

BRAIN INTERNATIONAL SCHOOL  
REVISION SHEET

TERM II

DEC'18-19

CLASS XI    BIOLOGY

**UNIT 1: DIVERSITY IN THE LIVING WORLD**

1. Why reproduction is not considered as a characteristic of living being ?
2. What is classification ? Why do we classified organisms ?
3. What is taxonomy ? Which processes are basically useful to taxonomy ?
4. Define - phylum, class, family, order, genus, species
5. Describe various Taxonomical aids and write their advantages .
6. Who proposed 5 –kingdom classification ? What are the criteria for this classification?
6. Write advantages of Archaeobacteria and Cyanobacteria
7. Write economic importance of Algae >
8. Give a brief account of viruses with respect to their structure, nature of genetic material and also name any two viral diseases .
9. What do you mean by alternation of generation ? Explain Haplontic, Diplontic and Haplo-diplontic cycle with example
10. Differentiate – (i) 3 classes of Algae (ii) Mosses and liverworts  
(iii) Gymnosperms and Angiosperms (iv) Monocots and Dicots .
11. Describe - Heterospory, Prothallus, Double fertilisation in Angiosperm
12. Explain briefly the following – Antheridium, Archegonium, Isogamy, Lichens .
13. How useful is the study of following in the classification of animals –  
Level of organisation, Symmetry, Coelom, Notochord, Metamerism
14. Distinguish between – (i) Annelida and Arthropods (ii) Chordates and Nonchordates (iii) Cartilaginous and Bony fishes (iv) Intra cellular and extracellular digestion
15. Compare 5 classes of phylum chordata.

**UNIT 2 : STRUCTURAL ORGANISATION IN PLANTS AND ANIMALS**

1. Write characteristics which helps in identifying plant parts as Root and Stem with their functions also,
2. What do you mean by phyllotaxy ? Explain .
3. Draw a labelled diagram of a simple leaf . Mention the types of compound leaves existing in nature .
4. Differentiate – (i) Racemose and Cymose inflorescence (ii) Tap root and Adventitious roots (iii) Apocarpous and Syncarpous ovary (iv) Monocot and Dicot seed (v) Actinomorphic and Zygomorphic flowers (vi) Aestivation and placentation .

5. Take one flower each of the families Solanaceae, Fabaceae and Liliaceae. Write its description, draw floral diagram, write floral formula and give economic importance of the family.
6. Mention various modifications and functions of Root, Stem and leaf.
7. What do you mean by parthenocarpy? Describe Drupe fruit giving ex.
8. What are Meristematic tissues? Write their characteristics and their types with function.
9. Compare the three types of simple permanent tissues.
10. What are complex permanent tissues / Mention their types, components and function.
11. How will you identify Dicot root from dicot stem. Give anatomical differences.
12. Draw neat and labelled diagram of (i) Dicot and Monocot Root (ii) Dicot and Monocot Stem (iii) Dicot and Monocot leaf (iv) stomatal apparatus
13. Distinguish between – (i) Inter and intra fascicular cambium (ii) Heart wood and Sap wood (iii) Spring and Autumn wood
14. Describe the process of secondary growth in Dicot Root and Dicot stem.
15. What are Epithelial tissues? Mention their types, location in our body and function.
16. Differentiate between (i) Blood and lymph (ii) Bone and Cartilage (iii) Tendons and ligaments (iv) Areolar and adipose tissue
17. Compare the three types of Muscular tissue.
18. Describe the external features, digestive system, reproductive system (male and female) and mouth parts of cockroach. Draw diagram also.
19. Describe the structure of Neuron.
20. Write characteristics of connective tissues.

