

GLOSSARY

- **Abiotic:**

The non-living components of the environment like water, sunlight soil heat etc

- **Acid rain:**

The rain containing sulphuric acid and nitric acid: with pH range of 3 to 6

- **Acromegaly:**

Abnormal growth due to excessive production of growth hormone after growing age, the internal organs and body extremities alone grow large and affected persons have large hands, feet and jawbones

- **Acrosome:**

Cap-like head of sperm cell which helps it in penetrating the egg cell

- **Addictive drug:**

The drug which makes a person dependent on it, or addicted

- **Adrenal cortex:**

The outer portion of adrenal gland, secretes corticosteroids

- **Adrenal medulla:**

The inner portion of adrenal gland: secretes epinephrine or adrenaline

- **Adrenaline:**

Epinephrine, a hormone that prepares body to overcome emergency situations
a neurotransmitter produced by some nerve cells

- **Allele:**

The alternative form of a gene

- **Alternation of generations:**

In plants, the phenomenon in which the sporophyte and gametophyte generations alternate with each other

- **Alveolar duct:**

Fine tubules at the end of bronchioles: open into alveoli

- **Alveolus:**

A sac-like structure present next to the alveolar duct in lungs

- **Ammonification:**

The decomposition of protein of dead plants and animals, and nitrogenous wastes to ammonia by ammonifying bacteria

- **Analgesic:**

The medicines that reduce pain

- **Androecium:**

The male reproductive whorl of the flower consists of stamens

- **Anther:**

The sac-like structure of a stamen in which pollen grains are produced

- **Antibiotics:**

The medicines which inhibitor kill bacteria

- **Antidiuretic hormone:**

The hormone of the posterior pituitary promotes the reabsorption of water in renal tubules

- **Appendicular Skeleton:**

The division of the skeleton that includes arms, hands, legs feet pectoral girdle and pelvic girdle

- **Aqueous humour:**

The fluid present in the anterior chamber of the eye i.e. between the cornea and the iris

- **Arthritis:**

Terms used for the inflammation in joints

- **Artificial selection:**

Selective breeding, intentional breeding between individuals for certain traits or combination of traits

- **Aspirin:**

Acetaminophen A painkiller medicine

- **Asthma:**

An inflammation of the bronchi that causes swelling and narrowing of the airways

- **Atmospheric nitrogen fixation:**

The conversion of atmospheric gaseous nitrogen to nitrates by thunderstorms and lightning

- **Auditory canal:**

The part of the external ear ends at ear drum

- **Autonomic Nervous System:**

Part of the peripheral nervous system, consists of motor neurons that send signals to the cardiac muscles, smooth muscle and glands generally without conscious control

- **Axial skeleton:**

The division of the skeleton that includes the skull, vertebral column, ribs and breastbone

- **Axon:**

A long, thin fibre that carries nerve impulse away from the cell body of a neuron

- **Bactericidal:**

The antibiotics that work by killing bacteria

- **Bacteriophages:**

The viruses that attack bacteria

- **Bacteriostatic:**

The antibiotics that work by stopping bacteria multiplying

- **Ball-and-socket joint:**

The joint that allows movement in all directions e.g. hip and shoulder joints

- **Batch fermentation process:**

The discontinuous fermentation process, divided into batches

- **Biceps:**

A flexor muscle on the front of the upper arm bone

- **Binary fission:**

Division into two, the simplest method of asexual reproduction in prokaryotes and many unicellular eukaryotes

- **Biogeochemical Cycle:**

The cyclic pathway through which chemical elements move from environment to organisms and back to the environment

- **Biological nitrogen fixation:**

The conversion of gaseous nitrogen into nitrates by living organisms

- **Biosphere:**

The last level of ecological organization, all the ecosystems of the world together form the biosphere

- **Biotechnology:**

The use of living organisms in systems or processes for the manufacture of useful products or for services for humankind

- **Biotic:**

The living components of the environment include producers' consumers and decomposers

- **Bone:**

Hard connective tissue moves, supports and protects the various organs of the body

- **Bowman's capsule:**

Part of nephron cup-shaped structure enclosing the glomerulus

- **Breathing:**

The process through which animals take air in their bodies to get oxygen and then give out the air for getting rid of carbon dioxide

