

BOARD OF INTERMEDIATE EDUCATION, KARACHI

INTERMEDIATE EXAMINATION **MODEL PAPER 2026**

BIOLOGY PAPER – II **BOTANY (THEORY)** **(Science Pre-Medical Group)**

Max. Marks: 32

Time: 1 hour 45 minutes

According to New Book

SECTION ‘B’ **(SHORT-ANSWER QUESTIONS)**

Marks: 16

2. Answer any **Eight** part questions. Each part question carries equal marks.
- i) What are the causes and symptoms of Corona virus?
OR
Name the major mechanism of diseases management.
 - ii) Define Speciation. Name different types of Speciation.
 - iii) What is Test cross? Explain with the help of checker board.
 - iv) Differentiate renewable and non-renewable resources.
OR
What is the role of DNA ligase in rDNA technology?
 - v) Describe the process of denitrification.
 - vi) What are leading and lagging strands of DNA during replication?
 - vii) Why haemophilia is common in male?
 - viii) Why Amp^R and Lac^Z genes are used in construction of rDNA?
 - ix) Why Mutation is not always harmful?
 - x) Explain concept of trophic level.
 - xi) Write a note on Tissue culture.
 - xii) Write name of enzymes involved in replication of DNA and their function.
 - xiii) Why ‘O’ negative blood group individuals considered as universal donor?
 - xiv) Why endosymbiotic theory seems to be more powerful in dealing with the evolution of eukaryotes?

SECTION ‘C’ **(DETAILED-ANSWER QUESTIONS)**

Marks: 16

Note: Answer any **Two** questions from this section. All questions carry equal marks.

3. What is Succession? Describe Xerarch or Hydrarch succession.
4. Describe latest techniques to enhance the crop and fruit yield.
OR
Explain gene amplification through PCR and mention any two applications.
5. Define Mendel’s law of Independent Assortment and explain with the help of checker board.
OR
Describe the process of Translation in gene expression.

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INTERMEDIATE EXAMINATION MODEL PAPER 2026

BIOLOGY PAPER – II BOTANY (THEORY) (Science Pre-Medical Group)

Max. Marks: 08

Time: 15 minutes

According to New Book

SECTION 'A' (MULTIPLE CHOICE QUESTIONS) – (M.C.Qs.) (Marks: 08)

NOTE: i) This section consists of 16 part questions and all are to be answered. Each part question carries ½ mark.
ii) Do not copy the part questions in your answerbook. Write only the answer in full against the proper number of the question and its part.

1. Choose the correct answer for each from the given options:

- i) Removal of floating solid and organic materials from the sewage is:
* Primary treatment * Secondary treatment
* Tertiary treatment * No Treatment
- ii) Fungi that gives puff appearance to dough is called:
* Lactobacillus * Saccharomyces * E.coli * Penicillium
- iii) The significance of Polymerase Chain Reaction (PCR) is:
* Detecting Protein * Creating GMO
* Enzyme synthesis * for amplifying specific DNA fragment
- iv) Gel electrophoresis is a technique used to separate DNA fragments significance of this technique is to:
* Study gene expression * Sequence DNA
* Identify genetic variation * Identify genetic disorder
- v) Genomic map are useful for:
* Identifying genes associated with specific disease * Creating genetically modified interaction
* Analyzing DNA methylation patterns * Detecting Protein-Protein interaction
- vi) The significance of Monoclonal antibodies is:
* Study gene expression * Diagnose diseases
* Genetically modified organisms * Develop new drugs
- vii) In plants, the source of carbon for carbon cycle is:
* Carbonate rock * Atmospheric carbon dioxide
* Fossil fuel * Sunlight
- viii) The pioneers in Xerarch succession are:
* Foliose lichens * Mosses * Crustose lichens * Shrubs
- ix) Theory of natural selection was lacking any support from:
* Biogeography * Genetics
* Comparative anatomy * Molecular biology
- x) Archaeopteryx is a connecting link between:
* Amphibians and Reptiles * Reptiles and Aves
* Aves and Mammals * Fish and Amphibians
- xi) The gene which interferes and masks the phenotype of non-locus gene:
* Mutant gene * Epistatic gene * Holandric gene * Sex-linked gene
- xii) A boy is color blind, which could be the genotype of his mother:
* $X^N X^N$ * $X^N X^n$ * $X^N Y$ * $X^n Y$
- xiii) The allele of holandric gene is located at:
* X-Chromosomes * Y-Chromosomes
* Both X and Y Chromosomes * Autosomes
- xiv) International society of blood transfusion has found blood group system:
* 10 * 15 * 20 * more than 30
- xv) Plant having staminate flower can perform the following:
* Cross pollination * Self pollination * Parthenocarpy * Double fertilization
- xvi) The Nitrogenous base present in RNA but not in DNA:
* Adenine * Guanine * Cytosine * Uracil

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