

# Multan Board 2021

Class 9<sup>th</sup>

Biology

Group - I

- 1.1. The example of micromolecule is:
  - A. Lipids
  - B. Proteins
  - C. Glucose
  - D. Starch
  
2. The hypothesis that stand the test of time are called:
  - A. Deductions
  - B. Theories
  - C. Observations
  - D. Laws
  
3. A family is a group of related:
  - A. Classes
  - B. Orders
  - C. Species
  - D. Genera
  
4. The stack of hypothesis is called:
  - A. Cristae
  - B. Stroma
  - C. Ribosomes
  - D. Granum
  
5. The division of nucleus is called:

- A. Cytokinesis
  - B. Karyokinesis
  - C. Interphase
  - D. Crossing over
6. The phase in which chromosomes arrange themselves along the equator or cell is called:
- A. Prophase
  - B. Metaphase
  - C. Anaphase
  - D. Telophase
7. The part of enzyme molecule involved in catalysis is called:
- A. Active site
  - B. Cofactor
  - C. Coenzyme
  - D. Prosthetic group
8. Dark reactions take place in:
- A. Thylakoid
  - B. Cytosol
  - C. Stroma
  - D. Cristae
9. One gram of proteins contains energy:
- A. 09 Kilocalories
  - B. 07 kilocalories
  - C. 04 kilocalories
  - D. 02 kilocalories

10. Enzyme present in saliva is:

- A. Protease
- B. Amylase
- C. Lipase
- D. Pepsin

11. Evaporation of water from the surface of plant is called:

- A. Guttation
- B. Translocation
- C. Transportation
- D. Transpiration

12. The blood clotting protein is:

- A. Albumin
- B. Fibrinogen
- C. Antibodies
- D. Hormones

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## Biology

## Group - I

**Q2. Write short answers to any FIVE (5) questions:** **10**

- i. Define biochemistry.
- ii. What is meant by parasites?
- iii. Define population.
- iv. What is meant by proportion in data analysis?
- v. Describe quantitative observations with example.
- vi. Define theory.
- vii. Differentiate between phagocytosis and pinocytosis.
- viii. What is meant by active transport?

**Q3. Write short answers to any FIVE (5) questions.:** **10**

- i. Write down the scientific names of human and pea.
- ii. Define species.
- iii. What do you know about kingdom Protista?
- iv. What is "S" phase?
- v. Define crossing over. Write its one advantage.
- vi. How is cytokinesis different in plant cells as compared to animal cells?
- vii. Define photosynthesis. Also write its equation.
- viii. What is cellular respiration?

**Q4. Write short answers to any FIVE (5) questions.:** **10**

- i. Differentiate between intercellular enzymes and extracellular enzymes.
- ii. Define co-enzymes and give example.
- iii. Define "lock and key model".
- iv. Write the two deficiency symptoms of vitamin "A".
- v. What are soluble dietary fibres? Give two examples.
- vi. What are root hairs? Give their functions.

vii. Write names of important proteins present in Blood plasma.

viii. What are causes of Dengue fever?

### Section - II

**NOTE: Attempt any two questions.**

**18 = 9 × 2**

- |   |   |
|---|---|
| Q5. (a) Explain organ and organ system level.                   | 4 |
| (b) Explain centrioles and vacuoles in detail.                  | 5 |
| Q6. (a) Define binomial nomenclature and write its rules.       | 4 |
| (b) Explain anaerobic respiration (fermentation) and its types. | 5 |
| Q7. (a) Write the functions of oral cavity in detail.           | 4 |
| (b) How does transport of food occur in plants? Explain.        | 5 |

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## Biology

## Group - II

1. Microscopic study of tissues is called:
  - A. Physiology
  - B. Morphology
  - C. Histology
  - D. Genetics
  
2. Logical consequences of Hypothesis are called:
  - A. Experimentation
  - B. Deductions
  - C. Reporting
  - D. Hypothesis
  
3. Which one of the following mode of nutrition is found in animal kingdom?
  - A. Ingestion
  - B. Absorption
  - C. Photosynthesis
  - D. Respiration
  
4. Which step of cellular respiration occur in cytoplasm?
  - A. Kreb's cycle
  - B. E.T.C
  - C. Glycolysis
  - D. Lactic acid fermentation
  
5. Which spindle fibres connect with kinetochore of chromosomes?

- A. Aster spindles
  - B. Kinetochore spindles
  - C. Microtubule spindles
  - D. Actin
6. Term metabolism is derived from \_\_\_\_\_ word.
- A. Latin
  - B. Greek
  - C. English
  - D. German
7. In which of the following photosynthesis process does not occur?
- A. Green plants
  - B. Some protist (Algae)
  - C. Amoeba
  - D. Some bacteria
8. Which one of the following minerals is essential for normal thyroid function?
- A. Potassium
  - B. Sodium
  - C. Iodine
  - D. Fluoride
9. Which of the following enzyme is present in Saliva?
- A. Lipase
  - B. Trypsin
  - C. Salivary amylase
  - D. Pepsin

10. In which stage of cell cycle, each chromosome is duplicated?

- A. G1 phase
- B. S phase
- C. M phase
- D. G2 phase

11. Which one of the following is the function of Basophils?

- A. Destroy small particles by phagocytosis
- B. Kill parasites
- C. Prevent blood clotting
- D. Constrict blood vessels

12. How much of our population is Diabetic?

- A. 2%
- B. 3%
- C. 8%
- D. 10%



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## Biology

## Group - II

**Q2. Write short answers to any FIVE (5) questions:** **10**

- i. Define histology and pharmacology.
- ii. What is biosphere level?
- iii. Name vegetative and reproductive organs of mustered plant.
- iv. What is meant by biological problem?
- v. Define Law and give example.
- vi. Define ratio. How is ratio expressed?
- vii. Draw the diagram of mitochondria and write names of its two parts.
- viii. What is meant by facilitated diffusion?

**Q3. Write short answers to any FIVE (5) questions.:** **10**

- i. Define classification.
- ii. What do you know about prions and viroids?
- iii. Write down the difference between class and order.
- iv. What is meant by cell cycle?
- v. Write down the names of four phases of Karyokinesis.
- vi. What is meant by regeneration? Give an example.
- vii. What is meant by dark reactions?
- viii. Define alcoholic fermentation. Also write its equation.

**Q4. Write short answers to any FIVE (5) questions.:** **10**

- i. Differentiate between anabolism and catabolism.
- ii. Define activation energy.
- iii. Define Cofactor.
- iv. Write any two functions of vitamin A.
- v. What is chime?
- vi. What are root hairs?

- vii. What is meant by cardiac cycle?
- viii. What are symptoms of dengue fever?

**Section - II**

**NOTE: Attempt any two questions.**

**18 = 9 × 2**

- Q5. (a) Write a brief note on Population and Community. 4
- (b) Write a detail note on Cell membrane. 5
- Q6. (a) Write down the general characteristics of five kingdom of living organisms. 4
- (b) Explain the summary of events of light reaction. 5
- Q7. (a) Write a note on carbohydrates and proteins components of human food. 4
- (b) Write transport of food in plants. 5