

B.Sc. Semester - 4 (CBCS) Examination
March/April-2023 [NEW COURSE]
Botany-B401(Core)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Q.1(A) Answer the following questions. (04)**
1. **Fill up the blank:** Lignified: Sclerenchyma; Cutinised:
 2. **Define the term:** Autumn wood
 3. What constitutes the cambial ring?
 4. **True or false?** The cells of endodermis are non-living and bear casperian strips
- Q.1(B) Answer the following question. (Any One) (03)**
1. Explain: Significance of secondary growth.
 2. Distinguish between: V.B.of Dicot stem and V.B. of Monocot stem
- Q.1(C) Answer the following question. (Any One) (07)**
1. Describe with diagram: Anomalous secondary growth in *Salvadora* stem.
 2. Draw V.T.S. of monocot root and describe its structure.
- Q.2(A) Answer the following questions. (04)**
1. What is the site of microsporogenesis?
 2. Which type of embryo sac is characterised by the absence of synergids and antipodals?
 3. **True or False:** *Oenothera* type of embryo sac usually develops from the micropylar mega spore.
 4. **Define the term:** Cap block
- Q.2(B) Answer the following question. (Any One) (03)**
1. Explain: Formation of male gametes in Microgametogenesis.
 2. Discuss the entry of pollen tube into ovule with diagram.
- Q.2(C) Answer the following question. (Any One) (07)**
1. Enumerate with the help of labelled illustrations the variation in *Chrysanthemum* type of embryo sac.
 2. Discuss with diagram: Steps of megasporogenesis.
- Q.3(A) Answer the following questions. (04)**
1. What is explained by the donnan equilibrium theory?
 2. **Give the term:** The solid adsorbent particles which cause imbibition are called.
 3. **Define the term:** Diffusion pressure
 4. In which form food material is transported?
- Q.3(B) Answer the following question. (Any One) (03)**
1. Distinguish between: Imbibition and Osmosis
 2. Discuss advantages of seed dormancy.
- Q.3(C) Answer the following question. (Any One) (07)**
1. What is diffusion? Give significance of Diffusion in plants
 2. Describe mechanism of vernalization in plants.

- Q.4(A) Answer the following questions. (04)**
1. Which soil water is main source of water for plants?
 2. **Define the term:** Chelates.
 3. Which Horizon is also known as zones of eluviation?
 4. **Name the process:** The soil is covered with dried grasses, leaves and other crop residues.
- Q.4(B) Answer the following question. (Any One) (03)**
1. Explain the Wind erosion of soil.
 2. Write notes on: Applications of remote sensing.
- Q.4(C) Answer the following question. (Any One) (07)**
1. What is Pedogenesis? Describe the process of Pedogenesis.
 2. Discuss the various mechanical methods used for the soil conservation.
- Q.5(A) Answer the following questions. (04)**
1. **True or false:** Plant press is locked for 90 hours this is called sweating period.
 2. **Give the term:** The total self-duplicating hereditary material of cytoplasm
 3. **Complete the statement:** An encapsulated single somatic embryo is called.....
 4. Who first time discover plastid in heritance in *Mirabilis*?
- Q.5(B) Answer the following question. (Any One) (03)**
1. Write notes on: Advantages of mass selection.
 2. Explain cytoplasmic inheritance in *Yeast*.
- Q.5(C) Answer the following question. (Any One) (07)**
1. Discuss allopolyploidy in detail with examples.
 2. Explain meaning of artificial seed and distinguish between natural and synthetic seed.
