General

1. VARIOUS SCIENCE

Acoustics: The study of sound and sound waves.

Aerodynamics: Dynamics of gases, particularly the study of forces acting upon bodies in motion in the air (e.g., aircraft, missiles etc.).

Aeronautics: Concerned with all activities of aerial locomotion (art of flying).

Aetiology: The science of causation, inquiry into origin or cause of anything, especially diseases.

Agrobiology: The science of plant life and plant nutrition.

Agrology: A branch of soil science dealing with production of crops.

Agronomy: The science of soil management and the production of field crops.

Agrostology: The study of grasses.

Anatomy: The study of the structure of animal bodies, the human body and plants.

Anaesthesiology: A branch of medicine concerned with administration of anaesthetics and the condition of the patient while under anaesthesia.

Anthroplogy: The study of the origin, physical and cultural developed of mankind.

Archaeology: A scientific study of the material remains of the past as evidence of man's life, culture and history.

Astronautics: A science dealing with space travel and space vehicles.

Astrophysics: A branch of astronomy dealing with the physical nature of heavenly bodies.

Arboriculture: Cultivation of trees and vegetables.

Astronomy: The science of heavenly bodies; concerned with observation and interpretation of the radiation received on earth from outer space.

Astrology: Deals with positions and aspects of heavenly bodies in relation to influence on human affairs and predictions.

Astrochemistry: Deals with composition and reaction of substances present in celestial objects.

Astrogeology: The study of structure and formation of rocks and minerals in other planets.

Bacteriology: A specialized branch of microbiology dealing with bacteria.

Biology: The science of living organisms; Botany and Zoology together.

Biophysics: The physics of the vital processes of living organisms.

Botany: The science of the plant kingdom.

Bryology: The study of mosses.

Bionics: Investigation of sensory perception of animals.

Cardiology: A branch of medicine dealing with heart.

Ceramics: The art of making objects of clay.

Chemistry: The study of elements, their behavior and laws of their combination, etc.

Cosmetology: The study of cosmetics and their use.

Cosmogny: The science of the origin of stars, planets satellite or genesis of the galaxy and the solar system.

Cosmology: The study of the universe-its origin, nature, structure and evolution.

Carpology: The study of fruits and seeds.

Cetology: The study of acquatic mammals, especially whales.

Chorology: The study of geographical areas; plants and animal distribution.

Conchology: The study of sea shells.

Craniology: The study of skulls.

Cryogenetics: Concerned with the production, control and application of extremely low temperatures.

Cytogenetics: The study of inheritance in relation to the structure and function of cells.

Cytology: A branch of biology dealing with structure and function of cells.

Cytopathology: The study of cells in disease.

Chemotherapy: Treatment of a disease by certain chemical compounds.

Conchology: Study of mollusc Shells

Cryptography- Practice and study of hiding information or Secret writing.

Dermatology: A branch of medicine dealing with skin.

Dietetics: The science of diet and nutrition.

Dactylology: The study of fingerprints.

Dandrology: The study of trees.

Ecology: The study of relationship between organism, and their environment.

Embryology: Deals with the development of embryos.

Entomology: Is the study of insects.

Endocrinology: The study of glands.

Epidemiology: A branch of medicine dealing with epidemic diseases.

Epistemology: A study of the nature of knowledge.

Epigraphy: The science of identifying inscription

Ethology: The study of mental and physical differences in mankind.

Eschatology: The study of death and destiny.

Eugenics: Deals with hereditary improvement of the human race by controlled selective breeding.

Ethology: Study of cultures and primitive peoples.

Etymology: A study of the origin and history of words.

Exobiology: A branch of biology that deals with the search for and study of extraterrestrial living organisms. Also called Astrobiology or Space Biology.

Genealogy: A study of family lineage and histories.

Genetics: A branch of biology dealing with heredity and the laws that govern it.

Geology: A study of the chemical composition of the earth's crust.

Geophysics: A study of the physics of the earth.

Gerontology: A branch of medicine studying the ageing process, problems and diseases.

