

U.G. 4th Semester Examination - 2024

BOTANY

[HONOURS]

Skill Enhancement Course (SEC)

Course Code : BOT-H-SEC-T-02(A,B,C)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer all the questions from Selected Option.

OPTION-A

BOT-H-SEC-T-2A

(Medicinal Botany)

1. Answer any five questions: 2×5=10
- a) What is meant by 'tridosha'?
 - b) What is meant by 'Saptadhatu'?
 - c) Name two plants used to treat heart diseases.
 - d) What is black data book?
 - e) What are endemic plants? Name one endemic medicinal plant from India.
 - f) What is the purpose of greenhouse in a nursery?

[Turn Over]

g) Define *ex-situ* conservation.

h) Name two botanical gardens of India.

2. Answer any two of the following questions:

5×2=10

a) Discuss about the tumor treatment in Unani medicine. 5

b) What is polyherbal formulation? Discuss the role of polyherbal formulation in medicinal science with two examples. 1+4

c) Write two objectives of nursery. Mention the methods of propagation of medicinal plants through grafting. 2+3

d) What is ethnoecology? Add a short note on folk medicine. 2+3

3. Answer any two questions:

10×2=20

a) What is the basis of Siddha medicinal system? Comment on the origin of this system. Name six plants used in this system along with their medicinal uses. 2+2+(1×6)

b) Distinguish between National Park and Biosphere Reserve. Describe the role of botanical gardens in *ex-situ* conservation. Mention the nine IUCN Red List categories of organism. 2+4+4

c) Discuss the concept of Ayurveda as a traditional system of medicine. Compare it with Unani medicine. Name two plants used in Ayurvedic medicine with the name of disease cured. 4+4+2

d) Discuss the application of plant products to treat heart diseases. Describe the role of plants to cure jaundice and skin diseases. 4+(3+3)

OPTION-B

BOT-H-SEC-T-2B

(Mushroom Culture)

1. Answer any five questions: $2 \times 5 = 10$
- a) What is meant by pure culture of a mushroom?
 - b) Name one tropical and one temperate species of edible mushroom.
 - c) What are spawn and spawning?
 - d) Define mycomedicine with an example.
 - e) Name two poisonous mushrooms from *basidiomycota*.
 - f) How poisonous mushrooms differ from edible mushrooms?
 - g) Name two mushroom culture research centers in India.
2. Answer any two of the following questions: $5 \times 2 = 10$
- a) Describe the infrastructure of a mushroom farm.
 - b) What are the different types of food prepared from mushroom?
 - c) Discuss the techniques that are used to increase shelf-life of mushroom.
 - d) Write a note on cost-benefit ratio for cultivation of an edible mushroom.

3. Answer any two of the following questions:

$10 \times 2 = 20$

- a) What are the composts used for cultivation of button mushroom? How is bed prepared for cultivation of the mushroom? Name the factors that affect this process. $4 + 3 + 3$
- b) Discuss different types of nutritive compound and their food values obtained from edible mushroom.
- c) Write an essay on medicinal properties of edible mushrooms.
- d) Briefly discuss the methods commonly used for sterilization of medium for growing mushroom and production of spawn.

OPTION-C
BOT-H-SEC-T-2C

(Intellectual Property Rights)

1. Answer any **five** of the following: $2 \times 5 = 10$

- a) What is a patent?
- b) What significant change was introduced in the Patent (Amendment) Act, 2005?
- c) What does copyright protect? Mention one exclusive right granted to a copyright holder.
- d) What does a geographical indication (GI) signify?
- e) Define 'Intellectual Property Rights'.
- f) What is the purpose of the National Gene Bank in India?
- g) What organization administers the international IP system and what is its main function?
- h) What is a domain name in the context of intellectual property?

2. Answer any **two** of the following questions:

$5 \times 2 = 10$

- a) What are the different types of intellectual property rights (IPR), and how do they impact the global economy?

- b) Explain the concept of Trademark and its significance.
- c) How do the World Trade Organization (WTO) and the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement, influence global IPR policies?
- d) What are the moral issues associated with patenting biotechnological applications?

3. Answer any **two** of the following questions:

$10 \times 2 = 20$

- a) What are the primary objectives of protecting traditional knowledge? Briefly explain the issues commonly arise in protection of traditional knowledge mentioning its typical holders. $4+6$
- b) What constitutes patent infringement? Describe the steps to prevent infringement of IPR in product and technology development. $2+8$
- c) Discuss the role of non-disclosure agreements (NDAs) in protecting trade secrets. 10
- d) Describe the steps involved in obtaining a patent, including the role of patent examination and the criteria for patentability. $4+2+4$