

**BOARD OF SECONDARY EDUCATION KARACHI.**  
**S.S.C- (ANNUAL) EXAMINATION- 2023.**  
**BIOLOGY (THEORY) PAPER - I**  
**CLASS IX (SCIENCE GROUP)**

**Time: 3 Hours**

**(Marks : 60)**

**SECTION " A " (20%)**

**MULTIPLE CHOICE QUESTIONS (MCQ's) (12 Marks)**

**Q.1. 12 MCQs will be given from whole syllabus. Each carries 1 Mark.**

**SECTION " B " (40%)**  
**(SHORT ANSWERS QUESTIONS)**

**(24 marks)**

**Note: Answer any Eight (8) questions from this section. Each carries 3 marks.**

**SECTION " C " (40%)**  
**(DESCRIPTIVE ANSWER QUESTIONS)**

**(24 Marks)**

**Note: Answer any four (4) questions from this section. Each carries 8 marks.**

**CHAPTER NO. 1 INTRODUCTION TO BIOLOGY.**

**MULTIPLE CHOICE QUESTIONS (MCQ's) Page No. 15 STBB (i, iii, v, vi, viii)**  
**SHORT QUESTIONS.**

1. Distinguish between the following.
  - a. Colonial organization and multicellular organization.
2. Name and define three branches of biology.
3. Difference between Population and community?
4. Draw a labeled diagram of frog's digestive system.
5. Difference between Agriculture and horticulture.
6. Why species is called as smallest taxonomic level?
7. Difference between unicellular and multicellular organization.
8. Define Sarsoon.
9. Structure of volvox.
10. Write labeled diagram of Amoeba.

**(DESCRIPTIVE ANSWER QUESTIONS)**

1. Describe the relationships of biology to other sciences.
2. Describe the level of organization.

**CHAPTER NO. 2 SOLVING A BIOLOGICAL**

**MULTIPLE CHOICE QUESTIONS (MCQ's) Page No. 27 STBB (i, iii, iv, vi, viii, ix)**  
**SHORT QUESTIONS.**

1. Distinguish between: Theory and Law.
2. Define Biological method
3. Difference between Inductive and Deductive reasoning. .
4. Draw a chart showing steps involved in biological methods.
5. Why experiment is necessary for theory?
6. Define proportion and Conclusion.
7. Why experiment is necessary for theory?

**DESCRIPTIVE ANSWER QUESTIONS.**

1. Explain Problem, Hypothesis, Deduction and Experiments.

### **CHAPTER NO. 3**

### **BIODIVERSITY.**

#### **MULTIPLE CHOICE QUESTIONS (MCQ's)**

**Page No. 15**

**STBB**

**(i, iii, iv, v, vii, viii, x)**

#### **SHORT QUESTIONS.**

1. Distinguish between: Monera and Protista      b. Fungi and Plantae
2. Define Biodiversity.
3. Define Biological classification.
4. Define Taxonomy.
5. Write a point Five Kingdom Classification.
6. Define Kingdom fungi.
7. Write structure of Virus.
8. Define Allium cepa.
9. What is Deforestation?
10. Why scientific naming is necessary?
11. Draw chart showing three kingdom classification.

#### **DESCRIPTIVE ANSWER QUESTIONS.**

1. Describe in detail five kingdom classification.
2. What is taxonomic hierarchy? Explain aims of classification.

### **CHAPTER NO. 4**

### **CELLS AND TISSUES.**

#### **MULTIPLE CHOICE QUESTIONS (MCQ's)**

**Page No. 90**

**STBB**

**(i, vi, viii, ix)**

#### **SHORT QUESTIONS.**

1. Difference between Prokaryotic cell and eukaryotic cell.
2. Difference between Lysosome and Ribosomes.
3. Why mitochondria is also called power house of cell?
4. How facilitated diffusion is different from active transport?
5. How electron microscope is different from simple compound microscope?
6. Define Schleiden.
7. Difference between animal and plant cell.
8. Define Diffusion.
9. Define plasmolysis.
10. Define facilitated diffusion.
11. Define nucleoplasm.
12. Define chromatin network.
13. What is Power house?
14. Define Primary growth.

#### **DESCRIPTIVE ANSWER QUESTIONS.**

1. Structure and function of nucleus with the help of diagram.
2. What is microscope? Describe types of microscopes.
3. Describe fluid mosaic model of cell membrane also draw the diagram.

