

**B.Sc. Semester - 4 (CBCS) Examination**  
**March/April-2026 [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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- Que.1(A) Give the answer very shortly (04)
- (1) How is the stem anatomy different in monocots and dicots?
  - (2) What is anomalous secondary growth?
  - (3) What type of venation is found in monocot leaves?
  - (4) Do monocots exhibit secondary growth?
- Que.1(B) Give the answer shortly (any one) (03)
- (1) Describe the Anatomical structure of monocot stem vascular bundle.
  - (2) Describe the Anatomical structure of dicot stem vascular bundle.
- Que.1(C) Give the answer in detail (any one) (07)
- (1) Discuss the secondary growth of dicotyledonous stem.
  - (2) Describe the anomalous secondary growth in *Salvadora*
- Que.2(A) Give the answer very shortly (04)
- (1) What is the final product of microspore development?
  - (2) What is double fertilization in plants?
  - (3) What is the role of the tube cell in the male gametophyte?
  - (4) What is the function of the polar nuclei during double fertilization?
- Que.2(B) Give the answer shortly (any one) (03)
- (1) Give an importance of double fertilization in angiosperm plant.
  - (2) Describe the mature pollen grain structure.
- Que.2(C) Give the answer in detail (any one) (07)
- (1) Describe Types of embryo sac
  - (2) Discuss Development of male gametophytes
- Que.3(A) Give the answer very shortly (04)
- (1) Define Diffusion
  - (2) What is difference between Imbibitions and Osmosis.
  - (3) Define Vernalization
  - (4) What are the two types of mineral absorption?
- Que.3(B) Give the answer shortly (any one) (03)
- (1) State the main positive reasons for seed dormancy.
  - (2) Give the principle for translocation of organic solute.
- Que.3(C) Give the answer in detail (any one) (07)
- (1) Discuss the vernalization.
  - (2) Describe Absorption of minerals
- Que.4(A) Give the answer very shortly (04)
- (1) What is a soil profile?
  - (2) Name two causes of soil erosion.
  - (3) How does crop rotation help in soil conservation?
  - (4) How is remote sensing used in vegetational analysis?
- Que.4(B) Give the answer shortly (any one) (03)
- (1) Give the overview of soil profile.
  - (2) Describe any one method for soil conservation.

- Que.4(C) Give the answer in detail (any one) (07)
- (1) Discuss Soil erosion
  - (2) Justify the statement “Remote sensing as a tool for vegetational analysis”.
- Que.5(A) Give the answer very shortly (04)
- (1) What is the main advantage of artificial seeds?
  - (2) What is a herbarium?
  - (3) What is polyploidy?
  - (4) Which method is used for maintaining genetic uniformity in crops?
- Que.5(B) Give the answer shortly (any one) (03)
- (1) Write a short note on Herbarium
  - (2) State an importance of Pure line selection.
- Que.5(C) Give the answer in detail (any one) (07)
- (1) Discuss the Cytoplasmic inheritance in *Mirabilis jalapa*
  - (2) Explain with an examples - Polyploidy in plants

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