

Q. 1 (A) Answer in short.**(4)**

- (1) Write the importance of Manganese in living Organism.
- (2) Define limiting index.
- (3) Give the examples of the aminoacids having two - NH₂ group and one - COOH group.
- (4) What is PIF and INAA ?
- (5) Which salts maintain the body's acid – base balance ?
- (6) Define : Glycosidic Bond
- (7) What are sterols ? Give examples.
- (8) Give the contribution of Watson and Crick.
- (9) Name two sulphar containing amino acids.
- (10) Mention components of starch, their percentage and characteristics.
- (11) Define – Unit of enzyme.
- (12) Give the name of the female sex hormones.
- (13) Write importance of Boron.
- (14) Mention two fattyacids, which do not have double bonds.
- (15) What is fission ? Write biological importance of it.
- (16) Write full form of IAA & ABA.
- (17) Chemical nature and properties of amino acids are different.
- (18) Abscissic acid is called growth inhibitor.
- (19) The islets of Langerhans are endocrine glands.
- (20) Phosphorus is a vital element.
- (21) State any two example of aromatic aminoacids.
- (22) In the structure of which hormone does sulphur occur ?
- (23) Which proteins helpin clotting of blood ?
- (24) State full name, origin and function of MTH.
- (25) State the importance of Copper.
- (26) Name the acidic amino acids.
- (27) Name the plant hormones inhibiting and promoting senescence
- (28) Name the component of respiratory pigment of arthropods and state its importance in plants.
- (29) State the location and function of Thyms gland.
- (30) State two examples of waxes.
- (31) Give the non-protein component of casein and chlorophyll.
- (32) Identify Insulin and Inulin.
- (33) Name any two heterocyclic amino acids.
- (34) How does the enzyme enclose get activated ?
- (35) Give reason – It is necessary to analyse the fluoride content of water of our residential areas ?

- (36) Give the importance of calcium in organisms.
- (37) Give the full name of FMN and IAA.
- (38) Give the difference between Coenzymes and Cofactors.
- (39) Draw the structural formulae of the pyrimidine base present in DNA.
- (40) Write chemical equation of aerobic respiration.
- (41) Name the hormone responsible for osteoblast and osteoclast.
- (42) Explain ester bond with equation.
- (43) Define : Enzyme
- (44) Which hormone induces senescence in plants.
- (45) Equation for anaerobic respiration.
- (46) Differentiate between thymine and thiamine.
- (47) Why cytokinin is considered as aging inhibitor.
- (48) Give structural formula of pyrimidines found in RNA.
- (49) Give empirical formula and examples of polysaccharides
- (50) Name the mineral elements present in insulin. Give importance of any one.
- (51) Give formula: Lactic acid, Pyruvic acid.
- (52) Give equation of exothermic process giving out similar amount of energy.
- (53) Write structural formula of sugars having molecular formula $C_5H_{10}O_5$.
- (54) State the role of hypothalamus.
- (55) Why does the government encourage sale of iodised salt ?
- (56) Which is the main mineral element in the respiratory pigment of the cockroach ?
- (57) Name a long chain fatty acid which can not absorb chlorine.
- (58) Give full forms of FMN and NADP.
- (59) A bird can survive at $5^{\circ}C$ but a fish cannot why ?
- (60) State biological significance of Cobalt.
- (61) Give names of the short chained saturated and unsaturated fatty acids.
- (62) Name the Organic acids from which Glycine and Alanine are derived.
- (63) Give names of the enzymatic groups for Aldolase and Hexokinase.
- (64) Structure and types of amino acid.
- (65) Give two points of difference between wax and triglyceride.
- (66) State the significance of sulphur in proteins.
- (67) How does pancreas differ from other endocrine glands ?
- (68) Name two mineral elements important in Respiration.
- (69) State the causes of fluorosis.
- (70) State the name and location of protein, which is insoluble in any solvent.
- (71) State the location and function of pineal body.
- (72) Give full names of LTH and DPGA.

- (73) Give equation of glycolysis.
- (74) Explain formation of triglyceride by giving formula.
- (75) Sulpha drugs are used against bacteria. Why ?
- (76) Write full form MSH & PIF
- (77) What are Buffer chemicals.
- (78) Write the full form of IBA and 2,4-D
- (79) Give two names of minerals associated with insulin hormone.
- (80) Give structural formula of purine bases
- (81) State name & type of enzymes in mitochondria
- (82) Importance of phosphorus.
- (83) Give importance of keto-triose.
- (84) State the contribution of Van Helment.
- (85) Name the hormone, which contains Zinc as one of the components.
- (86) State the name and location of protein, which is insoluble in any solvent.
- (87) Chemically what types of hormones are thyroxine and adrenaline ?
- (88) In the structure of which vitamins does the sulphur occur ?
- (89) Write components of starch and their percentage.

Q. 1 (B) Write short notes.**(8)**

- (1) Enzyme inhibitors.
- (2) Hormones of Ovary.
- (3) Distribution of water in living Organisms.
- (4) Common phase of the respiration.
- (5) Give an account of ATP molecules produced during aerobic respiration.
- (6) Write note on Auxins.
- (7) Explain the role of hormones in parathyroid gland.
- (8) Describe the structure of enzyme.
- (9) Steroids.
- (10) Hormone secreted by disintegration of nucleic acid.
- (11) Describe – Mechanism of enzyme action.
- (12) Explain causes of diabetes and goiter.
- (13) Classify polypeptides.
- (14) Differentiate between aerobic and anaerobic respiration.
- (15) What is buffer system ? Write its importance in living organism.
- (16) Write note on : Polysaccharides.
- (17) Describe anaerobic respiration.
- (18) Different properties of water useful to the organism.