- **Breeds:**

The animals which are bred through artificial selection

- **Bronchioles:**

Fine tubules formed by the division of the bronchi

- **Bronchitis:**

Inflammation in the bronchi or bronchioles

- **Bronchus:**

The part of air passageway formed by the division of the trachea

- **Budding:**

A type of asexual reproduction in which a bud develops as a small outgrowth on parent's body and forms the new individual

- **Bulbs:**

Underground vertical shoots which have modified leaves

- **Calyx:**

The outer whorl of flowers. Consists of sepals

- **Carbon cycle:**

The biogeochemical cycle in which carbon flows between organisms and the environment

- **Cardiotonic:**

Medicines for giving strength to heart muscles

- **Carnivores:**

The consumers which eat only animal flesh

- **Carpel:**

Part of the gynoecium of the flower consists of stigma style and ovary

- **Cartilage:**

The connective tissue that makes part of the human skeleton

- **Cell body:**

The part of the nerve cell that contains nucleus

- **Central nervous system:**

The part of the nervous system consisting of brain and spinal cord

- **Cephalosporin:**

A group of antibiotics interfere with synthesis of the bacterial cell wall

- **Cerebellum:**

The part of the hindbrain controls muscle movements

- **Cerebral cortex:**

The outer layer of the cerebral hemispheres

- **Cerebral hemispheres:**

The divisions of the cerebrum of the brain

- **Cerebrospinal fluid:**

The fluid in the ventricles of the brain and in the central canal of the spinal cord

- **Cerebrum:**

The largest part of the forebrain controls many sensory and motor functions

- **Cervix:**

In female reproductive system the part which separates uterus from the vagina

- **Chondrocyte:**

The cells present in I cartilage

- **Chromatin:**

The chemical material that make the structure of the chromosome

- **Cloning:**

Method of asexual reproduction in which identical off springs are produced from a vegetative tissue or cell of the parent

- **Cochlea:**

The part of the inner ear consists of three ducts wrapped in the form of a coiled tube, contains sound receptors

- **Co-dominance:**

The situation where two allele of a gene pair express their traits independently instead of showing a dominant-recessive relationship

- **Collecting duct:**

The tubes into which the renal tubules of nephrons open

- **Colour blindness:**

Genetic disorders in which person fails to recognize the basic colours

- **Commensalism:**

A type of symbiosis in which one of the partners gets benefit while the other is neither benefited nor harmed

- **Compact bone:**

The hard outer layer of bones

- **Cones:**

The photosensitive cells in the retina of the eye sensitive to bright light and so distinguish different colours

- **Consumer:**

The part of the biotic components of the ecosystem that consists of animals.

- **Continuous fermentation process:**

The fermentation in which substrate is added to the fermenter continuously, at a fixed rate

- **Corm:**

Short, swollen underground stem, has bud(s) at the top gives rise to new plants by vegetative propagation

- **Cornea:**

The transparent part of sclera that forms in the front of the eye through which light enters

- **Corolla:**

The second whorl of flower consisting of petals

- **Cotyledon:**

A modified leaf present in seeds often gives nourishment to the developing seedling

- **Cowper's gland:**

An accessory gland in rabbit's male reproductive system provides lubrication to the ducts

- **Cranial bones:**

The bone of the cranium

- **Cranial nerves:**

Nerves that arise from or lead to the brain

- **Cranium:**

The part of the skull that encloses the brain

- **Cultivars:**

The plants which are bred through artificial selection

- **Cutting:**

Artificial vegetative propagation in which cuttings are taken from stem or root of parent and are placed in soil

- **Decomposer:**

An organism which decomposes the dead bodies and dead matter

- **Deforestation:**

Cleaning of forests by natural causes or by humans

- **Dendrites:**

Short branched projections of neuron's cell body transmits towards cell body

- **Denitrification:**

The conversion of nitrites and nitrates into nitrogen gas

- **Diabetes mellitus:**

More than normal level of glucose in blood: a condition caused by sufficient concentration of insulin in blood

- **Dialysis:**

The cleaning of blood (removing nitrogenous wastes and extra water) by artificial ways

