* The terms 'Lead' in taxonomic aid used for identification of plants and animals refers to:
(1) Paired contrasting characters
(2) Habitat and distribution of plants
(3) Information for identification of species
(4) Each statement in the key.

Hint: (1) Couplet (2) Flora (3) Manual

* Which criteria the R. H. Whittaker's five Kingdom Classification does not include?
(1) Thallus Organization
(2) Mode of Nutrition
(3) Phylogeny
(4) Habitat
* Diatoms and Desmids are regarded as Planktons because they:
(1) Are similar to plants.
(2) Are minute and free floating.
(3) Minute and active swimming.
(4) Have two thin overlapping cell wall.
* Algin is a:
(1) Reserve food in brown algae.
(2) Cell wall constituent of brown algae.
(3) Cell wall constituent of red algae.
(4) Gelatinous coating material on the cellulosic wall in brown algae.
* Which phylum is characterised by features like radial symmetry and tissue grade of organization with exclusive marine animals?
(1) Porifera
(2) Coelenterata
(3) Echinodermata
(4) Ctenophora
* An organism showing spindle shaped elongated body was caught in the fisherman net. It had a circular mouth, scaless body and was devoid of paired fins. Which among the following is the most likely organism?
(1) Hemichordate
(2) Cyclostome
(3) Cartilaginous fish
(4) Bony fish
* Select the WRONG statement:
(1) Guard cells of grasses are dumbbell shaped.
(2) Trichomes prevent check transpiration.
(3) Only parenchyma constitute ground tissue.
(4) Phloem parenchyma is absent in most monocots.
* Cell junctions of epithelial cells associated for rapid transfer ions, small molecules and sometimes big molecules are called:
(1) Plasmodesmata
(2) Tight junctions
(3) Adhering junctions
(4) Gap junctions
* The non-staining secondary constrictions seen at a constant region in few chromosomes are called:
(1) Kinetochores
(2) Satellites
(3) Nucleosomes
(4) Heterochromatin
* The polymer of fructose is:
(1) Cellulose
(2) Chitin
(3) Glycogen
(4) Inulin
* During the G1 phase of cell cycle if the DNA is denoted by 2C and number of Chromosomes 4, by the end of S phase the DNA and number of chromosomes would be:
(1) $4 C$ \& 4 respectively.
(2) $2 C \& 4$ respectively.
(3) $4 C \& 8$ respectively.
(4) 2C \& 8 respectively
* If a plant cell placed in a solution shrinks away with its cell membrane, it denotes that the cell sap has:
(1) More solute concentration and high water potential.
(2) More solute concentration and low water potential.
(3) Less solute concentration and high water potential.
(4) Less solute concentration and low water potential.
* Read the statements $A$ and $B$ and select the correct option for the cause for appearance of brown spots surrounded by chlorotic veins in plants:
(A) Deficiency of iron, magnesium and calcium.
(B) Manganese toxicity.
(1) A and B.
(2) Neither A or B.
(3) A.
(4) B.
* The greenhouse crops are:
(1) Bell pepper \& Sorghum.
(2) Maize \& Tomato.
(3) Tomato \& Bell pepper.
(4) Maize \& Sugarcane.
* If the RQ value of Tripalmitin is 0.7 , then it is a:
(1) Carbohydrate
(2) Organic acid
(3) Fatty acid
(4) Protein
* The growth regulator is known to enhance sugar production in sugarcane crops is:
(1) Cytokinin
(2) Auxin
(3) Gibberellic acid
(4) Ethylene
* If the average respiratory rate in an adult healthy individual is 15 , what will be the volume of air inspired per minute?
(1) 7.5 lts
(2) 3 lts
(3) 4.5 lts
(4) 1.5 Its
* $\quad$ Select the factor that decreases the cardiac output:
(1) Adrenal medullary hormones.
(2) Neural signals from Parasympathetic nerves.
(3) Sympathetic neural signals.
(4) Exercise.
* Thymosin secreted by:
(1) Endocrine pancreas and is responsible for raising the blood sugar level.
(2) Thyroid gland that regulate the blood calcium level.
(3) Thymus gland which increases production of T lymphocytes.
(4) Kidney cells that promotes Erythropoiesis.
* Which among the following is least likely to be a clone?
(1) Monozygotic twins.
(2) Organism developed from vegetative propagules.
(3) Hydra derived from a bud.
(4) Offspring derived from autogamy.
* The floral reward offered by flower of Amorphophallus to insect is:
(1) Nectar
(2) Nectar \& Pollen grains
(3) Pollen grains
(4) Safe place for egg laying.
* The human placenta is formed by:
(1) Uterine tissue and Umbilical cord.
(2) Uterine tissue and Chorionic villi.
(3) Chorionic villi and Umbilical cord.
(4) Foetus and Uterus.
* Which one of the following is considered as the ideal contraceptive for the female who want to delay pregnancy and/ or space children?
(1) Diaphragms, Cervical caps and Vaults.
(2) Intra Uterine Devices.
(3) Tubectomy.
(4) Oral contraceptive pills such as Saheli.
* In grasshoppers, if an egg is fertilized by a sperm having only a set of autosomes, then the offspring would be:
(1) Bisexual
(2) aneuploids
(3) Male
(4) Female
* Which type of blood group is not expected in the offspring of a couple where both the members have co-dominant trait for $A B O$ - blood type?
(1) $A B$
(2) $A$
(3) B
(4) 0
* 'All living organisms that we see today are created as such' - this is a connotation of theory:
(1) Spontaneous generation of Life.
(2) Biogenesis.
(3) Cosmozoa or Panspermia.
(4) Special creation.
* Tendency of the body to manifest a characteristic and unpleasant withdrawal symptoms following discontinued drug intake is called:
(1) Addiction.
(2) Dependence.
(3) Euphoria.
(4) Hallucination.
* Hisardale is organisms developed by
(1) Inbreeding.
(2) Cross breeding.
(3) Out breeding.
(4) Out crossing.
* The best breeding practice to obtain a pureline is:
(1) Mating of more closely related individuals.
(2) Mating of animals within the same breed with a distant ancestry.
(3) Mating of superior animals of different breeds.
(4) Mating of superior animals of different related species.
* Replacement of light coloured peppered moth by dark coloured peppered moth in response to change in environment during industrial revolution in Great Britain is called:
(1) Stabilizing selection.
(2) Disruptive selection.
(3) Directional selection.
(4) Diversifying selection.
* The Hepatitis B vaccine:
(1) rDNA protein produced from Bacteria.
(2) Is a type of Passive immunization
(3) Is an attenuated pathogen.
(4) Contains polypeptide of pathogen that generate memory B and T cells.
* The shift from grain to meat diet:
(1) Helps to overcome the demand of food of growing population.
(2) Increases the incidences of cardiovascular diseases and obesity.
(3) Creates more demand for cereals.
(4) Helps to mitigate the agriculture load.
* Trichoderma microsporum is a/an:
(1) Yeast that produces Statin.
(2) Fungi responsible for ringworm disease.
(3) Fungi that produces Cyclosporine.
(4) Bacterium that produces 'clot buster'.
* The rDNA having human gene was successfully inserted into the bacteria but the transformed cells failed to produce the desired protein. What could be the reason?
(1) Failure at transcription level.
(2) Inability to process HnRNA.
(3) Absence of 80 s RNA.
(4) Lengthy human gene.
* The consequence of increase in microbial population in the water bodies:
(1) Decreases DO and BOD
(2) Increases DO and BOD
(3) Increases DO and decreases BOD
(4) Decreases DO and increases BOD