Geriatrics: A branch of medicine concerned with diagnosis and treatment of diseases of elderly people.

Geriodontics: A branch of dentistry dealing with dental problems of old people.

Gerontology: The study of diseases and other phenomena associated with old age.

Glottochronology: The history of languages and their relationship.

Gynaecology: A branch of medicine and surgery dealing with female diseases of the reproductive system.

Hematology: A branch of medicine studying blood and its disorders.

Hepatology: A branch of medicine dealing with liver and its diseases.

Histology: The study of tissues.

Horticulture: A branch of agricultural science dealing with flowers, fruit, vegetables, etc.

Hydrodynamics: The study of forces, energy and pressure of liquid in motion.

Hydrology: The science of water with reference to its occurrence and properties in the hydrosphere and atmosphere.

Hydroponics: The cultivation of plants by placing the roots in liquid nutrients.

Hydrostatics: The science of forces and pressures in liquid.

Hygiene: A branch of medicine dealing with health and its preservation.

Hypnology: The study of sleep.

Hydrography: Treatment of disease by water.

Immunology: A branch of medicine dealing with the immune system of the body.

Ichthyology: The study of fishes.

Iconography: Teaching by pictures and models.

Jurisprudence: The science of knowledge of law.

Lalopathology: A branch of medicine dealing with speech disorders.

Lexicology: The study of vocabulary.

Lithology: Study of the characteristics of rocks.

Lexicography: Compilation of dictionary.

Malacology: A branch of zoology concerned with the study of molecules. (Shell bearing organisms)

Metallurgy: The process of extracting metals from the ores.

Meteorology: The study of the atmosphere and its phenomena.

Microbiology: A branch of biological science studying minute living organisms, including bacteria, moulds, etc.

Mineralogy: The study of minerals, including their distribution, identification and properties.

Morphology: A biological study of external form and structure of living organisms or their parts.

Mycology: Concerned with fungi and fungal diseases.

Myrmecology: A branch of zoology dealing with the study of ants.

Mammography: A technique used for quicker diagnosis of breast cancer of women.

Nephrology: A branch of medicine dealing with kidney diseases.

Neuropathology: A branch of medicine dealing with changes produced by diseases in the nervous system.

Neurophysiology: The study of physical and chemical changes, associated with functions of the nervous system.

Numismatics: The study or collection of currency, including coins, medals, tokens, paper money, and related objects.

Obstetrics: A branch of medicine dealing with pregnancy, labour and childbirth.

Odontology: A branch of medicine concerned with anatomy, growth and diseases of teeth.

Olfactology: Deals with the sense of smell.

Oenology: (US-Enology) The study of wine.

Oncology: A branch of medicine dealing with tumours.

Ophthalmology: A branch of medicine dealing with the eye and its diseases.

Oology: A branch of science dealing with eggs, especially bird's eggs.

Ophiology: A branch of biology dealing with the study of snakes.

Orology: The study of mountains.

Optics: The study of eye sight.

Ornithology: The science of birds.

Orthopaedics: A branch of medicine dealing with diagnosis and treatment of diseases of the muscular skeletal system (Bones).

Orthodontics: A branch of dentistry concerned with irregularities of the teeth and associated problems.

Osteology: A study of bones.

Otology: A branch of medicine dealing with ear.

Otorhinolaryngology: A branch of medicine dealing with ear, nose and throat (TNT).

Ontology: A branch of philosophy that deals with the nature of being and first principles.

Oceanography: The exploration and scientific study of the ocean and its phenomena.

Paediatrics: A branch of medicine dealing with child diseases (infants).

Palentology: The study of fossils and ancient life-forms.

Palaezoology: The study of animal fossils.

Paleobotany: the investigation of plant fossils

Parasitology: The science of parasites especially connected with diseases.

Pathology: A branch of medicine that deals with etiologies, mechanism and manifestation of diseases.

Pedology: The science of nature, properties, formation, distribution and function of soils and their response to use, management and manipulation.