### **UNIT 3: CELL: STRUCTURE AND FUNCTIONS**

1. Draw a neat and labelled diagram of the following – Plant cell, Fluid mosaic model of plasma membrane, Golgi apparatus, Endoplasmic reticulum, Mitochondria, chloroplast, section of cilia, centriole
2. Both lysosomes and vacuoles are endomembrane structures, yet they differ in terms of their functions. Comment.
3. Describe the structure of Nucleus and write their functions.
4. How does the position of centromere form the basis of classification of chromosomes. Mention their types with diagram.
5. Draw the structures of Nitrogen bases, nucleotides, nucleosides, triglycerides, amino acids and sugars (examples given in your book).
6. Differentiate between (i) nucleosides and nucleotides (ii) Saturated and unsaturated fatty acids (iii) essential and non essential amino acids (iv) Primary and tertiary structure of proteins (v) inhibitor and competitive inhibitor (vi) primary and secondary metabolites.
7. Describe the structure of DNA (with diagram)

8. Describe the nature of enzyme action and factors affecting Enzyme activity .
9. Describe the classification and Nomenclature of enzymes
10. Name the types of bonds formed during building of biomolecules found in our body .
11. Describe the events taking place during interphase
- 12 . Compare the process of Mitosis and Meiosis.
- 13 What is the significance of Mitosis and Meiosis.
- 13 . Distinguish between Telophase of Mitosis with that of Meiosis I.

#### **UNIT 4: PLANT PHYSIOLOGY**

1. Define – Diffusion, Osmosis , plasmolysis , Replasmolysis , Guttation , Transpiration , Imbibition ,
- 2 Discuss the factors responsible for ascent of sap in plants ?
3. Describe the various types of facilitated diffusion .
4. How do plants absorb water ?
5. What causes opening and closing of stomata ?
6. Explain –Macronutrients , micronutrients , beneficial nutrients, toxic elements, and essential elements?
7. What is the criteria for essentiality of nutrients ?
8. Write the steps involved in Nodule formation in legumes .
9. Explain Reductive amination and Transamination .
10. Write the steps of conversion of atmospheric nitrogen to ammonia by nitrogenase .
- 11, Describe the role of the following nutrients in plants – Nitrogen , P, K, Ca, Mg, Mn, S, Fe, Cu, Mo , Cl
12. Explain –deficiency symptoms of essential elements , Toxicity of micronutrients.
13. Differentiate –(i) C<sub>3</sub> and C<sub>4</sub> plants (ii) cyclic and non cyclic photophosphorylation ,(iii) Anatomy of leaf in C<sub>3</sub> and C<sub>4</sub> plants .
14. What do you mean by photorespiration ? How does it affect the productivity ?
15. Describe C<sub>3</sub> and C<sub>4</sub> cycle existing in nature .
16. Explain Blackman's law of limiting factor in detail with example.
17. Explain Glycolysis ,Kreb's cycle , Amphibolic pathway, and ET C
18. Define Respiratory Quotient.
19. Explain plant hormones on the basis of discovery , physiological functions and agricultural applications .
20. What do you mean by photoperiodism and vernalisation .
- 21 . Describe Arithmetic and Geometric growth .

#### **UNIT 5: ANIMAL PHYSIOLOGY**

1. Describe the process of digestion in Mouth ,stomach , Small intestine , large intestine.
2. What role does salivary gland , liver and pancreas plays in the process of digestion.
3. Explain the mechanism of breathing .
4. Describe the Transport of oxygen and carbon di oxide in our body
5. How is respiration regulated ?
6. Define IRV , TLC,ERV
7. Name the components of the formed elements in the blood and mention one major function of each of them.
- 8 SA node is called the pacemaker of our heart .Why?
9. Define cardiac cycle and the cardiac out put .
10. Draw a standard ECG and explain the different segments in it .
11. Describe double circulation in heart .
12. Define GFR ,Haemodialysis, osmoregulation ,
13. Explain counter current Mechanism .
14. Explain the functioning of Juxta glomerular apparatus .
15. Draw neat and labelled diagram of sarcomere ,Actin and Myosin filament .
- 16 Compare the three types of Muscle fibres .
17. Write short notes on Joints .
18. Explain the mechanism of muscle contraction .
19. Briefly describe the structure of Brain ,Eye , Ear ,Neuron and Reflex action
20. Explain the mechanism of nerve impulse transmission .
21. Explain the mechanism of Vision and Hearing
22. Describe the mechanism of action of protein and steroid hormone
23. Name the hormone secreted by Heart ,Kidney and Gastro intestinal tract
- 24 Define exocrine and endocrine glands .
- 25 List the hormones secreted by following with their functions and deficiency and hyper secretion –Hypothalamus, pituitary,thyroid, parathyroid , adrenal, pancreas, testis, ovary, thymus, kidney ,G-I tract .