Assignment related to subject:

Chapter-1: The Living World
Q.1. Name the four processes that are basic to taxonomy.
Q.2. Write the biological name of Mango and Man.
Q.3. Plants and animals grow by mitotic cell divisions. What differences do they exhibit in their growth?
Q.4. Why are living organisms classified? What role does it play in Research and Development?
Q.5. List the information that should be shown on the label of a herbarium sheet.

Chapter-2: Biological Classification
Q.1. What is a dikaryon?
Q.2. What is the nature of cell wall in diatoms?
Q.3. How viroids are different from viruses?
Q.4. Describe the three common steps in the sexual reproduction of Fungi?
Q.5. Who proposed the five kingdom classification? Name the five kingdoms.
Q.6. Draw a well labeled diagram of bacteriophage.

Chapter-3: The Plant Kingdom
Q.1. Why the bryophytes are called “Amphibians of plant kingdom”?
Q.2. Mention the component cells of an embryo sac of angiosperms.
Q.3. Both gymnosperms and angiosperms bear seeds, but why are they classified separately?
Q.4. Why is the plant body (dominant phase) of bryophytes called gametophyte?
Q.5. Name the type of fertilization, that is unique to angiosperms. Describe it.
Q.6. Name one dioecious liverwort.

Chapter-4: The Animal Kingdom
Q.1. Differentiate between notochord and nerve cord.
Q.2. Name the reptile with four chambered heart.
Q.3. Why is the phylum Annelida named so?
Q.4. Draw a labeled diagram of the basic body plan of the chordates.
Q.5. Compare the water transport system of Poriferans and the Echinoderms.

Chapter-5: Morphology of Flowering Plants
Q.1. What is a parthenocarpic fruit? Give two examples.
Q.2. What are stilt roots? Give two examples.
Q.3. How is the pinnately compound leaf different from a palmately compound leaf?
Q.4. Differentiate between apocarpous ovary and syncarpous ovary.
Q.5. Justify the following statements on the basis of external features:
   (a) Underground parts of a plant are not always roots.
   (b) Flower is a modified shoot.
Q.6. What is an aleurone layer in a maize grain?

Chapter-6: Anatomy of Flowering Plants
Q.1. Why is cambium considered to be lateral meristem?
Q.2. How are sclereids different from sclerenchyma fibres?
Q.3. How are the endarch and exarch conditions different anatomically?
Q.4. What are guard cells? What is their function?
Q.5. What is a periderm? How periderm formation does take place in dicot stem?
Q.7. Describe the internal structure of dorsiventral leaf with the help of labeled diagram.
Chapter-7: Structural Organisation in Animals
Q.1. Name the type of epithelium that lines the buccal cavity.
Q.2. Where are the testes located in the body of a cockroach?
Q.3. Differentiate between adipose and blood tissue.
Q.4. Differentiate between cardiac and striated muscles.
Q.5. Draw a labeled diagram of reproductive system of a male cockroach.
Q.6. Draw a labeled diagram of different types of muscles in human body.

Chapter-8: Cell: The Unit of Life
Q.1. Name the smallest and the longest cells in a human body.
Q.2. Expand PPLO.
Q.3. What are the features of telocentric chromosomes?
Q.5. Who coined the term chromatin?
Q.6. Mention the two functions performed by Centrioles.

Chapter-9: Biomolecules
Q.1. Enlist the important properties of enzymes. Describe the catalytic cycle of an enzyme action.
Q.2. Define a)Glycosidic bond b)Competitive Inhibitor c)Apoenzymes d)Activation energy
Q.3. What is meant by tertiary structure of proteins?
Q.5. Can you describe what happens when milk is converted into curd/yogurt?
Q.6. What is meant by transition state structure of a substrate?

Chapter-10: Cell Cycle and Cell Division
Q.1. List the main differences between mitosis and meiosis.
Q.2. Can there be DNA replication without cell division?
Q.3. What are kinetochores? State their functions.
Q.4. What are chiasmata? What is their significance?
Q.5. Define cytokinesis. How is it accomplished in animal cells?
Q.6. What are dyads?
Q.7. Differentiate between cytokinesis of plant and animal cell.