- (19) Give reason; Hormonal control is important than neural control
- (20) Islets of Langerhans.
- (21) Importance of water in plants.
- (22) Cytokinin
- (23) Types of RNA
- (24) Giberellins
- (25) Biological importance of food stuffs of highest calorific value.
- (26) Hormones of anterior pituitary gland
- (27) Importance of chlorine and cobalt in the living beings.
- (28) Auxins.
- (29) Location and function of (i) Succinic dehydrogenase (ii) Immunoglobulin
- (30) Properties of enzymes.
- (31) Hormones of adrenal cortex.
- (32) Explain the formation of triglyceride.
- (33) Short note: hormones of Adrenal medulla.
- (34) State the importance of phosphorus in living organism.(Any four points)
- (35) Give general formula for various monosaccharides and explain ketosesugar.
- (36) Complex lipids.
- (37) Importance of boron and cobalt in living beings.
- (38) Short note: Growth inhibitors
- (39) Differentiate : Saturated fatty acid- Unsaturated fatty acid
- (40) Compare a pair of antagonistic plant hormone.
- (41) Explain molecular model of DNA (figure not essential).
- (42) Explain the formation and properties of Disaccharides.
- (43) Name two enzyme inhibitors and explain the mechanism of their action on the enzymatic reaction.
- (44) Name two synthetic auxins and state their practical uses in agriculture.
- (45) Name two gonadotropins and state their functions.
- (46) Explain the importance of calcium in human beings.
- (47) State biological significance of Cobalt.
- (48) Discuss the properties of proteins.
- (49) Give the structural formula of the nitrogen base found in DNA only.
- (50) State the site of origin and biological importance of pancreatic hormones.
- (51) Write a note on Volatile plant hormone.
- (52) Biological importance of elements which are structural component of Hormone Insulin.
- (53) Hormone which keeps plants evergreen.
- (54) Distinguish between DNA and RNA

- (55) State the importance of steroids
- (56) Mention properties of protein
- (57) Describe properties & biological significance of water
- (58) Distinguish giving four points: m-RNA, t-RNA
- (59) Describe the type of RNA, which are synthesized in nucleus and nucleolus respectively.
- (60) State difference between: Phosphorylation and Dephosphorylation.
- (61) State scientific reason for. "Ethylene is required to be sprayed prior to the process of reaping."
- (62) Draw only a diagram showing kreb's cycle.
- (63) Give a brief account of the types of lipids.
- (64) Explain bound form of water.

Q. 1 (C) Describe in detail. (any two)**(8)**

- (1) Types of RNA and their functions.
- (2) Hormones of the gland
- (3) Give structural formula of hexose sugars and explain their biological importance.

- (4) Describe anaerobic phase of aerobic respiration.
- (5) Define enzyme and classify the enzymes, giving examples.

- (6) Describe biological importance of water.
- (7) Describe the molecular structure of DNA given by Watson and Crick.
- (8) Describe properties of enzymes and the mechanism of enzyme action.
- (9) Formation and structure of nucleic acids.
- (10) Classify animal hormones giving examples and describe pineal gland and thymus gland.
- (11) Biological importance of lipids.
- (12) Hormones of Anterior lobe of Pituitary gland
- (13) Biological Importance of Proteins
- (14) Factor affecting enzyme action
- (15) Hormones of pituitary gland.
- (16) Apart from producing sex cells, the sex glands secrete hormones also – justify the statement.
- (17) Describe Androgens and Estrogen hormones.
- (18) Describe the simple and complex lipids.
- (19) Draw a chart of the kreb's cycle and oxidation phosphorylation.
- (20) Explain the importance of any four steroid hormones in vertebrates.

- (21) Structure and types of amino acid.
- (22) Define respiration and describe the oxidative phosphorylation stage.
- (23) Describe the sex hormones in detail.
- (24) Write notes on (1) Starch (2) Co-catalyst.
- (25) What is monosaccharide ? Describe its types, structure and importance.
- (26) Explain Krebs's cycle Calculate the number of ATP molecules produced during aerobic respiration from one molecule of glucose.
- (27) Growth promoting plant hormones.
- (28) Characters of disaccharides and polysaccharides.
- (29) Give the names as well as functions of endocrine glands located in Neck region.
- (30) Describe the hormones of the anterior pituitary gland with their function and give the chart showing the regulations of their excretions.
- (31) State the biological importance of calcium, copper and boron.
- (32) Explain pyrimidine bases and their biological importance.
- (33) Describe the biological importance of enzyme. (eight points)

Q. 2 (A) Answer in short.**(4)**

- (1) Define buds.
- (2) What are clove.
- (3) State the location and function of Velamen tissue.
- (4) Which types of thickenings are present in the tracheids formed earlier.
- (5) Distinguish between Epicotyl and Hypocotyl.
- (6) Define Placentation
- (7) What is Caryopsis ?
- (8) What is Hypophysis ?
- (9) State importance of carotenoids in photosynthesis
- (10) What is ascent of sap ?
- (11) In which part of garlic is food stored ?
- (12) State the number of chromosome in zygote & edosperm nucleus.
- (13) Give importance of Aleurone layer.
- (14) Give difference between phyllode and phylloclade with example
- (15) Give difference between hydrophytes and hydathode with example
- (16) What is hard bast or bundle cap.
- (17) Explain term : Adventitious root.
- (18) Distinguish : thorn - spine
- (19) What is bulbil ? Write biological importance of bulbil.

- (20) Identify rhizome and tuber.
- (21) Explain with example stilt root.
- (22) Location and function of companion cells.
- (23) Explain the term dorsiventral leaf.
- (24) Distinguish between epiblem and epithelial layer
- (25) Explain photosynthetic pigments
- (26) What are antitranspirants
- (27) Define seed and its function
- (28) What is split pericycle ?
- (29) State the location of Casparian strip.
- (30) Mention the significance of O^{18} and C^{14} in photosynthesis.
- (31) Give full forms of : IAN, FAD.
- (32) Define : Guttation and transpiration.
- (33) Mention location and function of germ pore.
- (34) What is pollination ?
- (35) What is the difference between phyllode and phylloclade ?
- (36) Give examples of lateral meristems.
- (37) Give the location and function of passage cells.
- (38) What is the path of Ascent of Sap ?
- (39) Define: Leaf.
- (40) Stamen is called microsporophyll and anther is called microsporangium. Why ?
- (41) What are staminate flowers ?
- (42) What are collateral vascular bundles ?
- (43) Cuscuta is a total parasitic plant explain.
- (44) Define: Lysigenous cavity.
- (45) State the contribution of Dixon and Jolly.
- (46) Give full form of PQ* FRS.
- (47) Write the characteristic of meristematic cells.
- (48) Name two plants having pinnately compound leaf.
- (49) Define : Hypocotyls and hypophysis.
- (50) State the location and function of motor cells.
- (51) Differentiate between monoecious and dioecious plants.
- (52) What is calyptrogens.
- (53) Define, Bulbil.
- (54) Give two points of difference: Exarch vascular bundle and endarch vascular bundle.
- (55) Location and function of sieveplate.