- **Dialyzer:**

The apparatus used for hemodialysis

- **Diaphragm:**

The muscular structure that forms the floor of the chest cavity, present below lungs

- **Dihybrid cross:**

A genetic cross in which two pairs of contrasting traits are studied

- **Distal convoluted tubule:**

The last part of the nephron

- **Dominant trait:**

The trait that appears in the offspring of a cross between two homozygous individuals showing contrasting forms of the trait

- **Drug:**

Any substance that, when absorbed into the body of a living organism, alters normal body function

- **Dwarfism:**

Less than normal body growth; a condition caused when growth hormone is insufficient during the growing age

- **Ear drum:**

Tympanic membrane, A membrane stretched across the inner end of the auditory canal of the ear

- **Ecological pyramid:**

A representation of the number of individuals or amount of biomass or energy present in various trophic levels of a food chain

- **Effectors:**

The parts of the coordination system that respond when stimulated by nerve impulses or hormones

- **Emphysema:**

A disease in which the walls of the alveoli are destroyed

- **Endocrine gland:**

A ductless gland, produces and secretes hormones

- **Endosperm nucleus:**

In the female gametophyte, the triploid nucleus formed by the fusion of sperm and the fusion nucleus

- **Endosperm tissue:**

The tissues that develops from endosperm nucleus often serves as a food supply for developing embryo

- **Endospore:**

The spore formed inside the bacterial cell

- **Environment:**

The sum total of physical (abiotic) and biotic conditions which influence the organism

- **Epicotyl:**

The embryonic stem above the point of attachment of the cotyledon(s)

- **Epididymis:**

A storage area for sperms on the upper part of the testes

- **Epigeal germination:**

A type of seed germination in which the hypocotyl elongates and forms a hook pulling the cotyledons above the ground

- **Epilepsy:**

A nervous disorder characterized by recurrent unprovoked seizures (convulsions)

- **Epinephrine:**

See Adrenaline. Estrogen: A hormone secreted by the ovaries, promotes development of female secondary sex characteristics and regulates the reproductive cycle

- **Eustachian tube:**

The tube between middle ear and the nasal cavity that equalizes the pressure on both sides of the ear drum

- **Eutrophication:**

The enrichment of water with inorganic nutrients; the nutrients promote the growth of algae and it leads to increase in the number of the decomposers and depletion of oxygen.

- **Excretion:**

The process by which the metabolic wastes are removed from the body

- **Exhalation:**

The phase of breathing in which air is expelled from the lungs

- **Exocrine gland:**

A gland that discharges its secretion into a duct

- **Extensor:**

A muscle that extends a joint

- **Fallopian tube:**

a part of the female reproductive system, receives egg cell discharged from the ovary

- **Feedback mechanisms:**

The mechanisms to control certain functions, one of the products of a pathway are used, usually the end product, to control the activity of the pathway

- **Fermentation:**

The process in which there is incomplete oxidation-reduction of the organic substrate (glucose)

- **Fermenter:**

A device that provides optimum environment in which organisms can grow to produce biomass and to for the product

- **Fertilization:**

The fusion of male and female gametes to form a zygote

- **Fibrous cartilage:**

The cartilage that has large number of fibres in the matrix e.g. the cytilage in intervertebral disc

- **Flexor:**

A muscle that bends a joint

- **Follicle:**

A structure in the ovary in which the mature egg develops

- **Food chain:**

The series of organisms in an ecosystem in which an organism eats the preceding one and is eaten by the next one

- **Food web:**

A network of interconnected food chains; has a number of feeding connections amongst different organisms of a community

- **Forebrain:**

The part of the brain, includes cerebrum, thalamus and hypothalamus

- **Fragmentation:**

Types of asexual reproduction in which the animal breaks up into many pieces and ...piece develops into a mature animal

- **Fusion nucleus: ... female gametophyte in plants, formed by the fusion of two ... endospore nucleus when fertilized by a sperm**

- **Gametogenesis:**

The process of the formation of gametes

- **Gametophyte:**

The haploid generation in plant life cycle, produces gametes .