### **CHAPTER NO. 5**

### **CELL CYCLE.**

#### **MULTIPLE CHOICE QUESTIONS (MCQ's)**

**Page No. 104**

**STBB**

**(i, ii, iv, vii, viii, ix, x)**

#### **SHORT QUESTIONS.**

1. Difference between Prophase and Prophase- I
2. Difference between Prophase and Telophase.
3. Why mitosis is necessary for growth?
4. Define Genes.
5. Define Chromatin.
6. Draw labelled diagram of cell cycle.
7. Define Chromosomes.
8. What is Apoptosis?
9. Define homologous structure.
10. What is bivalent tetrad?

### **DESCRIPTIVE ANSWER QUESTIONS.**

1. Describe various stages of mitosis with suitable diagrams.
2. Describe stages of meiosis-I with suitable diagrams.

### **CHAPTER NO. 6**

### **ENZYMES.**

**MULTIPLE CHOICE QUESTIONS (MCQ's)** Page No. 115 STBB (ii, iii, iv, v, viii, ix, x)

### **SHORT QUESTIONS.**

1. Difference between Activator and Inhibitor
2. Difference between Anabolism and Catabolism.
3. Define metabolism.
4. What is activation energy?
5. Define enzymes.
6. Define Active site.
7. Write uses of enzymes.
8. How substrate concentrations affect enzyme activity?
9. How enzymes are used in industries?

### **DESCRIPTIVE ANSWER QUESTIONS.**

1. What are enzymes? Describes characteristics of enzymes.
2. Describe factors affecting enzyme activity.

### **CHAPTER NO. 7**

### **BIOENERGETICS.**

**MULTIPLE CHOICE QUESTIONS (MCQ's)** Page No. 135 STBB (ii, iii, iv, v, vi, viii, ix)

### **SHORT QUESTIONS.**

1. Distinguish between :
  - i) Respiration and photosynthesis
  - ii) Light reaction and Dark reaction.
  - iii) Aerobic respiration and anaerobic respiration.
2. Write down the importance of anaerobic respiration.
3. Why second phase of photosynthesis is called dark reaction?
4. How respiration is different from breathing?
5. Why acidic fermentation is harmful?
6. What is Bioenergetics?
7. Define reduction.
8. Define Food Chains.
9. Define the following: Stroma, Grana, Light Dependent reaction.
10. Define ATP, Lactic acid.
11. Define Krebs's or citric acid cycle.

### **DESCRIPTIVE ANSWER QUESTIONS.**

1. Write down six difference between Photosynthesis and Respiration.
2. Describe aerobic respiration in living system.
3. What is energy currency of cell? Describe chemical process of energy transmission.

## **CHAPTER NO. 8**

## **NUTRITION.**

**MULTIPLE CHOICE QUESTIONS (MCQ's)**      **Page No. 135 STBB**      **( ii, iii, iv, vi, vii, viii, ix, x)**

### **SHORT QUESTIONS.**

1. Difference between Marasmus and Kwashiorkor
2. Chemical digestion and mechanical digestion.
3. Difference between Inorganic fertilizers and organic fertilizers.
4. Why fertilizers are necessary for plant?
5. Why fats are called most efficient form of food.
6. Equation of Photosynthesis.
7. Define Goiter. Ulcer. Vitamins, Malnutrition. Goiter
8. Why nitrogen is essential for plants?

### **DESCRIPTIVE ANSWER QUESTIONS.**

1. Describe environmental hazards related to chemical fertilizers.
2. Describe function of stomach and intestine with suitable diagram of human digestive system.
3. What are vitamins? Describe types of vitamins.
4. Describe mineral deficiency diseases in human.
5. Describe effects of malnutrition on human.

## **CHAPTER NO. 9**

## **TRANSPORT**

**MULTIPLE CHOICE QUESTIONS (MCQ's)**      **Page No. 202 STBB**      **( ii, iv, v, vi, vii, viii, ix)**

### **SHORT QUESTIONS.**

1. Difference between
  - a. Open type circulatory system and close type circulatory system.
  - b. Xylem and Phloem
  - c. Arteries and Veins.
  - d. W.B.Cs and R.B.Cs
2. Define Transport system.
3. Difference between Passive and active transport.
4. Define Osmosis. Transpiration, stomata, lignin, sieve plates, diastole.
5. Why transpiration is necessary for plants?
6. What are components found in Circulatory system in man?

### **DESCRIPTIVE ANSWER QUESTIONS.**

1. Describe structure of human heart with suitable diagram.
2. What is blood? Explain composition of blood and function of corpuscles.
3. What is transpiration? Explain mechanism of transpiration and factors affecting transpiration.
4. Describe any one the following blood disorder with the heading of Symptoms and causes.  
Leukemia , Thalassemia