- (56) Give example of dead mechanical tissue in plants.
- (57) Differentiate between trachea and Trachids.
- (58) Define Micropyle
- (59) What are Hygroscopic cells ?
- (60) Define Hypophysis cell
- (61) What is Haustoria ?
- (62) Define : Photosynthesis with equation.
- (63) Distinguish between conjoint and radial vascular bundle.
- (64) What is the cross Pollination ?
- (65) What is tuber ? Give example.
- (66) What is cambium ? State its location and function.
- (67) Name hygroscopic cells of leaf with function.
- (68) "Potato is a stem and sweet potato is a root". Justify the statement on the basis of external feature only.
- (69) Give names and functions of proximal and distal cells of the suspensor.
- (70) Explain the term – Turgor pressure and root pressure.
- (71) Explain –Bract, Perianth.
- (72) What is the function of style ?
- (73) Define – Osmosis.
- (74) Give the location and function of hull.
- (75) What modifications are seen in the canna and the lotus flower ?
- (76) Give the effect of pH change on stomatal movement.
- (77) State location and function of phloem fibre.
- (78) What is root pocket and root cap ?
- (79) State the characteristic of bird pollinated flowers.
- (80) State the function of epithelial layer in maize seed.
- (81) Symbiotic roots.
- (82) What is foliaceous stipule ?
- (83) Which pigments are included as Carotenoids.
- (84) Give two examples of bird polinated plant.
- (85) Give example of plant for pollination by bats
- (86) What is PS – I and PS - II ?
- (87) Name the plant in which, style is having dorsoventrally flattened petaloid appearance.
- (88) Give one example of pteridophyte in which intercalary meristem is present.
- (89) List out peculiarities of wind pollinated plants
- (90) Write note on aerial modification for food storage
- (91) Define – Plasmolysis

- (92) Give the names and examples of the modification of stem for vegetative propagation without the storage of food.
- (93) Give two examples of phylloclade.

Q. 2 (B) Describe briefly.**(8)**

- (1) Write a short note about a xylem component which is providing mechanical strength and rigidity.
- (2) Write a short note about pollination by abiotic factors.
- (3) Differentiate between phyllode and phylloclade.
- (4) Conducting tissue system in Maize stem.
- (5) Stone cells and sieve cells.
- (6) Any two theories of Ascent of Sap.
- (7) two modifications of the adventitious buds.
- (8) Give the chart of classification of plant tissues.
- (9) Explain : Symbiotic roots
- (10) Describe : Stomata of Dicot leaf
- (11) Distinguish between vascular bundles of dicot & monocot.
- (12) Describe conducting tissue system in sunflower stem. (diagram not necessary).
- (13) Any two adaptations for climbing in leaf-climbers. (diagram essential).
- (14) Active absorption.
- (15) Give scientific explanation : The cells of sclerenchyma and trachea are hard and dead.
- (16) Describe factors affecting stomatal transpiration.
- (17) Explain fertilization in angiosperm plant.
- (18) Describe apical meristematic tissue.
- (19) Describe water absorption in plant.
- (20) State the function of stem and leaf.
- (21) Explain living mechanical tissue of plants.
- (22) Differentiate between V.B. of maize and sunflower stem (4 points)
- (23) Write note on Absorption of mineral salts.
- (24) Various adaptations observed in plants with pinnately compound leaves (with diagram)
- (25) Write short note on; plasmolysis
- (26) Germination of maize grain
- (27) Describe any two plants in which leaves are modified for climbing (Diagram necessary)
- (28) Respiratory Roots
- (29) Distinguish between stele of Maize Root and Stele of Sunflower Root.
- (30) Cyclic photophosphorylation.

- (31) Describe : Breathing Roots
- (32) Give reasons why germination in bean is epigeal.
- (33) Tissue which gives buoyancy.
- (34) Draw labelled diagram showing L.S. of Phloem and T.S. of Phloem.
- (35) structure of bean seed.
- (36) Lenticular transpiration.
- (37) Vascular bundle of monocot stem.
- (38) chlorenchcyma.
- (39) Write a short note : Hygroscopic roots.
- (40) The inner most whorl of a typical flower.
- (41) Describe : Trachea
- (42) Write note on root system.
- (43) Give four differences Trachea and Tracheids.
- (44) Draw labelled diagram only of Ascent of sap.
- (45) Describe with diagram – Adventitious buds.
- (46) Distinguish between transpiration & guttation.
- (47) Variety of functions of parenchyma.
- (48) State the type of modification in the following plants.
(A) Gloriosa (B) carissa (C) Tinospora (D) Agave
- (49) Any two adaptations for climbing in leaf-climbers. (Diagram essential)
- (50) The process of Photophosphorylation in which only PS-I participates.
- (51) Significance of transpiration.
- (52) Describe the phase of photosynthesis in which PS I & PS II both takes part..
- (53) Cuscuta is more harmful than Loranthus and orchid plant. Explain.
- (54) Explain the embryo of monocot plant.
- (55) Difference between : aerenchyma and lumen of cell (diagram is necessary)
- (56) Transport of mineral salts-through carrier molecules.
- (57) Distinguish between: PS I and PS II
- (58) Describe any two modification for photosynthesis.
- (59) Write a note on the male reproductive whorl of a typical flower (diagram required).
- (60) "Transpiration is an unavoidable evil" Explain.
- (61) Write a note on conducting tissue system of Maize stem.
- (62) Factors affecting photosynthesis.
- (63) Any one of essential whorl – (figure – Not required).
- (64) Explain Apical Meristem.
- (65) Describe process of fertilization in angiosperms.
- (66) Give the difference between photosynthetic roots and prop roots.

- (67) Explain Photosynthetic roots
- (68) Define style and pollen tube and state their functions
- (69) Differentiate Thorn and Spine
- (70) Theory of cohesive force for ascent of sap.
- (71) Give the modifications seen in Ginger and Avicennia.
- (72) Explain the term caryopsis, with diagram.
- (73) Write a note on Plasmolysis.
- (74) Describe experiment to show osmosis.
- (75) Distinguish between – Androecium & Gynaecium.
- (76) Cross pollination by abiotic agents.
- (77) Describe the structure of Bean seed.
- (78) Give scientific explanation The sunflower leaf is described to be dorsiventral and the maize leaf as isobilateral ones.
- (79) Modification of leaves for storage of food.
- (80) Describe any two plants having for different functions. (with diagrams)
- (81) Modification for protection and to reduce transpiration.
- (82) Conducting tissue system in sunflower root.
- (83) Distinguish between Collenchyma and Chlorenchyma.
- (84) Water conducting tissue.
- (85) Write differences between vascular bundles of dicot stem and monocot stem.
- (86) Describe types of meristmatic tissue
- (87) Distinguish giving 4- points stem thorn & leaf spine
- (88) Epiphytie roots
- (89) What is a Root Climber and Stem Climber ?

