STUDY PAPER OF BIOLOGY

**CLASS 9th**

100%

According to reduced syllabus 2024-2025

**CHAPTER # 01 INTRODUCTION TO BIOLOGY**

**Q#1:** **Define biology. Define its divisions and branches of biology.**

**Q#2: Write the relationship of biology & other sciences.**

# **CHAPTER # 02 SOLVING A BIOLOGICAL PROBLEM**

**Q#1:** **What is biological method? Explain its different stages in detail. (OR)**

**What do you know about reasoning and its types in biological method?**

**Q#2: Write the difference between theory and law.**

**Q#3: Draw a chart showing the steps involved in a biological method.**

**Q#4: Define the following terms:**

**(a) Reasoning (b) Ratio (c) Proportion (d) Mathematical Biology**

# **CHAPTER # 03 BIODIVERSITY**

**Q#1: Define biodiversity. Write any three importance of biodiversity.**

**Q#2: What is biological classification? Write the principles and two aims of classification.**

**Q#3: Write about the structure of virus.**

**Q#4: Write the biological classification of human and pea.**

**Q#5: What is Deforestation? Write its effects and its causes.**

**Q#6: Define conservation. Write three reasons to conserve biodiversity.**

**Q#7: What is taxonomic hierarchy? Write the units of classification. (OR)**

**Define Classification. Name units of it and explain any one.**

**Q#8: Discuss the role of Aristotle and Abu Usman Umer Al Jahiz in classification.**

**Q#9: Write the Robert H. Whittaker’s five kingdom classification.**

**Q#10: Define binomial nomenclature. Write the principles of binomial nomenclature.**

# **CHAPTER # 04 CELL AND TISSUES**

**Q#1: Define microscope. Write about two parameters of microscope.**

**Q#2: Write three postulates of cell theory.**

**Q#3: Write THREE differences between:**

**(a) Prokaryotic and eukaryotic cell**

**(b) Animal and plant cell**

**(c) Light microscope and electron microscope**

**Q#4: Write a short note on Cell Wall (OR) Cell Membrane (OR) Nucleus (OR) Cytoplasm.**

**Q#5: Describe the structure of cell membrane as fluid mosaic model.**

**Q#6: Define the following with their functions:**

**(a) Mitochondria (b) Golgi bodies (c) Endoplasmic reticulum**

**(d) Vacuole (e) lysosomes**

**Q#7: Define the following:**

**(a) Diffusion (b) Osmosis (c) Exocytosis**

**(d) Endocytosis (e) Facilitated diffusion**

**Q#8: Define Plastids and write three types of it. (OR)**

**Describe the structure of Chloroplast.**

**Q#9: What are tissues? Describe four types of animal tissues in detail. (OR)**

**Explain Muscle Tissues and its types in detail.**

**Q#10: Describe the plant tissues in detail.**

**Q#11: Draw a flow chart showing different types of plant tissues.**

# **CHAPTER # 05 CELL CYCLE**

**Q#1: What are chromosomes? Define three types of chromosomes depending upon position of centromere.**

**Q#2: Why is meiosis called Reduction division? Name different stages of prophase – I of meiosis.**

**Q#3: What do you know about two ways of cell death?**

**Q#4: Write three significance of Mitosis (OR) Meiosis.**

**Q#5: What is Mitosis? Name its four stages and explain in detail with diagrams.**

**Q#6: Draw flow chart diagram of Cell Cycle.**

**Q#7: Define the following:**

**(a) Non-disjunction (b) Synapsis (c) Chiasmata (d) Terminalization (e) Crossing over**

# **CHAPTER # 08 NUTRITION**

**Q#1: What is Nutrition? Define Autotrophic & Hetero trophic nutrition.**

**Q#2: Describe Heterotrophic Nutrition in detail.**

**Q#3: Write about the role of nitrogen and magnesium in plants. Also write one deficiency symptom of each.**

**Q#4: What are vitamins? Write about fat soluble and water soluble vitamins.**

**Q#5: Write a short note on Stomach (OR) Liver with their function.**

**Q#6: Write about functions of Small intestine (OR) Large intestine.**

**Q#7: Describe environmental hazards related to chemical fertilizers.**

**Q#8: Draw a chart of classification of essential nutrients in plants.**

**Q#9: Write any three effects of malnutrition on Human.**

**Q#10: What are the characteristics of chronic and acute malnutrition? Point out any three social problems related to malnutrition.**

**Q#11: Define the following diseases:**

**(a) Kwashiorkor (b) Marasmus (c) Goiter (d) Anemia (e) Obesity**

**Q#12: What are the major components of human food? Describe any two components.**

# **CHAPTER # 09 TRANSPORT**

**Q#1: What is transport? Describe two processes of transport.**

**Q#2: What is Blood? Describe its components with diagram.**

**Q#3: Describe disorders of bloods with symptoms and causes.**

**Q#4: Describe structure of human heart with suitable diagram.**

**Q#5: Define open and closed circulatory system. Which one is found in man?**

**Q#6: Write any three leading causes of death in Pakistan.**

**Q#7: Write the difference between:**

**(a) Arteries and Veins (b) Pulmonary and Systematic Circulation**

**Q#8: Define the following terms:**

**(a) Osmosis (b) Ascent of Sap (c) Stomata (d) Capillaries IMPORTANT DIAGRAMS**

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* Mitochondria
* Muscles Tissue
* Chloroplast
* Digestive System of Man
* Human Heart
* Animal cell
* Structure of Villus
* T.S of Root