DAI-003-1014006 Seat No. _____

B. Sc. (Sem. IV) (CBCS) Examination

April - 2022

Botany : B-401

(Study of Plants with Reference to Anatomy, Embryology, Physiology, Ecology & Application)

(Old Course)

Faculty Code : 003

Subject Code : 1014006

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) This question paper contains five questions. All are compulsory.
(2) Draw neat and labelled diagrams wherever necessary.
(3) Figure to the right indicates marks.

1 (a) Objective type question : **4**

(1) Which types of vascular bundle are found in dicot stem?

(2) Definition: anatomy.

(3) Definition : secondary growth.

(4) Write the two anatomical characters of monocot root.

(b) Answer in brief : (any 1) **2**

(1) Only draw the labeled diagram of dicot root.

(2) Write the difference between monocot plant and dicot plant.

(c) Answer in brief : (any 1) **3**

(1) Describe the anatomical monocot leaf.

(2) Describe the anatomical dicot root.

(d) Write a note on : (any 1) **5**

(1) Explain the dracaena stem.

(2) Describe the process of secondary growth in dicot stem.

2 (a) Objective type question : **4**

(1) Define : pollination.

(2) _____ after fertilization form seeds.

(3) Embryo sac is _____ gametophytes.

(4) Ovules are located inside _____.

(b) Answer in brief : (any 1) **2**

(1) Write the entry of pollen tube into embryo sac.

(2) Only draw the labeled diagram of embryo sac.

(c) Answer in brief : (any 1) **3**

(1) Describe the types of entry of pollen tube in to the ovules.

(2) Describe the development of female gametophytes.

(d) Write a note : (any 1) **5**

(1) Describe the microsporogenesis.

(2) Describe the types of tetrasporic embryo sac.

3 (a) Objective type question : **4**

(1) What are minerals.

(2) Define: osmosis.

(3) Phloem sap is rich in _____

(4) Define: hypertonic solution.

(b) Write answer in brief : (any 1) 2

(1) Write the advantages of seed dormancy.

(2) Explain the electro osmotic hypothesis.

(c) Answer in brief : (any 1) **3**

(1) Explain the mass much flow hypothesis.

(2) Describe the types of osmosis.

(d) Write a note on : (any 1) **5**

(1) Write an essay on vernalization.

(2) Describe the various causes of seed dormancy and its method to break dormancy.

4 (a) Objective type question : **4**

(1) Afforestation is _____ of forest.

(2) Overgrazing generally causes _____

(3) Forests are useful in checking _____ erosion.

(4) Best method to protect the soil from erosion is to grow _____

(b) Answer in brief : (any 1) **2**

(1) Explain the pedogenesis.

(2) Write the components of soil.

(c) Answer in brief : (any 1) **3**

(1) Describe the agronomic method.

(2) Explain the region of soil erosion.

(d) Write a note on : (any 1) **5**

(1) Explain the soil erosion.

(2) Write the biological methods of soil conservation.

5 (a) Objective type question : **4**

(1) Define : artificial seed.

(2) Write the size of herbarium sheet.

(3) What are polyploidy plants ?

(4) Write the characteristics of autopolyploidy.

(b) Answer in brief : (any 1) **2**

(1) Write the potential use of synthetic seed.

(2) Describe the effect of autopolyploidy plants.

(c) Answer in brief : (any 1) **3**

(1) Write the difference between pure line and mass selection.

(2) Describe the use of herbarium.

(d) Write a note on : (any 1) **5**

(1) Describe the method of artificial seed.

(2) Explain the cytoplasmic inheritance in yeast.
