: Introduction, Theory, Circuit Diagram, Theoretical Circuit diagram, explanation of working with necessary formula.

Construction of Galvanometer: Introduction, Theory, Sensitivity and Figure of Merit of Galvanometer.

Spectrometer: Introduction, Construction and explanation of three main parts of Spectrometer, Mercury Discharge lamp, Sodium Discharge lamp, The adjustment, leveling and the method of recording the observation of Spectrometer.

Book for Study: Experimental Book for Physics.