- **Ganglion:**

The aggregation of the cell bodies of neurons

- **Gaseous exchange:**

Taking in and giving out of gas (oxygen and carbon dioxide) by organism

- **Gene:**

Unit of inheritance, consists of the length of DNA that contains specific instructions for the synthesis of a protein molecule

- **Genetically Modified Organism:**

The organism in which DNA (gene) from some other organism has been transferred

- **Genotype:**

The specific combination of genes in an individual; may be homozygous or heterozygous

- **Germination:**

The process by which a seed embryo develops into a seedling

- **Gigantism:**

The condition due to excessively production of growth hormone during the growing age leads to very tall and overweight persons

- **Glomerular filtrate:**

The material that passes from glomerulus into the Bowman's capsule

- **Glomerulus:**

The network of capillaries in the nephron of kidney

- **Grafting:**

A type of artificial vegetative propagation in which a piece of stem ... plant and is inserted into another plant with established root system

- **Grey matter:**

The nervous tissue containing cell bodies and nonmyelinated processes of neurons

- **Guttation:**

Appearance of drops of xylem sap on the tips or edges of leaves

- **Gynoecium:**

The central whorl in the flower, consists of carpels

- **Hallucinogen:**

Drug that causes changes in perception, thought, emotion and consciousness

- **Hemodialysis:**

The dialysis in which patient's blood is pumped through the apparatus called dialyzer for cleaning

- **Heroin:**

A commonly abused narcotic, derived from morphine, affects the central nervous system and causes drowsiness, disorientation, hypotension etc

- **Heterozygous:**

The genotype that has two different alleles of a trait

- **Hilum:**

A scar on the seed coat the point where the seed is attached to the ovary wall

- **Hilus:**

A depression near the centre of the concave area of the kidney the area... which the ureter blood and lymphatic vessels and nerves ...

- **Hindbrain:**

The part of the brain consisting of cerebellum medulla oblongata ...

- **Hinge joint:**

A joint that permits movement of bones in one plane e.g. elbow and ...

- **Histone:**

The protein present in the structure of chromosome

- **Homeostasis:**

The maintenance of a constant internal environment in response to ...

- **Homologous chromosomes:**

A pair of chromosomes having the same size and shape and carrying same traits

Homozygous: Having two identical alleles of a trait

- **Hormone:**

A substance that is secreted by an endocrine gland directly into blood and produces a specific effect on a particular tissue

- **Hyaline cartilage:**

The cartilage that has collagen fibres in its matrix found covering the long bones, in the nose, larynx trachea and bronchial tubes

- **Hyoid bone:**

The bone present in neck

- **Hypermetropia:**

The condition in which a person is not able to see near objects clearly, happens when the eyeball shortens and image is formed behind

- **Hyperthyroidism:**

The over production of thyroxine, results in increase in energy production, increased heart-beat, frequent sweating and shivering of hands

- **Hypocotyl:**

The embryonic stem below the point of attachment of cotyledon

- **Hypogeal germination:**

A type of seed germination in which the epicotyl elongates and forms the hook while the cotyledons stay underground

- **Hypothalamus:**

The part of the forebrain below the thalamus, controls body temperature, blood pressure and emotion

- **Hypothyroidism:**

The under production of thyroxine, results in low energy production and slowing down of heartbeat

- **Incomplete dominance:**

A type of inheritance in which neither of the pair of contrasting alleles is dominant over the other and the heterozygous individual is intermediate in phenotype

- **Inhalation:**

The phase of breathing in which air is drawn into the lungs

- **Inheritance:**

The transmission of characteristics from parents to offspring

- **Insertion:**

The end of the muscle that is attached with a moveable bone

- **Insulin:**

The hormones produced by the Islets of Langerhans, lowers the blood glucose level

- **Interneurons:**

The neurons present in the brain and spinal cord

- **Interspecific interactions:**

Interactions between the members of the different species

- **Intraspecific interactions:**

Interactions between the members of the same species

- **Iodopsin:**

A pigment present in the cones of the retina

- **Iris:**

A muscular ring formed by the bending of the choroid behind the cornea' of the eye

- **Islets of Langerhans:**

Groups of endocrine cells present in pancreas, secrete hormones insulin and glucagon

- **Joint:**

The location at which two or more bones make contact

- **Kidney failure:**

A complete or near complete failure of the kidneys to excrete wastes and to regulate water and salts