Q. 2 (C) Answer in detail. (Any two)**(8)**

- (1) Explain a chemical process where reduction of CO₂ is taking place in plants.
- (2) Write the Organization of tissue system in a plant Organ where phloem parenchyma is not present.
- (3) Write the structure of a seed, which is having hypogeal germination.
- (4) T.S of the plant organ in which the vascular bundles are open.
- (5) The process occuring in grana.
- (6) The reproductive whorls of the flower.
- (7) Double fertilization
- (8) What are stipules ? Give their modification for different functions.
- (9) What is transportation ? Write a note on different types transportation.

- (10) Describe Capsella type of embryo development. (Diagram essential).
- (11) Explain complex plant tissue concerned with the conduction of water and mineral salts.
- (12) Describe various parts of a typical flower. (Diagram essential).
- (13) Describe internal structure of sunflower stem.
- (14) Describe adaptations in the followings.
(a) Sweet pea (b) Opuntia (c) Bryophyllum (d) Passion flower
- (15) Write note on Absorption of mineral salts.
- (16) Diagram of typical plant with root system in detail (with diagram)
- (17) Various adaptations observed in plants with pinnately compound leaves (with diagram)
- (18) Light reaction (with diagram)
- (19) Modification of stipules and stem for climbing and photosynthesis
- (20) Internal structure of isobilateral leaf.
- (21) Modification of plants for climbing.
- (22) Describe : Photophosphorylation.
- (23) Describe modification in plants for photosynthesis.
- (24) Describe Complex permanent tissues.
- (25) Name the types of transpiration and explain stomatal transpiration.
- (26) Structure of stomata and stomatal transpiration.
- (27) Describe characteristics and types of meristematic tissue. (Diagram essential)
- (28) Internal structure of maize root (in T.S.) (Diagram essential).
- (29) What is Ascent of sap ? Explain root pressure and water cohesion theories of ascent of sap.
- (30) Internal structure of a dorsiventral leaf.
- (31) The roots which possess pneumatophores and velamen tissue.
- (32) Pollination by biotic agent
- (33) Describe the process of photosynthesis that occurs in the stroma of chloroplast .
- (34) Describe the complex permanent tissue that helps in translocation of organic food.
- (35) Describe germination in case of Bean seed (Diagram required).
- (36) Hypogeal modification for various functions arising from Axillary bud.
- (37) Draw labeled diagram and compare anatomy of monocot and dicot root.
- (38) Discuss modified parenchyma.
- (39) "Leaves are modified into tendrils, spine, scale, phyllode to perform function" , Illustrate the statement with suitable examples and diagram.
- (40) Name and explain diagrammatically the internal structure of plant organ in which there are four vascular bundles, radially arranged.
- (41) T.S. of sunflower stem. (Fig. Necessary)
- (42) Modification of plants for climbing

- (43) Characters and types of meristamatic tissue.
- (44) Gynoecium of typical flower.
- (45) Describe T.S. of Maize Root with diagram.
- (46) T.S. of Monocot stem (With diagram)
- (47) Describe modifications of Axillary buds
- (48) Describe giving diagrams, the protective parts of the stem and leaf in plants.

Q. 3 (A) Do as directed.**(6)**

- (1) Define Autostylic jaw suspension.
- (2) Name one reticulate gland.
- (3) What are polymorphonuclear leucocytes ?
- (4) Write the location and function of spleen
- (5) What is cauda equina ?
- (6) What are gasserian ganglion?
- (7) Give the definitions of chyle, chloride shift.
- (8) Write the function of the posterior – mesenteric artery.
- (9) Give the the location of : foramen of monro, foramen magnum.
- (10) Give the exact location of H-zone and Krauses membrane.
- (11) Name (I) the type of the gland, which is located in the mesentery and connected only with the blood vessel. (II) the center for the formation of yolk.
- (12) Which protein as connectivetissue is soluble in dilute acetic acid ?
- (13) Define invagination
- (14) Why cannot a frog close its eyes?
- (15) What is assimilation ?
- (16) Explain term : lymph
- (17) State location and function of carotid labyrinth.
- (18) Why does frog attain a serious state, when the ventral wall of its optic lobes is crushed.
- (19) What is sarcomere ?
- (20) Explain the significance of lymph in frog.
- (21) State the location and function of sternohyoid muscle.
- (22) Why only one sperm can enter the egg and none there after?
- (23) Which different parts of the body of frog are drained by the internal jugular vein ?
- (24) Location and function of Nissil's granules.
- (25) Identify brachium and antebrachium
- (26) Name the triradiate bones of upper jaw.
- (27) Significance of crura cerebri.
- (28) Location and function oxyntic cells.

- (29) Significance of hyaluronidase.
- (30) State location and function of Mast cells.
- (31) Which components are found in the middle part of sperm.
- (32) How Gasserian ganglion and Vagus ganglion are formed ?
- (33) What is chloride shift ?
- (34) Explain the term 'Yolk plug' and 'Blastopore'.
- (35) What is the difference between nictitating membrane and tympanic membrane.
- (36) Give the location and function of Bidder's canal.
- (37) Classify eggs according to distribution of yolk material.
- (38) What is the function of Cholecystokinin during digestion.
- (39) Name the veins involved in the formation of Renal portal vein.
- (40) Name the respiratory muscles of the frog.
- (41) Which parts constitute the hind limb of frog ?
- (42) Which hormone affect reabsorption process.
- (43) What is synapse ?
- (44) Name the proteins present in A and I bands of myofibrils.
- (45) Give the function of vas efferentia.
- (46) Urinary bladder originate from which embryonic layer.
- (47) What is Deamination ?
- (48) Name the glands which secrete mucilage on the roof of the buccal cavity.
- (49) How are alveoli formed ?
- (50) Explain : Though mixed blood is circulated in frog, this does not affect its longevity.
- (51) State location : periganglionic gland, interstitial cells.
- (52) State location of unipolar and bipolar nerve cells.
- (53) What is 'serial homology'
- (54) Name the organs in which the brachial artery supplies the blood.
- (55) Define excretion.
- (56) Name two motor nerves.
- (57) What in optic chiasma ?
- (58) Give contribution of prof. Vogt in the field of Biology.
- (59) Which type of protein is present in A and I bands of myofibrils ?
- (60) State location & function of Fibroblasts.
- (61) State location and function of Germinative layer.
- (62) The oviduct of frog is long and coiled. Give reason.
- (63) In relation to yolk amount specify the type of egg of whale, shark and frog.
- (64) Give any two locations of wavy margined squamous epithelial layer in Frog.
- (65) What is lymph ?

