

**AUTHENTIC PUBLIC SECONDARY SCHOOL**1<sup>st</sup> Term Exams 2023

Class: Nine

**Biology (Objective)**

M. Marks: 12/60

Time: 20 mins

Roll #

Name:

**Q1. Choose the most suitable answers and fill up the relevant bubble with blue ink.****(1x30=30)**

- i. Tumors are produced as a result of errors in:  
a) Meiosis                      b) Mitosis                      c) Binary fission                      d) None of these
- ii. In which stage of the cell cycle most cells spend their lives?  
a) Prophase                      b) Metaphase                      c) Interphase                      d) Telophase
- iii. To molecules at which enzymes act are called:  
a) Catalyst                      b) Substrates                      c) Products                      d) Charges
- iv. Who first used the term Enzyme:  
a) Zacharias Janssen                      b) Robert Brown                      c) Winhelm Kuhne                      d) Louis Pasteur
- v. The covalent bond connecting two phosphates is indicated by:  
a) Ratio                      b) Proportion                      c) Colon                      d) Tilde
- vi. Whose fermenting powers are used for making cheese and yogurt?  
a) Bacteria                      b) Virus                      c) Fungi                      d) Algae
- vii. The word meiosis derived from Greek, means:  
a) To make smaller                      b) To duplicate                      c) To cut                      d) To make greater
- viii. Trypsin enzyme work in:  
a) Stomach                      b) Large intestine                      c) Small intestine                      d) Heart
- ix. Stomata cover only \_\_\_\_\_ of the leaf Surface:  
a) 1-2%                      b) 2-3%                      c) 3-4%                      d) 4-5%
- x. Which reaction occurs on the thylakoid membrane of chloroplast?  
a) Dark reaction                      b) Light reaction                      c) Electron transport                      d) Glycolysis
- xi. During which phase of mitosis spindles are formed?  
a) G<sub>2</sub>                      b) Interphase                      c) Prophase                      d) Metaphase
- xii. In which stage cell is preparing enzyme for chromosome duplication?  
a) G-1                      b) G-2                      c) S                      d) M
- xiii. Metabolism is derived from Greek word meaning:  
a) Division                      b) Change                      c) Deduction                      d) Matter
- xiv. Necessary for aerobic respiration:  
a) Carbon dioxide                      b) Oxygen                      c) Water                      d) Hydrogen
- xv. Chlorophyll pigment absorbs maximum light in the wave length of:  
a) Green and blue                      b) Green and red                      c) Only green                      d) Red and blue
- xvi. Cytokinesis in a plant cell is characterized by:  
a) The equal division of homologous chromosomes                      b) A pinching off of the cell membrane to divide the cell                      c) The formation of a cell plate in the cytoplasm                      d) The movement of the chromosomes from the metaphase plate
- xvii. To what category of molecules do enzymes belong?  
a) Carbohydrates                      b) Lipids                      c) Nucleic acids                      d) Proteins
- xviii. The optimum temperature for the maximum working speed of human Enzymes is:  
a) 37°C                      b) 98°C                      c) 98.6°C                      d) 102°C
- xix. The energy currency of all cells is:  
a) ADP                      b) AMP                      c) ATP                      d) AF
- xx. The division of nucleus is called:  
a) Cytokinesis                      b) Tetrad                      c) Chiasmata                      d) Karyokinesis
- xxi. "Lock and key Model" of enzyme action was proposed by:  
a) Emil Fischer                      b) Daniel Koshland                      c) Robert Brown                      d) To Louis Pasteur
- xxii. Which event distinguishes meiosis from mitosis?  
a) Condensation of chromosomes                      b) Loss of the nuclear membrane                      c) For motion of metaphase plate                      d) Pairing of homologous chromosomes
- xxiii. Energy stored in the chemical bond is:  
a) Potential energy                      b) Kinetic energy                      c) Elastic energy                      d) Both a and b
- xxiv. The kind of protein which catalysis a biochemical reaction is called:  
a) Enzymes                      b) Hormones                      c) Co-enzymes                      d) None of these



Roll #

Name:

**(Part-I)**

**Q2. Write short answer to any five (5) questions.**

**(2X5= 10)**

- i. What is Rudolf Virchow Principle state cellular respiration?
- ii. Define meiosis. What are diploid and haploid cells?
- iii. What is metabolism?
- iv. What are enzymes? Who first used the term Enzymes?
- v. Describe the structure of ATP molecule.
- vi. Define oxidation and reduction?
- vii. Define lactic acid fermentation?
- viii. What are pigments?

**Q3. Write short answers to any five (5) questions.**

**(2X5= 10)**

- i. What are Accessory pigments? Give examples.
- ii. What is meant by Metastasis?
- iii. Define Blebs.
- iv. Define substrates and products?
- v. What are the types of metabolism?
- vi. What is meant by z-scheme?
- vii. What is the difference between somatic cells and Germ line cells?
- viii. What is photosynthesis? Write its equation?

**Q4. Write short answers to any five (5) questions.**

**(2X5= 10)**

- i. What are Anaerobes?
- ii. What is Bioenergetics?
- iii. Define cofactor and coenzyme.
- iv. What type of role is played by enzymes in Beverage industry?
- v. Define induced fit model and who discover it.
- vi. What is Activation energy and what is the function of this energy?
- vii. What do you know about Go phase?
- viii. Give the names of phases of mitosis?

**Part-II**

**Q5. a) What is cell cycle? Describe phases of cell cycle.**

**(05)**

**b) What does temperature effects the rate of enzyme action? Also draw a graph.**

**(04)**

**Q6. a) Write a detailed note on Calvin cycle.**

**(05)**

**b) What is the significance of mitosis?**

**(04)**

**Q7. a) Describe the mechanism of respiration.**

**(05)**

**b) Write a note on necrosis.**

**(04)**