

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION SHAHEED BENAZIRABAD



BOTANY PAPER-I (MODEL PAPER)

Annual Examination 2023

(Science Pre-Medical Group)

Time Allowed: 2 hours

Total Marks: 45

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

Time Allowed: 15 minutes

Max Marks: 09

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

Note: This Section consists of 18 MCQs and all are to be answered. each MCQ carry 0.5 marks.

- Organelles other than the nucleus that contain DNA
 - Ribosomes
 - Chloroplast
 - Mitochondria
 - I only
 - II only
 - II and III
 - I and II
- Select the correct statement
 - PS I and ATP synthase complexes are located in the appressed part of thylakoid.
 - PS I and NADP reductase are located in the appressed part of thylakoid membrane.
 - Appressed part contain NADP reductase and ATP synthase.
 - Non appressed (non-stack) having PS I.
- The Oxygen consumed during cellular respiration is involve directly in which process or events
 - Glycolysis
 - Accepting electron at the end of electron transport chain
 - The citric acid cycle
 - The oxydation of pyruvate to acetyly CoA
- Bacteriophages escape from host cell by the activity of
 - Lysozyme
 - Ribozyme
 - Peroxidase
 - Reductase
- When habitat conditions become harsh and nutrients are exhausted, the development in bacteria is initiated called
 - Capsule
 - Cell wall
 - Endospore
 - Mesosome
- The most important cellulose degraders in eco system are
 - Ascomycota
 - Zygomycota
 - Basidiomycota
 - Deutromucota

7. Subdivision of Tracheophyta which does not contain true roots and leaves

- a. Lycopside **b. Psilopsida** c. Pteropsida d. Sphenopsida

8. Which process involved in the promotion of flowering by cold treatment

- a. Photoperiodism **b. Vernalization** c. Secondary growth d. Transpiration

9. Guttation occurs through

- a. Lenticels **b. Hydathodes** c. Stomata d. Bark

10. Clarity of image is generally known as

- a. Magnification b. Contrast **c. Resolution** d. Sedimentation

11. Oxidative decarboxylation of isocitrate form

- a. α -Ketoglutarate b. Succinate c. Cis-Aconitated. Fumarate

12. Plant oxidizes sugar in chloroplast during day time without production of energy called

- a. C4 cycle **b. Photorespiration** c. C3 cycle d. Photophosphorylation

13. Some structure are smaller than virus having single stranded RNA with some double stranded regions called

- a. **Viroids** b. Prions c. Minus strand virus d. Double stranded DNS virus

14. Anaerobic bacteria produce all chemicals during respiration except

- a. Ethanol b. CO₂ **c. Water** d. Lactic acid

15. A typical structure of obligate parasite, specialized for fixation and absorption

- a. Flagella b. Pili **c. Haustoria** d. Root hairs

16. In banana tree, flowers are covered over by one or many large brackets called

- a. **Spathes** b. Spadix c. Capitulum d. Palea

17. The hydrostatic pressure in excess of atmospheric pressure is known as

- a. Water potential **b. Pressure potential** c. Osmotic potential
d. Solute potential

18. Induction of flowering in response to the relative length of day and night is known as

- a. **Photoperiodism** b. Photophosphorylation c. Photorespiration
d. Phototropism

SECTION 'B'(SHORT-ANSWER QUESTIONS)

Max Marks: 22

Time: 1 hour 45 min

Q2. Attempt any 11-part questions. Each question carries TWO mark.

1. Why insectivorous plants use insects as food?
2. Why Chloroplast is said to be an energy converting organelle?
3. Describe the role and deficiency symptoms of Nitrogen and Potassium in plant.
4. Differentiate between Prokaryotes and Eukaryotes.
5. Why Photorespiration is considered as wasteful process?
6. Define followings:
* Double Fertilization * Heterospory
7. What do you mean by bacterial growth? Describe its phases.
8. Why Protocista considered as polyphyletic kingdom?
9. Give botanical name of any four of the following
*Wheat *Mako*Barley*rice*Amaltas*Mulhethi.
10. Describe the classification of bacteria on the basis of their shapes?
11. Draw a well labelled diagram of the followings:
*Bacteriophage virus * Fern prothallus
12. How many ATP and NADPH requires to fix 1 carbon, 3 carbon, 6 carbon and 12 carbon.
13. What features allow fungi to survive in all environment where life is possible?
14. Why osmotic adjustment is beneficial for plants?
15. What do you mean by positive and negative sense virus?
16. Why desert plants reduce their leaf size?

SECTION "C" (DETAILED-ANSWER QUESTIONS)

Max Marks: 14

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

- Q3. Explain structure and properties of Plasma membrane with diagram. OR Light independent reaction (C_3 cycle) of photosynthesis in detail.
- Q4. What are Growth regulators? Name and discuss five in detail. OR Explain the life cycle of Moss with the help of diagrams.
- Q5. Describe structure of Bacterium with diagram.