- **Kidney stone:**

The deposits of large chemicals such as calcium oxalate, calcium and ammonium phosphate, uric acid, cystine etc present in kidneys, ureter or bladder cannot pass in the urine

- **Lacuna:**

The fluid filled space in bone and cartilage, where their cells are present

- **Larynx:**

The part of the air passageway between pharynx and the trachea

- **Lenticels:**

Pores in the bark of woody stems and mature roots

- **Ligament:**

Strong but flexible connective tissue that joins one bone to bone at the joints

- **Lithotripsy:**

Treatment for removing kidney stones, non-electrical shock waves are bombarded on the stones to break them

- **Locus:**

Plural Loc: The locations or positions of genes on chromosomes

- **Loop of Henle:**

The U-shaped portion of the renal tubule of nephron

- **Macrospore:**

Haploid cell produced in the ovule divides mitotically and produces the female gametophyte

- **Marijuana:**

A hallucinogen and addictive drug, obtained from the flowers, stems, and leaves of the marijuana plant

- **Medicinal drug:**

Any chemical substance intended for use in the medical diagnosis, cure, treatment or prevention of disease

- **Medulla oblongata:**

Part of the hindbrain, on the top of the spinal cord: controls breathing heart rate blood pressure and many reflexes

- **Meninges:**

Three layers around the brain and the spinal cord protect them and provide nutrients and oxygen through their capillaries

- **Micropyle:**

The opening in the ovule through which the pollen tube enters. seed uses it for the absorption of water

- **Microspores:**

Pollen grain, the haploid cells produced in the pollen sac divide mitotically to produce male gametophyte

- **Midbrain:**

Part of the brain between hindbrain and forebrain receives sensory information and sends to the appropriate part of the forebrain. also controls auditory reflexes and posture

- **Mixed nerves:**

The nerves containing axons of both the sensory and motor neurons

- **Monohybrid cross:**

A genetic cross in which only one pair of contrasting traits is studied

- **Morphine:**

A commonly used narcotic, derived from the juice of opium; acts directly on the CNS to relieve pain has a high potential for addiction

- **Motor nerves:**

The nerves which contain the axons of motor neurons only

- **Multiple fission:**

Division into many, a method of asexual reproduction used by many unicellular organisms

- **Mutation:**

Change in chromosome or DNA (gene), produces variations in the traits

- **Mutualism:**

The symbiotic association in which both the partners get benefit and neither is harmed

- **Myelin sheath:**

The insulating sheath around the axons of some neurons

- **Myopia:**

The condition in which a person is not able to see distant objects clearly happens due to elongation of the eyeball and image is formed in front of the retina

- **Narcotics:**

Strong painkiller drugs also used as addictive drugs, commonly abused narcotics include heroin, morphine, methadone etc.

- **Nasal cavity:**

Hollow space in the nose, opens to the outside through nostrils, divided into two portions by a wall

- **Natural resources:**

The resources on Earth, which provide everything that humans use or consume

- **Natural selection:**

The process in which organisms with favorable variations survive and produce more offspring than less well-adapted organisms

- **Nephron:**

The functional unit of kidneys

- **Nerve:**

The union of several axons that are enveloped by a covering made of lipid

- **Neuron:**

Nerve cell the unit of the nervous system able to conduct nerve impulses

- **Nitrification:**

The oxidation of ammonia to nitrites and nitrates by the nitrifying bacteria

- **Nitrogen cycle:**

The flow of nitrogen between environment and the organisms

- **Nitrogen fixation:**

Conversion of nitrogen into nitrates

- **Nodes of Ranvier:**

The non-myelinated points between the areas of myelin on the axons of neurons

- **Non-renewable resource:**

A resource that is formed over very long periods, the rate of formation is extremely slow so cannot be replaced, e.g, minerals and fossil fuels

- **Nostril:**

The openings of the nasal cavity

- **Nucleosome:**

The structure formed by the wrapping of DNA around histone proteins

- **Olfactory bulbs:**

The anterior parts of the cerebral hemispheres, receive impulses from the olfactory nerves and create the sensation of smell

- **Oogenesis:**

The formation of ovum (egg cell)

- **Oogonium:**

(Plural Oogonia): The diploid cells in the follicles of the ovary: produce diploid primary oocytes during oogenesis

