



**Class: XII**  
**Paper: Botany**

**Max. Marks: 40**  
**Duration: 1½ Hours**

Time Allowed: 30 Minutes

**SECTION "A" (M.C.Qs)**

Max Marks: 20

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

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

- i. Guttation takes place through:  
a) Stomata      b) Plasmodesmata      c) Hydathode      d) Cuticle
- ii. The inner hard part of annual ring called:  
a) Hardwood      b) Softwood      c) Sap Wood      d) Heartwood
- iii. Movement of plant organ in zigzag manner called:  
a) Nastic      b) Nutation      c) Growth & Curvature      d) All of these
- iv. Gibberella fujikuroi fungus causes foolish seedling disease in Rice, called:  
a) Bakanae      b) Bakori      c) Bikarina      d) Korina
- v. Plants having both staminate and carpellate flowers are called:  
a) Monoecious      b) Dioecious      c) Female      d) Male
- vi. Flowering hormone is:  
a) Phytochrome      b) Florigen      c) Auxin      d) Gibberellins
- vii. \_\_\_\_\_ cause compensatory effect.  
a) Apical bud      b) lateral bud      c) terminal bud      d) All of these
- viii. During RNA synthesis (transcription) adenine pairs with \_\_\_\_\_.  
a) Thymine      b) uracil      c) Cytosine      d) none of these
- ix. One complete turn of DNA duplex occurs after \_\_\_\_\_ A<sup>0</sup>.  
a) 3.4      b) 34      c) 2      d) 20
- x. Mongolism disease is known as \_\_\_\_\_.  
a) Turner's Syndrome      b) Down's Syndrome  
c) Kline Felter's Syndrome      d) All of these
- xi. Down's syndrome is an example of:  
a) Trisomic      b) Monosomic      c) Nullisomic      d) None of them
- xii. A cross between a heterozygous and a homozygous recessive individual is referred to as:  
a) Test cross      b) Back cross      c) Reciprocal cross      d) Criss cross
- xiii. A chromosome with the centromere at one end is:  
a) Acentric      b) Metacentric      c) Telocentric      d) Submetacentric
- xiv. Type of environment in which a population lives, is called  
a) Niche      b) Ecology      c) Biosphere      d) Habitat
- xv. Plants growing under shade are known as:  
a) Psamophytes      b) Sciophytes      c) Heliophytes      d) Dicots
- xvi. Association of sea anemone and hermit crab is an example of:  
a) Mutualism      b) Symbiosis      c) Interaction      d) Parasitism
- xvii. The estuarines are places where  
a) Lake meet pond      b) River meets sea      c) Two seas meet      d) Sea water reach to pond

- xviii. The quantity of salt in sea is:  
 a) 1.5%                      b) 2.5%                      c) 4.5%                      d) 3.5%
- xix. Forest occupies the land surface roughly about:  
 a) 30-60%                      b) 40-80%                      c) 30-90%                      d) 35-40%
- xx. Temperature of warmest months in Tundra do not exceed from:  
 a) 15<sup>0</sup>C                      b) 17<sup>0</sup>C                      c) 10<sup>0</sup>C                      d) 20<sup>0</sup>C

**Section "B" (Marks 12)**  
**Short Answer Questions**

**Q2. Attempt any four part questions. Each question carries one mark.**

- i. Write down the effect of Isotonic and Hypertonic solution on the cell turgidity. OR Name different aspects of Homeostasis.
- ii. Define tissue culture also write any one advantage. OR How is Photonasty different from Phototropism?
- iii. Differentiate between P<sub>660</sub> & P<sub>730</sub>. OR Write any two significance of secondary growth.
- iv. Define Super coiling of DNA. OR Define Gene mutation.
- v. Define biological clock and circadian rythum OR Define Apomixes and Parthenocarpy?.
- vi. Why the cancer cell is considered as an uncontrollable cell division?
- vii. Why does the Lichens consider as Pioneer community of any ecosystem?

**Q3. Attempt any four part questions. All question carries two marks.**

- i. Write a note on Excretion in plants
- ii. What is the phenotypic ratio if cross between color blind male and carrier female, with the help of checker board.
- iii. Describe the changes occurs in Prophase OR Telophase of Mitosis.
- iv. Write down the Chemical composition of Chromosomes or Karyotype.
- v. Differentiate between autosomes and sex chromosome OR define homologous chromosomes,
- vi. Write about chromosomal aberration or RNA and its types.
- vii. Write a note on incomplete dominance OR Neritic region.
- viii. Explain the biotic components of desert ecosystem.

**Section "C" (Marks 8)**  
**Detailed Answer Questions**

**Note:- Attempt any two questions from this section. All question carry equal marks.**

- Q4.** Describe Paratonic Movement in plants. OR Describe Mendel's 2nd law of independent assortment of genes with Punnett square method.
- Q5.** Describe the process of Mitosis OR Meiosis Prophase-I in detail.
- Q6.** Describe Ultra structure of chromosomes with the help of diagram. OR Explain climatic factors of ecosystem.
- Q7.** Describe Gene expression with reference to Protein synthesis in eukaryotic cell. OR Sex determination in Drosophila OR Man (with reference to Haemophilia).OR Classification of Angiospermic plants on the basis of Osmoregulation.