Pharmacology: A branch of medicine dealing with drugs, their chemistry, effects on body, etc.

Phenology: The study of organisms as affected by climate.

Phonology: The study that sound system of a language.

Penology: The science that deals with prisons and treatment of criminals.

Phytology: The study of plants.

Photobiology: A branch of biology dealing with the effect of light on organisms.

Phrenology: A study of character and mental capacity from the shape of skulls (a pseudo science).

Physiognomy: Judging of human character from facial features.

Physiology: A study of the life processes of various organs of living organisms.

Phycology: A branch of biology dealing with algae.

Phytopathology: A study of the origin, nature and prevention of plant diseases.

Pomology: The science that deals with fruits and fruit-growing.

Psychiarty: The study and treatment of mental and emotional disorders.

Psychophysiology: The study of the correlation between mental processes and physiology.

Petrology: The study of the origin, composition, and structure of rocks.

Potamology: The study of rivers.

Psephology: The study of elections and prediction of results.

Pteridology: The study of ferns.

Pedagogy: The study of being a teacher

Philately: Study of stamps and related items

Philology: The study of Language

Radiobiology: A branch of biology which deals the effect of radiations on living organisms.

Radiology: A branch of medical science dealing with the use of X-rays and Gamma-rays for diagnosis and treatment.

Radioecology: A study of the interaction of radio isotopes or ionizing radiations with populations, ecological communities or ecosystems.

Rheology: The science of the flow of matter; a critical study of elasticity, viscosity and plasticity.

Sialogy: The study of saliva.

Semiology: The science dealing, signs, sign language or systems of signaling.

Seismology: The study of earthquakes and related phenomena.

Sitology: The science of food, nutrition and diet.

Syllepsiology: A branch of medicine dealing with conception and pregnancy.

Symptomatology: A branch of medicine dealing with symptoms of diseases.

Syndesmology: The science dealing with ligaments and other structures associated with joints of the human body.

Spectrology: The study of specters.

Sericulture: Silk-worm breeding.

Teleology: The philosophical study of manifestation of design or purpose in natural processes.

Teratology: A branch of embryology dealing with abnormal development and congenital malformations.

Telepathy: Communication between minds by some means other than sensory perception, used in the curing of some ailments.

Theology: The study of religions.

Thermatology: A branch of medicine dealing with heat as a therapeutic agent.

Toxicology: A branch of pharmacology dealing with poisons and other toxic substances.

Therapeutics: Healing of diseases and laws of health.

Urology: The study of the physiology and pathology of the urogenital tract.

Urosemiology: The examination of urine for diagnosis.

Virology: The science that deals with viruses.

Zoology: A branch of biology that deals with animal life.

Zymology: A study that deals with the process of fermentation.

2. SCIENTIFIC INSTRUMENTS

Name of Instrument	Use
Altimeter	Measures altitudes (used in aircraft)
Ammeter	Measures strength of electric current
Anemometer	Measures force and velocity of wind and determines its directions
Audiometer	Measures intensity of sound
Barograph	Continuous recording of atmospheric pressure
Barometer	Measures atmospheric pressure
Binoculars	To view distant objects
Bolometer	To measures heat radiation
Callipers	Measures inner and outer diameters of bodies
Calorimeter	Measures quantities of heat
Cardiogram (ECG)	Traces movements of the heart; recorded on a Cardiograph
Cathetometer	Determines heights, measurement of levels, etc., in scientific experiments
Chronometer	Determines longitude of a vessel at sea
Colorimeter	Compares intensity of colours
Commutator	To change/reverse the directions of electric current; Also used to convert AC in DC
Cryometer	A type of thermometer used to measures very low temperatures, usually close to 0° C
Cyclotron	A charged particle accelerator which can accelerate charged particles to high energies
Dilatometer	Measures changes in volume of substances
Dynamo	To convert mechanical energy into electrical energy
Dynamometer	Measures electrical power
Electroencephalograph (EEC)	Records and interprets the electrical waves of the brain (brain waves) recorded on electroencephalograms
Electrometer	Measures very small but potential difference in electric currents
Electroscope	Detects presence of an electric charge
Electron microscope	To obtain a magnifying view of very small objects Capable of magnifying up to 20,000 times
Endoscope	To examine internal parts of the body
Fathometer	Measures depth of the ocean
Fluxmeter	Measures magnetic flux
Galvanometer	Measures electric current
Hydrometer	Measures the relative density of liquids

Hygrometer	Measures level of humidity
Hydrophone	Measures sound under water
Hygroscope	Shows the changes in atmospheric humidity
Hypsometer	To determine boiling point of liquids
Kymograph	Graphically records physiological movement, (e.g., blood pressure/heartbeat)
Lactometer	Measures the relative density of milk to determine purity
Machmeter	Determines the speed of an aircraft in terms of the speed of sound
Magnetometer	Compares magnetic movements and fields
Manometer	Measures the pressure of gases
Micrometer	Measures distances/angles
Microphone	Converts sound waves into electrical vibrations
Microscope	To obtain a magnified view of small objects
Nephetometer	Measures the scattering of light by particles suspended in a liquid
Ohmmeter	To measures electrical resistance in ohms
Ondometer	Measures the frequency of electromagnetic waves, especially in the radio-frequency band
Periscope	To view objects above sea level (used in submarines)
Photometer	Compares the luminous intensity of the source of light
Polygraph	Instrument that simultaneously records changes in physiological processes such as heartbeat, blood-pressure and respiration; used as a lie detector
Pyknometer	Determine the density and coefficient of expansion of liquids
Pyrheliometer	Measures components of solar radiation
Pyrometer	Measures very high temperature
Quadrant	Measures altitudes and angles in navigation and astronomy
Radar	To detect the direction and range of an approaching aeroplane by means of radiowaves, (Radio, Angle, Detection and Range)
Radio micrometer	Measures heat raditation
Refractometer	Measures refractive indices
Salinometer	Determines salinity of solutions
Sextant	Used by navigators to find the latitude of a place by measuring the elevation above the horizon of the sum or another star; also used to measure the height of very distant objects
Spectroscope	To observe or record spectra
Spectrometer	Spectroscope equipped with calibrated scale to measure the position of spectral lines (Measurement of refractive indices)
Spherometer	Measures curvature of spherical objects
Sphygmomanometer	Measures blood pressure
Stereoscope	To view two-dimensional pictures
Stethoscope	Used by doctors to hear and analyze heart and lung sounds
Stroboscope	To view rapidly moving objects
Tachometer	To determine speed, especially the rotational speed of a shaft (used in aeroplanes and motorboats)
Tacheometer	A theodolite adapted to measure distances, elevations and bearings during suvey

Tangent galvanometer	Measures the strength of direct current
Telemeter	Records physical happenings at a distant place
Teleprinter	Receives and sends typed messages from one place to another
Telescope	To view distant objects in space
Thermometer	Temperature is measured by determining the electrical resistance of a coil of thin wire.
Theodolite	Measures horizontal and vertical angles
Thermostat	Regulates the temperature to a particular point
Tonometer	To measure the pitch of a sound
Transponder	To receive a signal and transmit a reply immediately
Udometer	Rain gauge
Ultrasonoscope	To measure and use ultrasonic sound (beyond hearing); use to make a Ecogram to detect brain tumours, heart defects and abnormal growth
Venturimeter	To measure the rate of flow of liquids
Vernier	Measures small sub-division of scale
Viscometer	Measures the viscosity of liquid
Voltmeter	To measures electric potential difference between two points
Wattmeter	To measures the power of an electric circuit
Wavemeter	To measures the wavelength of a radiowave

System of units

Commonly used systems of units are

(1) The fps system (foot, pound and seconds system)
(2) The mks system (metre, kilogram and second system)
(3) The cgs system (centimeter, gram and seconds system)
(4) The SI system (Systeme International)

The first three systems have just got the three mechanical quantities as the fundamental units (i.e. mass, length and time).

The fourth system, the SI system has seven fundamental units and two supplementary units (given in the table)

Seven Basis SI Units

Basic unit	Quantity	Symbol	year of Adoption
Metre	Unit of length	m	1960
Kilogram	Unit of mass	kg	1960
Second	Unit of time	s	1948
Kelvin	Unit of thermodynamic temperature	K	1967
Candela	Unit of luminous intensity	cd	1967
Mole	Amount of substance	mol	1971

Common Derived Units

Quantity	Definition of Quantity	SI Units
Area	Square metre	m^2
Volume	Cubic metre	m^3
Density	Kilogram per cubic metre	kg/m^3
Speed	Distance per unit time (second)	m/s
Acceleration	Speed changed per unit of time	m/s^2
Force	Mass times acceleration of object	kg m/s^2
Pressure	Force per unit area	kgm^2/s^2
Energy	Force times distance travelled	kgm^2/s^2

UNITS OF MEASURMENT

Name of Unit	Used to Measure	Named After
Ampere	Electric Current	A.M. Ampere (French)
Angstrom	Wavelength of light	A.J. Angstrom (Swedish)
Bar	Atmospheric pressure	-
Bel	Intensity of Sound	Graham Bell
Calorie	Quantity of heat	-
Candela	Luminous intensity	-
Candle power	Illuminating power of source of light	
Celsius (Centigrade)	Temperature	Anders Celsius
Coulomb	Electric Charge	C.A.de Coulomb (French)

Decibel	Intensity (a unit which compares two levels of power)	
Dyne	Force	
Electron-Volt	Energy	
Erg	Work	
Fahrenheit	Temperature (Commonly used by Doctors to measure body temp) 0°C=32 F and 100°C =212° F	Gabriel-Daniel Fahrenheit
Fathom	Depth of water (=6 ft)	
Farad	Electric capacitance	Michael Faraday
Faraday	Electric charge (used in electrolysis)=96500 Coulomb	Michael Faraday
Gauss	Magnetic induction/Magnetic flux density	Johann Karl Friedrich Gauss (Germany)
Henry	Inductance	Joseph Henry (America)
Hertz	Frequency	Heinrich Hertz (Germany)
Horse Power	Power	-
Joule	Work and energy	J.P.Joule
Kelvin	Temperature	Sir Wilham Thomson Lord Kelvin
Lambert	Brightness	J.H. Lambert (Germany)
Light Year	Distance light travels in one year at a Speed of 297600 km/s	-
Lumen	Luminous flux	-
Maxwell	Magnetic flux	James Clerk Maxwell (Scotland)
Newton metre	Work	Sir Isaac Newton
Oersted	Magnetic intensity	Hans Christian Ørsted
Ohm	Electrical resistance	George Simon Ohm (Germany)
Pascal	Pressure	Blaise Pascal (France)
Poise	Viscosity	J.L.M. Poiseville (France)
Volt	Electrical potential/(Electrical tension)	Alessandro Volta (Italy)
Walt	Power	James Watt

INVENTIONS

Invention	Inventor	Country	Year
Adding machine	Pascal	France	1642
Aeroplane	Wright brothers	USA	1903
Artificial heart	William Kolff		1957
Atom Bomb	J. Robert Oppenheimer		
Balloon	Jacques and Joseph Montgolfier	France	1783
Ball-point pen	C.Biro	Hungary	1938
Barometer	E.Torricelli	Italy	1644
Bicycle	K. Macmillan	Scotland	1839
Bicycle tyre	J.B. Dumlop	Scotland	1888
Calculating machine	Pascal	France	1642
Centigrade scale	A. Celsius	France	1742
Cinematograph	Thomas Alva Edison	USA	1891
Computer	Charles Babbage	Britain	1834
Cine camera	Friese-Greene	Britain	1889
Cinema	A.L. and J.L. Lumiere	France	1895
Clock (mechanical)	Hsing and Ling-Tsan	China	1725
Clock (pendulum)	C. Hugyens	Netherlands	1657
Cellophane	Dr. J. Brandenberger	France	1908
Diesel engine	Rudolf Diesel	Germany	1892
Dynamite	Alfred Nobel	Sweden	1867
Dynamo	Michael Faraday	England	1831
Electric iron	H.W. Seeley	USA	1882
Electric lamp	Thomas Alva Edison	USA	1879
Electromagnet	W. Sturgeon	England	1824
Evolution (theory)	Charles Darwin	England	1858
Film (with sound)	Dr Lee de Forest	USA	1923
Fountain Pen	LE. Waterman	USA	1884
Gas lighting	William Murdoch	Scotland	1794
Gramophone	T.A Edison	USA	1878
Hydrogen Bomb	Edward Teller	Los Alamos	1951
Jet Engine	Sir Frank Whittle	England	1937
Lift	E.G. Otis	USA	1852
Locomotive	Richard Trevithick	England	1804
Logarithms	John Napier	Scotland	1614
Machine gun	Richard Gatling	USA	1861
Match (safety)	J.E. Lurdstrom	Sweden	1855
Microphone	David Hughes	USA	1878
Microscope	Z. Jansen	Netherlands	1590
Motor car (petrol)	Karl Benz	Germany	1885
Motorcycle	Edward Butler	England	1884
Neon-lamp	G. Claude	France	1915

Nylon	Dr. W.H Carothers	USA	1937
Photography (paper)	W.H. Fox Tablot	England	1835
Printing press	J. Gutenberg	Germany	1455
Radar	Dr. A. H. Taylor and L.C Young	USA	1922
Radium	Marie and pierre Curie	France	1898
Radio	G. Marconi	England	1901
Rayon	American Viscose Co.	USA	1910
Razor (safety)	K.G. Gillette	USA	1895
Razor (electric)	Col. J. Schick	USA	1931
Refrigerator	J. Harrison and A. Catlin	Britain	1834
Revolver	Samuel Colt	USA	1835
Rubber (vulcanized)	Charles Goodyear	USA	1841
Rubber (waterproof)	Charles Macintosh	Scotland	1819
Radioactivity	Henri Becquerel	France	1896
Safety lamp	Sir Humphrey Davy	England	1816
Safety pin	William Hurst	USA	1849
Sewing machine	B. Thimmonnier	France	1830
Scooter	G. Bradshaw	England	1919
Ship (steam)	J.C. Perier	France	1775
Ship (turbine)	Sir Charles Parsons	Britain	1894
Shorthand (modem)	Sir Isaac Pitman	Britain	1837
Spinning frame	Sir Richard Arkwight	England	1769
Spinning jenny	James Hargreaves	England	1764
Steam engine (piston)	Thomas Newcome	Britain	1712
Steel engine (condenser)	James Watt	Scotland	1765
Steel production	Henry Bessemer	England	1855
Stainless Steel	Harry Brearley	England	1913
Tank	Sir Ernest Swington	England	1914
Telegraph code	Samuel F.B. Morse	USA	1837
Telephone	Alexander Graham Bell	USA	1876
Telescope	Hans Lippershey	Netherlands	1608
Television	John Logie Bared	Scotland	1926
Terylene	J. Whinfield and H. Dickson	England	1941
Thermometer	Galileo Galilei	Italy	1593
Tractor	J. Froelich	USA	1892
Transistor	Bardeen, Shockley	USA and Britain	1949
Typewriter	C. Sholes	USA	1868
Teabag	Thomas Sullivan	New York	1908
Telegraph	Samuel Finley Breese Morse	USA	1835
Toilet paper	Joseph Gayetty		1857
Tractor	John Froehlich	Iowa	1892
Transformer	Michael Faraday		
Typewriter	Christopher Latham Sholes	USA	1867
Value of radio	Sir J.A. Fleming	Britain	1904
Watch	A.L. Breguet	France	1791
X-ray	Wilhelm Roentgen	Germany	1895

Zip fastener	W.L. Judson	USA	1891