B.Sc. 4th Semester (Honours) Examination, 2023 (CBCS)

Subject : Botany

Course : SEC-2

(Biofertilizer)

Time: 2 Hours **Full Marks: 40**

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

1. Answer *any five* questions from the following: 2×5=10

(a) What are the advantages of biofertilizers over chemical fertilizers?

(b) What is actinorrhizal symbiosis?

(c) Name one phosphate solubilizer and one N_2 fixing microorganism. 1+1

(d) What is associative symbiosis? Give an example. 1+1

(e) What is organic farming?

(f) Mention the types of mycorrhizal association.

(g) Define biocomposting.

(h) What is leghemoglobin?

2. Answer *any two* questions from the following: 5×2=10

(a) Write down the recycling process of biodegradable wastes obtained from municipal sources.

(b) Briefly describe the methods of inoculation of *Azolla* to rice crop.

(c) Write down the importance of cyanobacteria as biofertilizer.

(d) Write a short note on the process of inoculum production of *Azotobacter*.

3. Answer *any two* questions from the following: 10×2=20

(a) Describe the method of isolation and mass multiplication process of *Rhizobium*.

(b) Briefly discuss the colonization process of VAM. Mention the role of VAM in growth and yeild of crop plants. 5+5

(c) Briefly describe the role of different microbes used as biofertilizer.

(d) Briefly describe the methods of vermicomposting. What are the advantages and disadvantages of vermicomposting? 6+4

B.Sc. 4th Semester (Honours) Examination, 2023 (CBCS)

Subject : Botany

Course : SEC-2 (OR)

(Herbal Technology)

Time: 2 Hours **Full Marks: 40**

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

1. Answer *any five* questions from the following: 2×5=10

(a) What is Pharmacology?

(b) Name two active constituents of *Catharanthus roseus*.

(c) What is medicinal plant bank?

(d) Mention two medicinal uses of Ginger. 1+1

(e) What is micropropagation?

(f) Write down the scientific name and family of Neem.

(g) What is meant by secondary metabolites? Cite one example. 1+1

(h) Define indigenous drug.

2. Answer *any two* questions from the following: 5×2=10

(a) Describe the role of *Ocimum* as phytomedicine.

(b) What is AYUSH? Describe its functions. 2+3

(c) Write down the medicinal uses of Indian goose berry.

(d) What is aroma therapy? Briefly describe its role in herbal technology. 1+4

3. Answer *any two* questions from the following: 10×2=20

(a) What is herbal food? Define its scope in future of pharmacognosy. 2+8

(b) Briefly describe the role of secondary metabolites in plats with example.

(c) Mention the active principles and medicinal uses of *Centella asiatica* and *Withania somnifera*. 5+5

(d) What is drug adulteration? Briefly describe the different types of drug adulterations. 2+8

B.Sc. 4th Semester (Honours) Examination, 2023 (CBCS)

Subject : Botany

Course : SEC-2 (OR)

(Nursery and Gardening)

Time: 2 Hours **Full Marks: 40**

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

1. Answer *any five* questions from the following: 2×5=10

(a) Define a nursery in the context of horticulture.

(b) Comment on the significance of seed dormancy.

(c) Name one commonly used rooting medium.

(d) Differentiate between landscape gardening and home gardening.

(e) What is the scientific name of garlic? Mention its medicinal use. 1+1

(f) Name one pest that affects gardening.

(g) What is a mist chamber?

(h) What do you understand by the term 'raising of seeds and seedlings'?

2. Answer *any two* questions from the following: 5×2=10

(a) Discuss the objectives and scope of gardening. Highlight its importance in horticulture. 3+2

(b) Describe the components of a park and explain their significance in creating an aesthetically pleasing outdoor space. 3+2

(c) Briefly explain the role of computer applications in landscaping.

(d) Write a short note on the marketing procedures for vegetables.

3. Answer *any two* questions from the following: 10×2=20

(a) Discuss the importance of seed storage and the role of seed banks in preserving genetic diversity. Explain the factors that can affect seed viability during storage. 5+5

(b) Discuss the factors that influence the success of rooting. Explain the concept of hardening of plants and its importance in preparing plants for outdoor conditions. 5+5

(c) Discuss the various gardening operations and highlight their importance in maintaining a healthy garden. 6+4

(d) Discuss the techniques involved in transplanting seedlings. Briefly describe the cultivation procedure of carrots. 5+5

B.Sc. 4th Semester (Honours) Examination, 2023 (CBCS)

Subject : Botany

Course : SEC-2

(Floriculture)

Time: 2 Hours **Full Marks: 40**

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

1. Answer *any five* questions from the following: 2×5=10

(a) Name one plant hormone used for inducing roots and one for initiating flowers in horticultural plants. 1+1

(b) Write the scientific names of marigold and rose. 1+1

(c) What is botanical garden? Give an example. 1+1

(d) Does cactus and succulents represent the same plant type?

(e) What is bonsai?

(f) How do you increase vase life of cut flowers?

(g) What is defoliation in horticulture?

(h) Name any two famous gardens in India. 1+1

2. Answer *any two* questions from the following: 5×2=10

(a) What is landscaping of highway? Discuss about common approaches and considerations for landscaping highways. 1+4

(b) Describe the major pests and their effects on ornamental plants.

(c) What is mulching? What materials are used in mulching? Mention the desirable effects of mulching. 1+2+2

(d) Write a short note on application of floriculture.

3. Answer *any two* questions from the following: 10×2=20

(a) What is topiary? Write about different types of topiary. Name few plants which are generally used for topiary. Give an example of any one world famous topiary. 2+5+2+1

(b) Write short notes on: (i) Mughal garden, (ii) Indoor gardening

(c) Describe the cultivation methods of any two commercially important cut flowers.

(d) Describe the different types of asexual methods of plant propagations used in nursery management. Write the advantages of asexual reproduction of plants. 5+5

B.Sc. 4th Semester (Honours) Examination, 2023 (CBCS)

Subject : Botany

Course : SEC-2 (OR)

(Plant Diversity & Human Welfare)

Time: 2 Hours **Full Marks: 40**

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

1. Answer *any five* questions from the following: 2×5=10

(a) Define species diversity.

(b) Why conservation of biodiversity is necessary in ecological point of view?

(c) Mention two reasons of loss of biodiversity. 1+1

(d) Write the full form of WWF and UNEP. 1+1

(e) Differentiate alpha diversity from gamma diversity.

(f) State two examples of sustainable development.

(g) How forest is useful in human welfare?

(h) Name two Indian avenue trees.

2. Answer *any two* questions from the following: 5×2=10

(a) Briefly describe the social approaches to conservation.

(b) Write a short note on habitat destruction.

(c) Illustrate the significance of *in situ* conservation.

(d) What are the roles of fruit crops in economical aspect?

3. Answer *any two* questions from the following: 10×2=20

(a) Briefly explain the role of biodiversity awareness programmes. Mention the name of few organisations that participate in the awareness drive. 8+2

(b) Enumerate the role of different management organisations to maintain biodiversity.

(c) What is precautionary principle? Describe the ethical and aesthetic values of plant diversity. 2+8

(d) Discuss the role of plants in relation to human welfare.