- (66) Give the location and function of Nephrostome.
- (67) What is called foramen of Monro?
- (68) Give the location and importance of mid dorsal line.
- (69) Distinguish between : Emulsification and Saponification .
- (70) How browspot is formed in Frog ?
- (71) Why is gastrulation also known as morphogenesis ?
- (72) Which two veins join to form an innominate vein ?
- (73) Define : Medullated nerve fibre.
- (74) Location and function of glands of swammerdam or periganglionic gland.
- (75) Name two membranous bones of upper and lower jaw each.
- (76) State the name and function of 7th cranial nerve.
- (77) Define chemical digestion.
- (78) Why do birds excrete the metabolic wastes in semi-solid form ?
- (79) Write the function of Epigastric-vesicular Artery.
- (80) Explain the term Malpighian body and malpighian layer.
- (81) Name non-nervous part of brain with its function.
- (82) Define pylorus.
- (83) What is egg membrane? State its origin and location.
- (84) Define nictitating membrane.
- (85) Name parts and function of mid brain.
- (86) State the formation and importance of grey crescent.
- (87) What is deamination ? Where does it occur ?
- (88) Differentiate between nephrostome and nephrotome.
- (89) State the location and function of bone that protects the internal ear.
- (90) State the location and function of the ciliated epithelium in the digestive system.
- (91) Define:- Metamorphosis
- (92) Which component of blood is nonliving ? Why is it called non living ?
- (93) State the location of the unipolar and the bipolar neurons.
- (94) Name of cells associated with colour change in frog, which hormone influence their function ?
- (95) Differentiate between "Encephalon" and "Diencephalon"
- (96) What is sexual dimorphism ?
- (97) Explain the term – Assimilation
- (98) State the specificity of respiratory organ.
- (99) Mention the location of kidneys in body.
- (100) Write two functions of fat bodies.

Q. 3 (B) Answer in short.**(6)**

- (1) "The phenomenon of reabsorption is of great significance". Explain.
- (2) Write the important functions of skin of frog.
- (3) Explain sexual dimorphism in frog.
- (4) Hepatic Portal system.
- (5) T.S of the animal tissue seen in the head of femur.
- (6) Explain the process of fertilization.
- (7) Describe Buccal respiration.
- (8) Describe renal portal system.
- (9) Describe pelvic girdle giving diagram.
- (10) Describe the microscopic structure and function of areolar connective tissue.
- (11) Describe organogenesis from endoderm.
- (12) Significance of Renal portal system and spleen.
- (13) Hyaline cartilage
- (14) Ultrafiltration
- (15) Transport of O₂ through blood.
- (16) Excretory function of liver.
- (17) Describe the location in brain and functions of trigeminal nerve.
- (18) Explain : Agranular leucocytes.
- (19) Position of blood as a connective tissue is controversial.
- (20) The oviduct frog is long and coiled.
- (21) The frog dies when medulla oblongata is severely injured.
- (22) Explain t.s. of stomach in frog.
- (23) Male gametes are small while female gametes are large. Give scientific reason.
- (24) Frog's skin can not be called as only respiratory organ. Give reason.
- (25) T.S of lungs (Diagram is necessary)
- (26) Structure of multipolar neuron.
- (27) Hyoid apparatus.
- (28) Ventricles of Brain.
- (29) Spermatogenesis.
- (30) During transport of CO₂, of chloride shift takes place. – Give reason.
- (31) Give the importance of pectoral Girdle.
- (32) Describe the internal structure of female reproductive organ (figure required).
- (33) W.B.Cs are protective in function.
- (34) Digestion of food in stomach of frog.
- (35) Define surface inspiration of O₂.

- (36) Cardiac muscular tissue.
- (37) Urostyle .
- (38) Distinguish between –8th & 9th vertebra.
- (39) Write short note on internal structure of pancreas.
- (40) State nutritional function of liver.
- (41) Pulmonary respiration.
- (42) Medullated nerve fibre
- (43) Importance of hepatic portal system.
- (44) Areolar Tissue.
- (45) Functions of liver
- (46) Explain with diagram – Fate map of prospective areas in blastula stage of embryo.
- (47) Write notes on Cartilage bones of brain box.
- (48) Functions of Hcl.
- (49) Blood capillaries.
- (50) Typical vertebra.
- (51) Innominate bone.
- (52) Autonomouous nervous system.

Q. 3 (C) Answer in detail. (Any two)**(8)**

- (1) Explain the portal venous system in Frog.
- (2) Describe the process of transport of CO₂ through the blood.
- (3) The internal structure of stomach of frog. (diagram is necessary)
- (4) The reflex action with diagram.
- (5) What is metamorphosis ? Describe with figure, the internal and external Gill stages of Tad-pole.
- (6) Describe organogenesis from mesoderm.
- (7) Describe, giving diagrams, the changes that occur during gastrulation in the embryo of frog.
- (8) Describe in detail the chemical digestion in the duodenum of frog.
- (9) Note on nerve fibres.
- (10) Describe pelvic girdle (with figure)
- (11) Skeletal muscular tissue.
- (12) Urine formation and excretion.
- (13) Bones of the hind limbs.
- (14) T.S. of spinal cord & Reflex arch.
- (15) Histology of liver.
- (16) Male reproductive system.
- (17) Describe : sensory capsules

- (18) Describe : dorsal view of frog's brain with diagram.
- (19) Draw a labelled diagram : urinogenital system of female frog.
- (20) Digestion of proteins in the alimentary canal of frog.
- (21) Pulmonary respiration (Figure essential)
- (22) Describe the process of Oogenesis. (Figure is essential)
- (23) Describe the function of various parts of brain of frog.
- (24) Describe Female reproduction system in Frog.
- (25) Draw and describe internal structure of kidney.
- (26) Draw and describe different vertebrae of frog other than typical.
- (27) What is portal system ? Discuss the significance of portal system.
- (28) Explain the structure of the functional unit of the kidney.
- (29) Explain the process of the female gametogenesis.
- (30) L.S. of frog's brain
- (31) T.S. of frog's kidney.
- (32) Fertilization and its significance.
- (33) Development of Blastula stage to Gastrula stage.
- (34) Internal structure of stomach.
- (35) T.S. of spinal cord with reflex action.
- (36) Explain the dorsal and ventral view of organ in which wall is made up of Cardiac muscular tissue.
- (37) Explain – Blood as a liquid connective tissue.
- (38) Pectoral girdle of Frog.
- (39) Sensory capsule (with diagram)
- (40) Describe organogenesis from ectoderm and endoderm with diagram.

