

BOARD OF INTERMEDIATE EDUCATION, KARACHI

Bakhtiari Youth Center, North Nazimabad, Karachi - 74700

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BOTANY PAPER-II

(MODEL PAPER)

Annual Examination 2021

(Science Pre-Medical Group)

Time Allowed: 20 minutes

Max Marks: 20

SECTION 'A' (MULTIPLE CHOICE QUESTIONS) - (M.C.Qs)

Note: This Section consists of 20 part questions and all are to be answered. Each question carries 01 mark.

Q

Q1.	Choose the correct answer	r for each from the	given option:	
(i)	Cells use to make protein:	+		
	* DNA	* Nucleus	* RNA	* Chromosomes
(ii)	If a solution having low co	oncentration as comp	pare to the cell solution, i	t is said to be:
. ,	*Hypertonic Solution * S		* Hypotonic Solution	* Dilute Solution
(iii)	Succulent plants are comn	nonly grouped in:		
	* Mesophytes	* Halophytes	* Hydrophytes	* Xerophytes
(iv) Central portion of stem consist of xylem, phloem and stele				
. ,		tele	* Tracheids	* Cork Cambim
(v)	Mimosa pudica shows foll			
	* Nyctinastic * S	eismonastic	* Photonastic	* Thigmotropic
(vi)	i) Biological activities of organism followed by 24 hours frequency are called as?			
. ,		Circadian rhythm	* Biorhythm	* Phytoalexins
(vii)	The ideal soil for plant gro	owth is:		2
	* Sandy soil	* Clay soil	* Loam	* Silt
(viii)	Individual species level ap	proach of ecology c	alled:	
		utecology	*Ecological Niche	* Succession
(ix)				
	* Intercalary meristem * Lateral meristem * Apical meristem * Superficial meristem			
(x)	Similar group of individuals who can interbreed and produce organisms of their own kind			
	form a:			
	* Population * C	Community	* Species	* Succession
(xi)	The Sea below 2000 m ha	ving no light?		
* At	yssal zone * B	Senthic zone	* Euphotic zone	* Neretic zone
(xii)) In grassland biomes the rainfall is usually between:			
		Below 24 cm	* 100-125cm	* 125-150cm
(xiii)	i) Dandelion plant shows following asexual reproduction:			
	1	Cutting ARA	* Budding	* Tissue culture
(xiv)	Plants having staminate flo	*	•	
	* Cross pollination *Se		* Parthenocarpy* Doub	
(xv)	The embryo of grass seed is enclosed by as sheath consisting of coleorhiza which covers			
	the:			
		Epicotyle	* Root	* Shoot
(xvi) Group of plant tissues capable of division are termed as:				
		Collenchyma	* Sclerenchyma	* Secondary tissues
(xvii) Two poly nucleotide chain of DNA are apart from each other by:				
		.4 °A	* 34 °A	* 4 °A
(xviii)At what stage of mitosis are chromosomes arranged along a plane at the midline of the cell?				

- * Metaphase * Interphase * Anaphase * Telophase
- (xix) A division without the formation of spindle is:

2

*Amitosis * Mitosis * Animal cell division * Meiosis (xx) Total aggregate of gene in a population is called as: * Chromosome *Gene pool *Multiple Gene * Chromonema

Time: 1 hour 40 minutes

SECTION 'B'(SHORT-ANSWER QUESTIONS)

- **Q2**. Attempt any Four-part questions. Each question carries one mark. Give answer not more than two lines.
 - (i) Name the pyrimidine bases in DNA structure
 - (ii) Define Apomixis and Parthenocarpy?
 - (iii) Define any one of the followings: (a) Autosome (b) Sex chromosomes
 - (iv) Name the types of RNA involved in protein biosynthesis.
 - (v) What happens when a cell is placed in a hypotonic solution?
 - (vi) Write number of chromosomes in Pea (*Pisum sativum*) and Sugarcane (*Saccharum officinarum*)?

(vii)Define meristematic tissues and name its types. OR How young stem gives mechanical support to plant body

Q3. Attempt any Four-part questions. Each question carries Two marks. Give answer not more than five lines.

- (i) What is the phenotypic ratio if cross between color blind male and carrier female, with the help of checker board.
- (ii) **Describe** the changes occurs in Prophase of Mitosis.
- (iii) Describe any one of the followings:(a) Pollination(b) Double fertilization
- (iv) Name only the Biotic components of an ecosystem.
- (v) How is Photonasty different from Phototropism?
- (vi) State the law of Segregation.
- (vii) Define Nastic movement.
- (viii) Discuss Abiotic components of desert ecosystem

SECTION 'C' (DETAILED-ANSWER OUESTIONS) Max Marks: 08

- Note: Attempt any <u>Two</u> questions from this section. All questions carry equal marks. (Diagram is not required)
- **Q4.** Explain the climatic factors of an ecosystem. **OR** Describe osmoregulation in flowering plants
- Q5. Define Meiosis. Explain the various stages of Prophase -I of meiosis.
- Q6. Define "Law of Independent assortment" and explain with checkerboard.
- Q7. Explain ultrastructure of Chromosomes.
- **OR** what do you mean by sex determination? Discuss linked inheritance with reference to colour blindness.

Marks: 20

Marks: 12