



BOARD OF INTERMEDIATE EDUCATION, KARACHI

Bakhtiari Youth Center, North Nazimabad, Karachi – 74700

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BOTANY PAPER-I **(MODEL PAPER)** **Annual Examination 2021** **(Science Pre-Medical Group)**

Time Allowed: 30 Minutes
9:00am to 11:00am

SECTION "A" (M.C.Q.s)

Total Marks: 45
Max Marks: 22

Note: This Section consists of 22-part questions and all are to be answered.

Q1. Choose the correct answer for each from the given option:

- (i) The term "Cell" was first used by:
* Robert Brown 1965 * Robert Brown 1865
* Robert Hooke 1556 * Robert Hooke 1665
- (ii) Which of the following is the characteristic of all fungi?
* Autotrophic * Parasitic * Saprophytic * Heterotrophic
- (iii) This type of Endocytosis involves ingestion of solid materials:
* Phagocytosis * Pinocytosis * Exocytosis * Solidocytosis
- (iv) Among the followings, this one is prokaryote:
* Euglena * Chlamydomonas * Nostoc * Ulva
- (v) New Ribosomes are assembled in the:
* Golgi Apparatus * Mitochondria * Nucleolus * Endoplasmic Reticulum
- (vi) Which of the following is an example of liverworts?
* Funaria * Marchantia * Adiantum * Anthoceroce
- (vii) C₄ plant forms _____, a four carbon compound as its first product:
* PEP * Oxaloacetate * Malate * Pyruvate
- (viii) Virus was discovered in the year:
* 1840 * 1838 * 1898 * 1892
- (ix) This fungus utilized in Baking industry:
* Yeast * Mushroom * Penicillium * Deutromycota
- (x) It is a Heterosporous plant:
* Rhynia * Selaginella * Moss * Lycopodium
- (xi) Final tool helping in classifying organism is:
* Homology * Analogy * Genetics * Biochemistry
- (xii) This organelle is known as suicide sac:
* Peroxisomes * Glyoxisomes * Lysosome * Ribosome
- (xiii) Plant like protocists are:
* Algae * Fungi * Slime mold * Protozoa
- (xiv) The primary electron acceptor in PS-II is:
* Plastoquinone * Phaeophytin * Plastocyanin * FeS
- (xv) Energy is required for:
* Active transport * Facilitated transport * Diffusion * All of these
- (xvi) In stem, localized regions of loosely arranged cells with intercellular spaces is called:

- * Cuticle * Stomata * Lenticels * Sclerenchyma
- (xvii) Virus is nutritionally:
 * Symbiont * Facultative parasite * Saprophyte * Obligate parasite
- (xviii) Mycelium is a term used for:
 * Mass of spores * Mass of sporangia * Zoospores * Mass of hyphae
- (xix) In anaerobic respiration how many ATP are produced?
 * 36 * 02 * 38 * 04
- (xx) The total stem parasite is:
 * Loranthes * Utricularia * Viscum * Cuscuta
- (xxi) The primitive vascular plants (Rhynia) were widespread about:
 * 300 million year ago * 400 million years ago
 * 500 million year ago * 600 million year ago
- (xxii) Oxygen (O₂) Produced during photosynthesis comes from:
 * CO₂ * H₂O * Both * Photorespiration

Time: 1 hour 30 min

Marks: 23

(SECTION 'B' (SHORT-ANSWER QUESTIONS))

Max Marks: 14

Q2. Attempt any Six-part questions. Each question carries one mark. Give answer not more than two lines.

- (i) Give two difference between Prokaryotes and Eukaryotes.
- (ii) Why lysosomes are called suicide sacs? **OR** Name any two diseases caused by Virus.
- (iii) Define any two of the followings:
 * Double Fertilization * Homosporous * Diffusion * Pili
- (iv) On what basis Fungi are classified? **OR** Write the molecular formula of chlorophyll a & b.
- (v) Why protocista considered as polyphyletic kingdom?
- (vi) Why yeast is placed in fungi, while it is unicellular?
- (vii) Name three methods of genetic recombination in Bacteria.
- (viii) What is the role of potassium in transpiration? **OR** Why do insectivorous plant use insects as food?
- (ix) Why ATP called as energy currency?

Q3. Attempt any Four-part questions. Each question carries two marks. Answer should not exceed 5 to 6 lines.

- (i) Write four important events takes place during light reaction of photosynthesis. **OR** Write note on Diversity among protocista.
- (ii) Briefly describe the fluid mosaic model of plasma membrane.
- (iii) Describe the concept of species and taxonomic hierarchy of biological classification?
OR Point out two problems with having two kingdom system.
- (iv) Write postulates of cell theory **OR** Salient features of Cyanobacteria.
- (v) Write structure and functions of the following: (any one)
 * Mitochondria * Nucleus
- (vi) Draw a well labelled diagram of the followings (any one):
 * Bacteriophage virus * Bacterium * Fern prothallus

SECTION "C" (DETAILED-ANSWER QUESTIONS)

Max Marks: 09

Note: Attempt **any two** question from this section all question carries equal marks.

- Q4** Explain the life cycle of Moss (No diagram required) **OR** Describe adaptive characteristics of Bryophytes to land habitat.
- Q5.** Describe in detail the process of Glycolysis **OR** Light independent reaction (C_3 cycle) of photosynthesis.
- Q6.** Define Ascent of sap. Describe root pressure theory and cohesion-tension theory.
- Q7.** Define Transpiration and its types. Describe mechanism of stomatal transpiration.