Q. 4 (A) Answer in short.**(4)**

- (1) What are Okazaki fragments.
- (2) Define Operon.
- (3) "Complete linkage rarely occurs". Explain.
- (4) "The dominant allele K in paramoecium is necessary for the maintenance of Kappa particle". Explain.
- (5) Describe Sex chromosomal aneuploidy and origin of chromosomal abnormalities.
- (6) Show the arrangement of the contained genes with example.
- (7) Write the origin and characters of Down's syndrome.
- (8) Name the types of Petite yeast.
- (9) Give the contribution of Carl Correns and co-workers in the field of Biology.
- (10) State the information about acrocentric chromosomes.

- (11) Which amino acids have only one genetic codon ?
- (12) State scientific contribution of B.Ephrussi.
- (13) State the cause of occurrence of philadelphia syndrome and its characteristic feature.
- (14) What is Euploidy ?
- (15) Explain linkage and trans-arrangement of genes.
- (16) What are Jumping genes
- (17) What is nullisomy
- (18) State the genetic code for Methionine
- (19) What is Test Cross ?
- (20) Define coupling and repulsion.
- (21) What are Holandric genes ?
- (22) What are non-sense condons.
- (23) What are telocentric chromosomes.
- (24) Give location and function of sertolicells.
- (25) Which factor is responsible for sex determination in Bonellia ?
- (26) What are degenerate codons ?
- (27) State the site of occurrence and function of paramecin ?
- (28) State the contribution of Jacob and monad in the field of Biology ?
- (29) What are split genes ?
- (30) Explain trans linkage.
- (31) Write the name and characters of syndrome caused by deletion of a segment of long arm of chromosome 22.
- (32) Nitrogenous base sequence in a segment of mRNA is "AUGGUUCACGGACGG".
Show the base sequence of it's template DNA.
- (33) Why are females referred to as homogametic in human being ?
- (34) Write cause and character of super female..
- (35) What happens if there is 111an syndrome increase in chromosomal number in D group of chromosomes.
- (36) Give reasons: Rate of growth is slow in petite yeast.
- (37) State the importance of RNA primer.
- (38) What is the contribution of Beadle and Tatum in the field of genetics.
- (39) State the importance phytohaemagglutinin and colchicine.
- (40) How are Cry-due-chat and Philadelphia syndrome caused ?
- (41) Name two characteristics in animals influenced by plasma-genes.
- (42) What are plasmagenes ?
- (43) Give the function of diformylase.

- (44) State the contribution of Bridges and Jacob of monod in the field of biology.
- (45) Mention only the phases of translation
- (46) Give contribution of T.H. Morgan
- (47) What is P.K.U. ?
- (48) How does Down's syndrome occurs ?
- (49) What is Translocation ?
- (50) Give the full form and function of MIS.
- (51) Write Contribution of Britten and Davidson.
- (52) What is monophoidy ?
- (53) Define: Non-disjunction.
- (54) Distinguish between karyotype and Idiogram.
- (55) Name the enzymes responsible for the breakage and rejoining of chromatid segments during crossing over.
- (56) Explain the statement. "Due to degenerate codons the chances of genetic mutation decreases."
- (57) What is Maternal effect?
- (58) Explain TDF.

Q. 4 (B) Describe briefly.

(3)

- (1) Gene balance theory.
- (2) Sex determination in Drosophila.
- (3) Explain Regulation of Gene Expression.
- (4) Discuss the phenomenon of non-disjunction of chromosomes and explain how xxy
- (5) individuals can arise in human beings.
- (6) Describe crossing over during meiosis
- (7) Origin of chromosomal abnormality.
- (8) Disorders of polysomy of X-sex chromosome.
- (9) Describe – sex determination in humans.
- (10) Write a short note describing disorders arising due to gene abnormality.
- (11) What do you know about colour blindness ?
- (12) Cytoplasm plays an important role in the inheritance of plastids. Explain with suitable example.
- (13) Give genetic information about sickle – cell anemia and hemophilia.
- (14) Types of chromosomes with respect to the locations of centromere (Diagram essential).

Q. 4 (C) Answer in detail. (Any two)

- (1) "Complete linkage rarely occurs". Explain.
- (2) "The dominant allele K in paramoecium is necessary for the maintenance of Kappa particle". Explain.
- (3) Describe Sex chromosomal aneuploidy and origin of chromosomal abnormalities.
- (4) Resulting disorders due to changes in the metabolisms of the aminoacids.
- (5) Explain sex determination in *Drosophila melanogaster*. (Table & diagram essential).
- (6) Explain the inheritance of kappa particles, in the conjugation of long duration between a killer paramecium having kappa particles and a sensitive paramecium devoid of kappa particles.
- (7) Explain the phenomenon of replication of DNA.
- (8) Describe sex determination and embryonic development in man
- (9) Describe work of Ephrussi.
- (10) Explain phenomenon of crossing over in *Drosophila* fly and its significance.
- (11) Define linkage. Describe the process with the help of experiments carried out by Bateson and Punnet.
- (12) Extra nuclear inheritance in *Mirabilis jalapa*.
- (13) Explain in detail, the sex determination in *Drosophila melanogaster*. (Table and diagram are essential)
- (14) What is translation ? Explain the process of Protein synthesis through this phenomenon ?
- (15) Gene expression by Operon.
- (16) Inheritance of linked gene by test cross in *Drosophila melanogaster*.
- (17) Explain about inheritance of x-linked recessive genes.
- (18) The genetic code.

Q. 4 (D) Draw a neat and labeled diagram.**(5)**

- (1) Draw neat, labelled diagrams of Bones of fore limbs.
- (2) Draw neat, labelled diagram of Longitudinal section of brain of frog.
- (3) Sketch and label the ventral view of skull of frog.
- (4) Explain T.S of kidney with diagram.
- (5) Describe process of Gastrulation with diagram.
- (6) Draw a neat and labeled diagram of the dorsal view of the skull of frog and state the name of membrane bones there in.
- (7) Describe the process of oogenesis. How is it different from spermatogenesis ? Explain giving necessary diagrams.
- (8) Explain the structure of nephron giving diagram and describe the process of urine formation.