Chapter-11: Transport in Plants
Q.1. What is caspian strip?
Q.2. Explain why xylem transport is unidirectional and phloem transport is bidirectional?
Q.3. What essential role does the endodermis play in mineral absorption and transport in plants?
Q.4. What are porins? What important role do they play in diffusion?
Q.5. Explain why pure water has the maximum water potential?

Chapter-12: Mineral Nutrition
Q.1. Name the first stable product of nitrogen fixation.
Q.2. Name the two mineral elements that are immobile in plants.
Q.3. What are the steps involved in the formation of a root nodule?
Q.4. What is meant by flux? Describe its two uses.
Q.5. How are the minerals absorbed by the plants?

Chapter-13: Photosynthesis
Q.1. By looking at a plant externally, can you tell whether a plant is C3 or C4. How?
Q.2. Give a comparison between the leaf in C3 and C4 plants.
Q.3. Define photolysis of water.
Q.4. Name the technique used for the separation of leaf pigments.
Q.5. Mention the conditions when only cyclic photophosphorylation occurs.
Q.6. Why is proton gradient important in photosynthesis?

Chapter-14: Respiration In Plants
Q.1. Discuss ‘The respiratory pathway is an amphibolic pathway’.
Q.2. Give the systematic representation of glycolysis.
Q.3. Name the two openings in plants where exchange of gases takes place.
Q.4. Differentiate between aerobic respiration and fermentation.
Q.5. What are the main steps in aerobic respiration? Where does it take place?

Chapter-15: Plant Growth and Development
Q.1. Define a) Plasticity b)Heterophylly c)Photoperiodism.
Q.2. What is meant by bolting in plants?
Q.3. Why is abscisic acid also known as stress hormone?
Q.4. Differentiate between arithmetic growth rate and geometric growth rate.
Q.5. Explain with the help of a diagram the concept of sigmoid growth curve.

Chapter-16: Digestion and Absorption
Q.1. Name one gland in human body which secretes digestive enzymes as well as hormones.
Q.2. Where is Sphincter of Oddi located in human body?
Q.3. What would happen if HCL were not secreted in the stomach?
Q.4. Describe the process of digestion of proteins in the stomach.
Q.5. Draw a diagram of human digestive system. Label three glands associated with it.

Chapter-17: Breathing and Exchange of Gases
Q.1. What is the site of exchange of gases in an insect?
Q.2. What is Tidal volume?
Q.3. Explain the process of inspiration under normal conditions.
Q.4. How is respiration regulated?
Q.5. Define Oxygen dissociation Curve. Can you suggest any reason for its sigmoidal pattern?

Chapter-18: Body Fluids and Circulation
Q.1. Why do we consider blood as a connective tissue?
Q.2. What is the significance of atrio-ventricular node?
Q.3. Differentiate between P-wave and T-wave.
Q.4. Define a cardiac cycle and the cardiac output.
Q.5. Draw a standard ECG and explain the different segments in it.

Chapter-19: Excretory Products and their Elimination
Q.1. How does ANF cause a decrease in the blood pressure?
Q.2. Discuss the mechanism of urine formation.
Q.3. Give a brief account of counter current mechanism.
Q.4. Name the four hormones involved in the regulation of kidney function.
Q.5. What are ureotelic animals? Give two examples.

Chapter-20: Locomotion and Movement
Q.1. What are ear ossicles? Name them in correct sequence beginning from ear drum.
Q.2. Name any two disorders of skeletal system.
Q.3. Why human skull is called dicondylic?
Q.4. What is the role of calcium ions and ATP in muscle contraction?
Q.5. Write the differences between pectoral and pelvic girdles.
Q.6. What causes muscle fatigue?

Chapter-21: Neural Control and Coordination
Q.1. Which part of the brain is the most developed?
Q.2. Explain the transmission of a nerve impulse across a chemical synapse.
Q.4. Compare yellow spot and blind spot.

Chapter-22: Chemical Coordination and Integration
Q.1. Name the hormone whose deficiency causes diabetes mellitus.
Q.1. What are two major functions performed by ovaries?
Q.2. What are Gonadotropins? Name them.
Q.3. How is Diabetes mellitus different from Diabetes insipidus?