- **Optic disc:**

Blind spot: a point on the retina of the eye where the optic nerve enters the retina, no photosensitive cells exist at this point

- **Organic evolution:**

Biological evolution: The modification of characteristics in the species or populations of organisms during their descent, generation by generation

- **Origin:**

The end of the muscle that is attached with a immoveable bone •

Osmoregulation: The regulation of water content in body fluids

- **Osteoarthritis:**

Inflammation in joints due to degeneration in the cartilage present at the joints or due to decreased lubricant production at the joints

- **Osteocyte:**

The mature bone cells

- **Osteoporosis:**

A bone disease in adults, especially in old age, there is a decrease in the density of bones due to loss of calcium and phosphorus

- **Oval window:**

The membrane which separates the middle ear from the inner ear

- **Ovary:**

The female gonad, produces egg cells and female sex hormones

- **Overpopulation:**

Increase in population beyond the carrying capacity of an area or environment

- **Ovule:**

In seed plants, a structure present in the ovary, contains megaspore that develops into female gametophyte, ovule develops into seed after fertilization

- **Oxytocin:**

The hormone secreted by the posterior pituitary, stimulates the contraction of uterus walls in females for child birth; necessary for ejection of milk from the breasts

- **Ozone:**

The O₃ gas, also present in the upper layer of the atmosphere where it absorbs the ultraviolet rays present in the sun's radiation

- **Papillary ducts:**

The ducts formed by the joining of many collecting ducts, open into renal pelvis

- **Paralysis:**

Complete loss of function by one or more muscle groups due to damage in the nervous system

- **Parasitism:**

A type of interspecific interaction in which smaller partner (parasite) derives food and shelter from the body of larger partner (host) and harms the host

- **Parasympathetic nervous system:**

Part of the autonomic nervous system, works when there is little or no stress and slows down the overall activity of the body

- **Parathormone:**

Hormone of the parathyroid glands, increases the level of calcium ions in the blood

- **Parathyroid:**

The endocrine glands located on the posterior sides of the thyroid gland secrete parathormone

- **Parthenocarpy:**

The process in which ovaries develop into fruit without the fertilization in the ovules present in them, results in seedless fruits e.g. bananas

- **Parthenogenesis:**

A form of asexual reproduction in which an unfertilized egg develops into new offspring

- **Peripheral nervous system:**

A division of the nervous system that consists of nerves and ganglia

- **Peritoneal dialysis:**

The dialysis in which the dialysis fluid is pumped into the abdominal peritoneal cavity, the wastes from the blood vessels of the peritoneum diffuse into the dialysis fluid which is then drained out

- **Pharmaceutical drug:**

See medicinal drug

- **Pharmacology:**

The study of drug composition and properties and medical applications

- **Phenotype:**

The expression of the genotype in the form of trait

- **Phytoplankton:**

Photosynthetic organisms that float on the surface of water

- **Pituitary:**

The endocrine gland attached to the hypothalamus that controls many other endocrine glands in the body

- **Plumule:**

The part of the plant embryo that develops into new shoot

- **Pneumonia:**

The infection of one or both lungs, caused by specific bacteria, viruses or fungi, the infected part of the lung becomes filled with fluid and pus

- **Pollen grain:**

See Microspore

- **Pollen tube:**

A tube formed by the tube nucleus of the pollen grain, carries sperm to the ovule

- **Pollen-sac:**

The part of the anther where microspore (pollen grains) are produced

- **Pollination:**

The transfer of pollen grains from flower's anther to stigma

- **Pollutant:**

The substance that causes pollution

- **Pollution:**

Undesirable change in the physical chemical or biological characteristics of air, water and land that may harmfully affect living organisms and other resources

- **Pons:**

Part of the hindbrain present on top of the medulla, assists the medulla in controlling breathing and serves as a connection between the cerebellum and the spinal cord

- **Predation:**

An interaction between animals of two species or a plant and an animal, in which the predator attacks, kills and feeds on the smaller animal called prey

- **Pressure filtration:**

The first step in urine formation, the process in which most of the water, salts, glucose and urea of the blood is forced out of the glomerulus and passed into Bowman's capsule

