

B.Sc. 3rd Semester (Honours) Examination, 2022 (CBCS)**Subject : Botany****Course : SEC-1****(Ethnobotany)****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* of the following: 2×5=10
- What are sacred groves? Cite one example of it.
 - What do you mean by intellectual property rights?
 - Expand and define AYUSH.
 - Enlist the different methodologies for ethnobotanical studies included in your syllabus.
 - What are the different methods of conservation of medicinal plants?
 - State two points of difference between ethnobotany and economic botany.
 - Give one example each of an intoxicant yielding and a beverage yielding plant.
 - What is folk medicine? Define ethnic group.
2. Answer *any two* of the following: 5×2=10
- Write short notes on habitat and morphology of *Gloriosa superba* and *Ocimum tenuiflorum*. 2½+2½
 - Define endangered species. Enlist eight endangered taxa of Indian flora. 1+4
 - Write a short note on biopiracy.
 - Briefly describe any two methods used for ethnobotanical studies. 2½+2½
3. Answer *any two* of the following: 10×2=20
- Write the botanical name, family, important plant part and two medicinal uses each of
 - Rauwolfia serpentine*
 - Withania somnifera* (1+1+1+2)×2
 - Explain in brief about any Tribal community/group of India focusing on their lifestyles and food plants they administer for their living. 5+5
 - Explain in detail the role of ethnic groups in conservation of plant genetic resources.
 - Describe how traditional knowledge is helpful in herbal drug development. Describe one method of forest management. 7+3

B.Sc. 3rd Semester (Honours) Examination, 2022 (CBCS)**Subject : