



H.S.C. Annual Examinations 2021
(MODEL QUESTION PAPER)
BOTANY PAPER-II
(Science Pre-Medical Group)

Total Duration: 01 Hour 30 minutes

Total Marks: 40

SECTION "A" MULTIPLE CHOICE QUESTIONS (M.C.OS)

Time Allowed: 30 Minutes

Max Marks: 20

Note: This Section consists of 20-part questions and all are to be answered.

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

- i. These kinds of tissues become dead on maturation.
 - (a) Parenchyma
 - (b) Collenchyma
 - (c) Sclerenchyma
 - (d) All

- ii. Herbivory is the process of eating _____ by herbivores animals.
 - (a) Animals
 - (b) Plants
 - (c) Fishes
 - (d) Both of these

- iii. Transfer of pollen grains from anther to stigma is called
 - (a) Fertilization
 - (b) Apomixis
 - (c) Pollination
 - (d) None

- iv. By counting the annual ring, _____ of plant may be calculated.
 - (a) Age
 - (b) Size
 - (c) Girth
 - (d) All

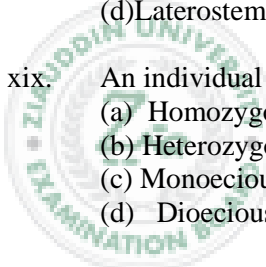
- v. Homeostasis is maintained by three processes osmoregulation, excretion and
 - (a) Thermoregulation
 - (b) Thermostatics
 - (c) Guttation
 - (d) None of them

- vi. The region of earth, where life exists is known as
 - (a) Atmosphere
 - (b) Biosphere
 - (c) Lithosphere
 - (d) Hydrosphere

- vii. In the biosphere energy is received from
 - (a) The Sun

- (b) The interior of the earth
(c) Both
(d) Work
- viii. Plants growing in aquatic habitat are called
(a) Xerophytes
(b) Halophytes
(c) Hydrophytes
(d) Bryophytes
- ix. The male reproductive parts of a flower, the stamens are collectively known as
(a) Androecium
(b) Filament
(c) Anther
(d) Gynoecium
- x. Ripening of fruit is a key role of _____
(a) Auxin
(b) Gibberellin
(c) Cytokinin
(d) Ethene
- xi. *Mimosa pudica* shows following movement:
(a) Nyctinasty
(b) Seismonastic
(c) Photonasty
(d) Thermotropic
- xii. The particular arrangement of chromosomes of an individual is called
(a) Autotype
(b) Stereotype
(c) Karyotype
(d) Chronotype
- xiii. The bead like structure on the chromosomes are called
(a) Kinetochore
(b) Chromomeres
(c) Centrioles
(d) Centromeres
- xiv. Amitosis usually occurs in
(a) Bacteria, tumor or cancer cells
(b) bird cells
(c) Fish cells
(d) Plants
- xv. As a result of meiosis one nucleus divides into _____ nuclei.
(a) Two
(b) Three
(c) Four
(d) Six

- xvi. If a dominant character hides a recessive character in F1 generation, the phenomenon is called
- (a) Law of Dominance
 - (b) Law of incomplete dominance
 - (c) Co-dominance
 - (d) None
- xvii. The study of development from egg stage to adult stage is called _____
- (a) Entomology
 - (b) Embryology
 - (c) Embryo ecology
 - (d) Sociology
- xviii. The tissue in which division occurs in plant body are called
- (a) Apisome
 - (b) Meristem
 - (c) Mesostem
 - (d) Laterostem
- xix. An individual with contrasting alleles is called
- (a) Homozygous
 - (b) Heterozygous
 - (c) Monoecious
 - (d) Dioecious
- xx. The places of land ecosystem having different climate and life styles are called
- (a) Biomes
 - (b) Bio styles
 - (c) Aphotic zones
 - (d) Bathyal zones



ZIAUDDIN UNIVERSITY
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SECTION 'B' (SHORT-ANSWER QUESTIONS) Marks: 12

2. This part consists of reasoning questions. Attempt any Four-part questions. Each question carries one mark. 04 marks

- i. Explain the responses of plants against herbivory. OR Mention how plants respond to Drought stress?
- ii. How sclerenchyma cells help in making rope?
- iii. Why formative growth phase restricted to the tip of plant?
- iv. Why is Haemophilia rare in women as compares to men?
- v. What is an autosome? How many Autosomes are there in a human cell?
- vi. How many types of decomposer exist in an ecosystem? Name them. OR Which cross helps to determine the homozygosity of a dominant parent?
- vii. How is Apoptosis different from Necrosis? OR What is meant by Double fertilization?

3. This part consists of non-reasoning questions Attempt any four-part questions. Each question carries two marks. Answer should not exceed 3 to 4 lines. 08 marks

- i. Differentiate between any one of the following:
 - a. Activities of Vascular cambium and Cork cambium
 - b. Heartwood and Sapwood
- ii. What are plant hormones. Write function of auxin. OR Define Pollination. Name its types.
- iii. Define parthenocarpy and apomixis.
- iv. Define Germination. Describe its various types. OR State Mendel's law of segregation
- v. Classify chromosome on the basis of position of centromere. OR What will be the result of a cross between Haemophilia- male and Normal-female
- vi. How many types of decomposer exist in an ecosystem? Name them.
- vii. Name only the biotic factors of an ecosystem. OR What are ecological level of organization

SECTION "C" (DETAILED-ANSWER QUESTIONS) Marks: 08

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

4. What is Osmoregulation? Classify various type of plants on the basis of Osmoregulation.
5. Define movement in Plants? Describe various types of Paratonic movements in plants. OR What is environmental stress? Write and define its types.
6. Describe phases of Growth. OR Describe Watson and Crick model of DNA. How does the model explain semi-conservative replication of DNA?
7. Describe Prophase I of Meiosis with diagrams. OR Describe the Law of Independent Assortment with the help of checker board.