- **Producer:**

An organism that produces organic compounds from inorganic compounds an autotroph

- **Progesterone:**

A hormone secreted by the ovaries that maintains the uterus during pregnancy

- **Prostate gland:**

An accessory gland in the male reproductive system produces a secretion that neutralizes the acidity

- **Proximal convoluted tubule:**

The part of the nephron between Bowman's capsule and the loop of Henle

- **Pupil:**

The opening in the centre of the iris of the eye

- **Pyramid of Biomass:**

The graphic representation of biomass present per unit area at different trophic levels in an ecosystem

- **Pyramid of Numbers:**

The graphic representation of the number of individuals per unit area at various trophic levels in an ecosystem

- **Radicle:**

The part of the plant embryo that develops into new root

- **Receptors:**

The organs, tissues or cells which detect particular type of stimuli

- **Recessive trait:**

The trait which is masked in the offspring of a cross between two homozygous individuals showing contrasting forms of the trait

- **Recombinant DNA:**

The vector DNA and the attached gene of interest

- **Reflex Action:**

The involuntary and immediate response to a stimulus

- **Reflex arc:**

The nerve pathway over which the nerve impulses travel in a reflex action

- **Renal corpuscle:**

The collective name for the glomerulus and Bowman's capsule of the nephron

- **Renal pelvis:**

The funnel-shaped cavity into which the renal pyramids of kidney project

- **Renal pyramids:**

Cone-shaped areas in the renal medulla

- **Renal tubule:**

The part of the nephron after the Bowman's capsule, consists of proximal convoluted tubule, loop of Henle and distal convoluted tubule

- **Renewable resources:**

The resources which are replenished or reproduced easily e.g. sunlight, air wind etc.

- **Reproduction:**

The process by which organisms produce new organisms of their own kind

- **Restriction endonucleases:**

Enzymes used to cut the gene from the total DNA of the organism

- **Retina:**

The innermost and the sensitive layer in the eye

- **Rheumatoid arthritis:**

Painful inflammation of the membranes at the joints

- **Rhizomes:**

Horizontal underground stems have scale leaves with buds shoots of the new plant develop and grow from buds (vegetative propagation)

- **Rhodopsin:**

A pigment present in the rods of the retina

- **Rods:**

The photosensitive cells present in the retina of the eye, sensitive to dim light

- **Saltatory conduction:**

Fast nerve impulses, jump over the areas of myelin going from node to node

- **Schwann cells:**

The supporting cells around neurons, form the myelin sheath

- **Sclera:**

The tough, white outer layer of the eye

- **Scrotum:**

A sac of skin outside the body wall in which the testes of the male are located

- **Sedatives:**

Types of drugs that interact with the central nervous system to depress its activities make a person calm or drowsy

- **Seed coat:**

Testa: Outer covering of a seed, develops from the integument of the ovule protects the embryo from mechanical injury and from drying out

- **Seed dormancy:**

A period, during which there is no growth in the seed seeds in dormancy are ripe. Seeds but do not germinate, under favorable conditions the seeds break dormancy and begin to germinate

- **Selective re-absorption:**

The second step in urine formation, in it about 99 the glomerular filtrate is reabsorbed into the blood capillaries surrounding the renal tubule

- **Semen:**

The material containing sperms in a fluid

- **Semicircular canals:**

The three bony canals present posterior to the vestibule in the inner ear

- **Seminal vesicle:**

The associated gland in male reproductive system produces secretions having nutrients for the sperms

- **Seminiferous tubule:**

The coiled tubes present in testes, sperms are formed in these tubules

- **Sensory nerves:**

The nerves which contain only the axons of sensory neurons

- **Single-Cell Protein:**

The protein content extracted from pure or mixed cultures of algae, yeasts, fungi or bacteria; the micro-organisms are grown in fermenters where they produce a high yield of protein

- **Skeleton:**

The framework of hard, articulated structures that provide physical support attachment for skeletal muscles, and protection for the bodies of animals

- **Somatic Nervous system:**

The part of the motor pathway of the peripheral nervous system, gives voluntary control includes all of the motor neurons that conduct impulses from the CNS to the skeletal muscles

- **Somatotropin:**

Growth hormone: A hormone of the anterior pituitary, promotes the growth of the body

