

## Botany - XI

### SET- I

**1. Answer in very short (attempt any seven)**

**[7×1=7]**

- a) Define cellular totipotency.
- b) Who proposed cell theory?
- c) What is glycosidic bond?
- d) Define taxonomy.
- e) What is binomial system?
- f) How can you identify *Spirogyra*?
- g) What is rhizome?
- h) What do you understand by topographic factor?
- i) Define ecotone.
- j) What do you understand by ecological niche?

**2. Answer in brief (attempt any five)**

**[5×3=15]**

- a) Write down the characteristic features of gymnosperms.
- b) Note down the identifying characters of family cruciferae.
- c) Describe the structure and functions of mitochondrion.
- d) Mention the economic importance of bacteria.
- e) Describe the role of moisture in ecosystem.
- f) What are the characteristic features of a community?
- g) Distinguish between prokaryotic and eukaryotic cells.

**3. Describe the family compositae in semi-technical terms with floral formula and floral diagram. Also write the economic importance of any two plants of the family.**

**[ 7.5 ]**

**OR**

**Define alternation of generation. Describe the process of alternation of generation with reference to the life cycle of *Marchantia*.**

**4. What is meiosis? Describe the process of meiosis I.**

**[8]**

**SET-II**

**1. Answer in very short (attempt any seven)**

**[7×1=7]**

- a) What do you understand by incipient nucleus?
- b) What is endocytosis?
- c) What are the constituents of nucleic acids?
- d) Who is called as the father of taxonomy?
- e) State the functions of elaters.
- f) What is peristome?
- g) Why are virus called biological puzzle?
- h) Define food chain.
- i) What causes acid rain?
- j) State any two causes of deforestation.

**2. Answer in brief (attempt any five)**

**[5×3=15]**

- a) How can you distinguish gymnosperms from the angiosperms?
- b) Write down the characteristic features of kingdom mycota.
- c) Mention the significances of meiosis.
- d) Write down the functions of protein.
- e) Describe the structure and functions of chloroplast.
- f) Write down the general processes of succession.
- g) Write and draw the floral formula and floral diagram of *Oryza sativa*.

**3. Describe the Sub-family Papilionaceae in semi-technical terms with floral formula and floral diagram. Also write the economic importance of any two plants of the family. [ 7.5]**

**OR**

**Define alternation of generation. Describe the process of alternation of generation with reference to the life cycle of *Dryopteris*.**

**4. Define ecosystem. Describe the structural and functional aspects of grassland ecosystem. [ 8]**

**SET- III**

**1. Answer in very short (attempt any seven)**

**[7×1=7]**

- a) What are cristae?
- b) Why is naked DNA?
- c) What do you understand by conjugated protein?
- d) Give any two examples of class chlorophyceae.
- e) What do you understand by gametophytic generation?
- f) Define hierarchic system of classification.
- g) What do you understand by perianth?
- h) State the functions of ozone layer.
- i) Define symbiosis.
- j) What is ecological succession?

**2. Answer in brief (attempt any five)**

**[ 5×3=15]**

- a) How flow of information takes place through a cell?
- b) Describe the structure and functions of endoplasmic reticulum.
- c) Distinguish between mitosis and meiosis.
- d) Who proposed 5 kingdom systems? Mention its advantages over 2 kingdom system.
- e) Write down the characteristic features of kingdom monera.
- f) What is ecological pyramid? Write about its types.
- g) What is acid rain? Write down its consequences.

**3. Describe the family Solanaceae in semi-technical terms with floral formula and floral diagram. Also write the economic importance of any two plants of the family. [7.5]**

**OR**

**Describe the different mode of life cycle of Yeast.**

**4. Define ecosystem. Describe the structural and functional aspects of pond ecosystem. [8]**

**SET-IV**

**1. Answer in very short (attempt any seven)**

**[7×1=7]**

- a) Mention the functions of cell wall.
- b) Why are lysosomes called suicidal bag?
- c) Name any two plant micronutrients.
- d) State the function of heterocyst.
- e) What is coenocytic mycelium?
- f) Give the scientific name of potato.
- g) Define mycorrhizae.
- h) What are heliophytes?
- i) Define population.
- j) What is deforestation?

**2. Answer in brief (attempt any five)**

**[5×3=15]**

- a) Differentiate between plant and animal cell.
- b) Draw pachytene of mitosis and state any 4 comments on it.
- c) What is binomial system? Write down its rules.
- d) Mention the identifying characters of family cruciferae.
- e) Write down the characters of bryophyte.
- f) Discuss the role of fire in ecosystem.
- g) What is global warming? Mention its impact.

**3. Describe the family Graminae in semi-technical terms with floral formula and floral diagram. Also write the economic importance of any two plants of the family.**

**[7.5]**

**OR**

**Define alternation of generation. Describe the sexual life cycle of *Spirogyra*.**

**4. Define cell cycle. Describe the process of mitotic cell division with necessary figures.**

**[8]**

**SET-V**

**1. Answer in very short (attempt any seven)**

**[7×1=7]**

- a) State the constituents of cell membrane.
- b) Define peptide linkage.
- c) Mention the components of bacterial cell wall.
- d) What is akinete?
- e) Give the scientific name of wheat plant.
- f) What do you understand by adventitious root?
- g) Define ecosystem.
- h) What is proto-cooperation?
- i) What is the common method of reproduction in fungi?
- j) What do you understand by ecotype?

**2. Answer in brief (attempt any five)**

**[5×3=15]**

- a) Mention the characteristic features of virus.
- b) How flow of energy takes place through a cell?
- c) What is mitosis? Mention its significance.
- d) Write down the functions of lipids.
- e) What is gametophytic generation? Draw the gametophyte of fern and label it.
- f) Describe different steps of hydrosere in brief.
- g) Discuss the role of humidity in ecosystem.

**3. Describe the family Cruciferae in semi-technical terms with floral formula and floral diagram. Also write the economic importance of any two plants of the family.**

**[7.5]**

**OR**

**Define alternation of generation. Describe the process of alternation of generation with reference to the life cycle of *Funaria*.**

**4. Define ecosystem. Describe the role of light and temperature in the ecosystem.**

**[8]**