**Botany XII**

**SET-A**

**1. Very short questions (Attempt any seven)**

1. What is annual ring?
2. Define concentric vascular bundle?
3. Define plasmolysis.
4. Define photonasty.
5. What is wilting?
6. Explain about multiple allele.
7. Define test cross.
8. Define embryogeny.
9. What is tissue culture?

**2. Short questions (Attempt any five)**

1. Write down the function of meristem.
2. Write down the role of Auxin in plants .
3. Write down the structure of t-RNA with necessary diagram.
4. Explain lytic life cycle of gene expression in virus.
5. Write short note on 12:3:1 instead of normal mendelian ratio 9:3:3:1 in F2 generation
6. Explain the process of grafting with its importance
7. Write short note on green manuires with suitable example

**Long Questions**

3. What is secondary growth? Describe the process of secondary growth involved in dicot stem with necessary diagram.

OR

What is transpiration? Describe an experiment to show an unequal rate of transpiration.

4. Define crossing over. Explain its mechanism with significance.

**SET-B**

**1. Very short question (Attempt any seven)**

1. What is imbibition?
2. What is metaxylem?
3. Define lenticel.
4. What do you understand by apical dominance.
5. What is gene pool.
6. Define reverse transcription.
7. Name two enzymes used in genetic engineering.
8. What is Chiropterophily?
9. What is parthenocarpy?
10. What is back cross?

**2. Short questions (Attempt any five)**

1. Describe the structure and function of different types of parenchyma.
2. Describe the role of Gibberlins in plants.
3. What is variation? Describe its types.
4. What is Operon? Explain its concept in the absence of lactose.
5. Charactr of X-linked inheritance
6. Write short note on different types of layering.
7. Significance of genetic engineering

**Long Questions**

3. Describe and compare the anatomical structur of dicot and monocot stem with well labelled diagram.

OR

What is Glycolysis? Explain it with the help of required reaction.

4. Define genetic material and describe the process of semi-conservative mode of replication of DNA with neat and clean diagram.

**SET-C**

**1. Very short question (Attempt any seven)**

1. Define Secretory tissue.
2. Write down the function of cork cambium.
3. What is evaporation?
4. Name any two auxin found in nature.
5. What indicates the 1:4:6:4:1 instead of normal Mendalian ratio?
6. What is the significance of polygenic trait?
7. What is bacterial transduction?
8. What is the role of yeast?
9. Define geitonogamy.
10. Illustrate GMO.

**2. Short questions (Attempt any five)**

1. Differentiate between collenchyma and sclerenchyma.
2. Factor affecting affecting photosynthesis
3. Structure of DNA
4. What is Genetic Code? Describe its character.
5. Write Mendels law of independent assortment.
6. Draw well labelled diagram of L.S. of ovule.
7. Mention the characteristic feature of anemophilous plants.

**Long Questions**

3. Describe the internl structure of dicot root with the help of well labelled diagram. Differentiate between dicot and monocot root.

OR

What is photosynthesis? Describe the necessity of CO2 for photosynthesis.

4. What is criss-cross inheritance? Discuss about the sex-linked inheritance with reference to the eye color of fruit fly.

**SET-D**

**1. Very short question (Attempt any seven)**

1. Define bicollateral vascular bundle.
2. What is photorespiration.
3. Define dendrocronology.
4. Differentiate between dominant and recessive epistasis.
5. What is lethalism?
6. Define allele.
7. What is operator gene?
8. Define fermentation.
9. Write any two example of epihydrophily.
10. What is stock and scion.

**2. Short questions (Attempt any five)**

1. Differentiate between Isobilateral and Dorsiventral leaf.
2. Significance of osmosis.
3. Write down the external factor affecting the respiration
4. What is bacterial transformation? Give an experiment to demonstrate thatDNA is a genetic material.
5. Describe incomplete dominance with suitable example.
6. Explain the process of megasporogenesis.
7. Application of biotechnology in the field of Agriculture.

**Long Questions**

3. What is complex permanent tissue? Explain it with necessary diagram.

OR

Describe the light dependent steps of photosynthesis. How is it linked with the dark reaction?

4. What is mutation? Explain its types in detail.

**SET-E**

**1. Very short question (Attempt any seven)**

1. What is sclereids?
2. What is photophosphorylation?
3. What is apical meristem?
4. Define mutagenes.
5. Define callus.
6. What is double fertilization?
7. Define goote.
8. Mention about farmyard manure.
9. What is Co-dominance?

**2. Short questions (Attempt any five)**

1. Draw well labelled diagram of dicot and monocot leaf with necessary diagram.
2. Differentiate between C3 and C4.
3. What is transcription? Explain its mechanism with necessary diagram.
4. Differentiate between DNA and RNA.
5. Explain Mendel's Law of Segreggation.
6. Draw L.S. of ovary showing the double fertilization.
7. Explain the process of development of Dicot embryo.

**Long Questions**

3. Describe the internal structure of monocot root with the help of well labelled diagram. Also differentiate it with dicot root.

OR

Describe the structure of stomata. Explain the mechanism of opening and closing of stomata.

4. What is polyploidy? Describe its type with suitable example.