- **Sperm:**

The male gamete

- **Spermatid:**

The immature non-motile forms of sperms, are converted into sperms after many changes

- **Spermatogenesis:**

The formation of sperms

- **Spermatogonia:**

The diploid cells in seminiferous tubules of the testes, divide mitotically and produce primary spermatocytes

- **Spinal nerves:**

The nerves which arise from the spinal cord

- **Spongy bone:**

The soft and porous interior of the bone, contains blood vessels and bone marrow

- **Sporophyte:**

The diploid generation in plant life cycle, produces spores

- **Stamen:**

The part of the androecium, consists of anther and filament,

- **Sternum:**

The chest bones

- **Stigma:**

The upper part of the carpel

- **Style:**

The middle portion of the carpel.

- **Sulfonamides:**

Sulpha drugs: Synthetic antibiotics that contain the sulfonamide group bacteriostatic in action

- **Suspensory ligament:**

The ring that attaches the lens of the eye to the ciliary muscles

- **Symbiosis:**

Long- or short-term relationship between members of different species, three forms are parasitism, commensalism and mutualism

- **Sympathetic nervous system:**

Part of the autonomic nervous system prepares the body to deal with emergency situations.

- **Synapse:**

A junction between a neuron and another cell transmits nerve impulse from one neuron to the next neuron or to effector's cell

- **Tendon:**

Tough connective tissue that attaches muscles to bones

- **Testa:**

See Seed coat

- **Testis:**

The male gonads, produces sperms and male sex hormones

- **Testosterone:**

The male sex hormone secreted by testis, stimulates the development of male reproductive system and the male secondary sex characteristics

- **Tetracycline:**

Broad-spectrum bacteriostatic antibiotics, inhibit bacterial protein synthesis

- **Thalamus:**

The part of the forebrain, serves as a relay centre between various parts of the brain and spinal cord

- **Thyroid:**

The endocrine gland located in front of the trachea, secretes hormones thyroxin and calcitonin

- **Thyroxin:**

The hormone of the thyroid gland increases the breakdown of food and release of energy, also responsible for the growth of body

- **Trachea:**

Windpipe. Part of the air passageway between larynx and bronchi

- **Trait:**

The characteristics which are controlled and transmitted to next generations through genes

- **Transgenic:**

Organisms with modified genome (genetic make-up)

- **Triceps:**

An extensor muscle on the back of the upper arm bone

- **True-breeding:**

The homozygous individual

- **Tubers:**

The swollen ends of slender rhizomes (underground stem), new plants develop from buds on the stem tubers (vegetative propagation)

- **Tubular secretion:**

The third step in urine formation, different ions, creatinine, urea etc are secreted from the blood into the filtrate in the renal tubule

- **Tympanum:**

Tympanic membrane. See Ear drum

- **Ureter:**

A tube that carries urine from a kidney to the urinary bladder

- **Urethra:**

The tube that carries urine from urinary bladder to the outside of the body

- **Urinary bladder:**

A sac-like organ where urine is stored before being excreted

- **Urinary system:**

The system responsible for the production and excretion of urine, includes kidneys ureters, urinary bladder and urethra

- **Uterus horn:**

The two separate parts of the uterus in the female rabbit

- **Vaccines:**

The material used to produce immunity to a disease by stimulating the production of antibodies

- **Variation:**

A characteristic in an individual that differs from the typical characteristics of other individuals of the same species

- **Vas deferens:**

The tubes that carry sperms from each testis to the urethra

- **Vasopressin:**

Antidiuretic hormone the hormones secreted by the posterior pituitary, responsible for the reabsorption of water from renal tubules of the nephron

- **Vector:**

(in Biology) The DNA (plasmid) or bacteriophage etc that transfers the isolated gene of interest to the host cell

- **Vegetative propagation:**

A type of asexual reproduction in which the vegetative parts of the plants i.e, roots, stems or leaves produce new generation

- **Vestibule:**

Part of the inner ear: helps to maintain balance of the body

- **Vitreous humour:**

The fluid present in the posterior chamber of the eye i.e, between the iris and retina

- **Vocal cords:**

Two pairs of fibrous bands in the larynx, vibrate when the air passes through them and produce sounds