- (9) Draw and label a neat diagram of venous system of frog
- (10) Draw a neat, labelled diagram of Dorsal and Ventral view of Brain.
- (11) Describe Hepatic portal system with diagram and its significance.
- (12) Draw a neat, labelled diagram of Dorsal view of skull of frog.
- (13) Structure of buccopharyngeal cavity of frog.
- (14) Draw diagram showing **ARTERIAL SYSTEM OF FROG.**
- (15) Explain Metamorphosis in Frog with diagram.
- (16) Draw a neat , labelled diagram of internal structure of frog's heart.
- (17) Draw a neat, labelled diagram of pectoral Girdle of frog.
- (18) Sketch and label the female urinogenital system of Frog.
- (19) Process of transport of CO₂ through blood.
- (20) V.S.of skin of frog
- (21) Reflex action with Reflex arc .
- (22) Draw neat, labelled diagram of ventral view of frog.

Q. 5 (A) Do as directed.**(6)**

- (1) What is mammography.
- (2) What is Ecological boomerang.
- (3) Write the full form of IBP and MAB.
- (4) Define Opsonisation.
- (5) What are the causes of Mental illness.
- (6) What is effect of DDT on Living organism ?
- (7) What is food chain ?
- (8) Which field of biology attract special attention of biologist ?
- (9) What does an addict mean ?
- (10) How soil becomes non-productive ?
- (11) State effects of CO on health ?
- (12) State the contribution of Melvin – Kelvin ?
- (13) Give any two symptoms of hysteria.
- (14) What is immunotherapy ?
- (15) Give full names : BIBCOLD, NBTB.
- (16) What is ARC ? Explain.
- (17) What is energy cropping ?
- (18) 'Earth is an, open system for energy.' Explain.
- (19) What is social forestry ?
- (20) List the project undertaken in our country to protect the endangered species.

- (21) State any 2 characteristics of trees used for fire wood.
- (22) Name the group of microorganisms used for large scale production of antibiotics.
- (23) Name the tests used for diagnosis of hepatitis.
- (24) What is anaphylactic shock ?
- (25) For what purpose mammography and pap smear-test is carried out.
- (26) How can the desired type of protein be obtained.
- (27) What is homeosphere ?
- (28) When will the earth not be able to support us ?
- (29) What is fusogen ?
- (30) What constitute the biosphere ?
- (31) Effects of mustard gas and DES
- (32) State fullform of LSD, NBTB.
- (33) What is farm forestry ?
- (34) Explain-ecological boom-and-bust
- (35) Name two plant groups from which availability of liquid fuel may be possible ?
- (36) What is the name of the outermost layer of atmosphere ? What are its characteristics ?
- (37) Why radiation therapy is used for treatment of cancer ?
- (38) State the function of IgG and IgA.
- (39) Give the full form of **SPET** and **DES**.
- (40) What is antiserum ?
- (41) What are the fullforms of MAB and NMR.
- (42) Name the pollutants Causing irritation in the lower part of Respiratory tract.
- (43) What is total primary productivity?
- (44) Give reason: the earth and its atmosphere is a closed System.
- (45) Define food web.
- (46) What are non – reliable resources.
- (47) What is SGPT ? State its importance
- (48) What is acquired immunity ?
- (49) State the effect of radiation in biosphere.
- (50) Explain : What is the result of green house effect ?
- (51) Give full names of NMR, MAB.
- (52) State the name of laboratory test of diagnosis of AIDS.
- (53) Give the name of target tissues for carcinogen aflatoxins and cadmium oxide.
- (54) Define farm forestry.
- (55) Give the full form of: **NBTB**, **BIBCOL**, **CCMB** and **IMTEC**.
- (56) List the types of cancers.
- (57) List out chief functions of Health care.

- (58) What is acid rain ?
- (59) What are national park and sanctuaries ?
- (60) Give full form of **AIDS & HIV**.

Q. 5 (B) Describe as per instruction.

- (1) Explain endangered wild species with examples.
- (2) Recombinant DNA technology is like a blessing for diabetic patients. Explain.
- (3) "AIDS is termed as a dreadful disease". Give scientific reason.
- (4) What is Bio-energy?
- (5) Vegetative Bio-mass.
- (6) Uses of Steroids
- (7) Give target tissue for Aflatoxin and cadmium oxide.
- (8) What is Red Data book ?
- (9) State any two characters of the use of fire wood.
- (10) Give the names of two diseases caused by water pollution.
- (11) State two cause of cancer.
- (12) Define: Molasses.
- (13) Which organs of human body are affected by carbon tetrachloride and how ?
- (14) What is the importance of the Azobactor and pseudomonas ?
- (15) Why is petroleum called a non-renewable natural resource ?
- (16) Why should the medium and the tank be sterilized before the fermentation begin ?
- (17) How are the steroids of plant origin converted in to the steroids of animal origin ?
- (18) Why is AIDS incurable ?
- (19) What is the difference between an antibody and an antibiotic ?
- (20) What is deforestation ? Make a list of its results.
- (21) State working procedure of the crocodile farming project.
- (22) Explain what is an Agglutininogen ?
- (23) Give the tests for Hepatitis.
- (24) Allergy – explain
- (25) Bio-fuel – describe
- (26) What is biosphere ?
- (27) What is full form of **ELISA** test.
- (28) State any two results of imbalance of environment.
- (29) In what fields in HMP used ?
- (30) State any two characters of trees used for fire wood.
- (31) Write symptoms of Allergy.
- (32) What is acquired immunity ?

- (33) Explain – Metastasis.
- (34) State the full forms of **ECG** and **DDT**.
- (35) What is the harmful effect of mercury ?
- (36) State symptoms of hysteria.
- (37) Radiation exposure to the developing embryo is harmful. Why ?
- (38) Write full form of **L. S. D.** and **S. P. E. T.**
- (39) Define: Energy cropping and Energy farming.
- (40) List out four symptoms of hepatitis-B
- (41) List out subsidiary characters of patient with full-fledged Aids.
- (42) List out four methods based on radiology to diagnose Cancer
- (43) How air pollution can be controlled ?
- (44) What is material cycle ? Mention its types.
- (45) What is meant by chemotherapy ?
- (46) State the causes of Hepatitis.
- (47) What are agglutinogens and agglutinin ?
- (48) Give any two symptoms hysteria.
- (49) What is blood transfusion.
- (50) "A single cigarette can bring about death of a person" Explain the Statement.

