- * 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) 4C & 4 respectively.
 - (2) 2C & 4 respectively.
 - (3) 4C & 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 Its
 - (2) 3 Its
 - (3) 4.5 lts
 - (4) 1.5 lts
- * 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 ABO- blood type?
 - (1) AB
 - (2) A
 - (3) B
 - (4) O
- * '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 80s 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