Q. 5 (B) Answer in short.**(8)**

- (1) What are the advantages of energy plantation.
- (2) What is Green house effect.
- (3) State symptoms of hepatitis.
- (4) Write note on : Tissue culture technique.
- (5) Give reason : Radiation is harmful but used in cancer therapy.
- (6) Diagnosis of AIDS
- (7) Conservation of wildlife is important for ecological balance. Why ?
- (8) It is beneficial to use dung as biogas instead of only fertilizer or dung why ?
- (9) Antigens and Antibodies of blood group.
- (10) Explain the role of T cells in immunity.
- (11) Note on prevention of cancer.
- (12) Explain chief functions of blood bank.
- (13) What is the future of biosciences at the molecular level ?
- (14) Give a list of substances which can give addiction.
- (15) What is passive immunization ?
- (16) Give symptoms of Hepatitis
- (17) Mention main types of fermentation process and main steps of fermentation.

- (18) State fullform of LSD
- (19) What is farm forestry ?
- (20) Future of bioscience in 21st century
- (21) Normally our immune system is very effective-give reason
- (22) Discuss various projects and steps taken for conservation of wild life by Indian govt. and WWF
- (23) Importance of tissue and organ transplantation
- (24) Reaction of B- cells against antigens.
- (25) Hybridoma technique.
- (26) Biogas – composition and production.
- (27) Material cycles
- (28) Result of imbalance of Environment.
- (29) Symptoms and diagnosis of Hepatitis.
- (30) Chemotherapy.
- (31) Draw only Nitrogen cycle .
- (32) Give reason our immune system produces various types of T- cells.
- (33) Explain : fuel crisis.
- (34) What are the aims of bio-sciences ?
- (35) State the importance of wild life
- (36) Describe symptoms of AIDS.
- (37) Describe- Blood Bank.
- (38) Production of steroids by fungi and its importance.
- (39) Give account on the advantages of Energy Plantation.
- (40) Give scientific explanation on Radiation Therapy being most useful treatment for cancer.
- (41) “Smoking is injurious to health”. Explain.
- (42) Explain endangered wild species with examples.
- (43) Recombinant DNA technology is like a blessing for diabetic patients. Explain.
- (44) AIDS is termed as a dreafull disease. Give scientific reason.
- (45) Effect of Air Pollutant on health.
- (46) Prevention of cancer.
- (47) Reaction of T cell against antigen.
- (48) Transmission of Hepatitis.
- (49) Describe the steps in the production of bio-gas.
- (50) Smoking is injurious to Health - Explain
- (51) “Self diagnosis of cancer is possible” (Give 4 points)
- (52) Aims of Biosciences.
- (53) Explain the production of absolutely safe viral vaccine.

- (54) Why is blood donation the best donation among all other donations ?
- (55) What is meant by kidney transplantation ? What are its risk factors ? What are its solutions ?
- (56) Duties of Health Centers
- (57) Biogas
- (58) Future of Life Sciences
- (59) Modes of fermentation process
- (60) What is the tissue culture technique.
- (61) Write a short note on importance of wild life.
- (62) What are the problems that need tackling by molecular level study of Biology ?
- (63) What are B-cells ? How do they react against the antigen ?
- (64) Mention the future of biology at molecular level.
- (65) Difference between social forestry & farm forestry.
- (66) Diagnosis of AIDS
- (67) Social forestation
- (68) Alcohol as a possible fuel.
- (69) What is an anaphylactic shock ? State it's cause.
- (70) Discuss: 21st Century and future of Biosciences
- (71) Single cell protein and viral vaccines.
- (72) Noise pollution and its effects on health.
- (73) Chief functions of Health center.
- (74) Explain the effect of noise pollution.
- (75) Write a note on the chief function of health centers.
- (76) State the advantage of energy plantations
- (77) Write a note on organ transplantation
- (78) What is wild life ? State its significance
- (79) Describe functions of health center
- (80) Describe response of T – cells on antigens.
- (81) Give reasons: "Radiation therapy becomes helpful in treatment in cancer"
- (82) Explain: Types of Hepatitis & Diagnosis of it.
- (83) Write a short note on: Tissue and organ transplantation.
- (84) It is beneficial to use dung as biogas instead of using it only as fertilizer or as dung.
- (85) Response of T-cells against the antigens.
- (86) Describe the tools of genetic Engineering.
- (87) Diagnosis and treatment of Hepatitis.
- (88) Chemo therapy.

Q. 5 (C) Answer in detail. (Any two)**(6)**

- (1) Explain Hybridoma technique.
- (2) Explain Nitrogen cycle (Figure necessary).
- (3) Describe AIDS.
- (4) Importance of wild life.
- (5) Note on genetic engineering.
- (6) Describe the effects of air pollution in large cities on the health of man and other living organisms.
- (7) Describe the result of imbalance of environment.
- (8) Explain the antigen and antibodies in the blood groups.
- (9) Discuss "21st century and future of Bioscience."
- (10) Steps of energy plantation
- (11) Antigens and antibodies of blood groups.
- (12) Mankind's future and technics of biology.
- (13) Discuss the concept : Man's future depends upon the conservation of the environment.
- (14) Allergy and inflammation.
- (15) Development of bio-technology in India.
- (16) State the types of cancer.
- (17) Describe dangerous symptoms of cancer.
- (18) Explain successful projects undertaken in our country under conservation of WILD LIFE.
- (19) Describe production of antibiotics.
- (20) Diagnosis and symptoms of Hepatitis.
- (21) Write a note on Noise pollution.
- (22) Explain the production of the monoclonal antibody for curing cancer.
- (23) Active and Passive acquired immunity
- (24) Aerial Pollution.
- (25) Explain the flow of energy from the sun giving a suitable example from any system.
- (26) Why is energy plantation necessary ? Describe the means of promoting energy plantation.
- (27) Write about the causes, preventive measures and diagnosis of cancer.
- (28) Explain the various modes of cancer therapy.
- (29) What is the future of biosciences at micromolecular level ?
- (30) Technique for production of artificial insulin.
- (31) Describe the effect of water pollution on health.
- (32) Describe the various type of T – cells producing by our immune system.
- (33) Different Atmosphere
- (34) Importance of wild life.
- (35) Development of Biotechnology in India.
- (36) Factor responsible for the spread of AIDS and diagnosis of AIDS.
- (37) Give information about symptoms, transmission and diagnosis of hepatitis.
- (38) Write a note on : Fuel Crisis.
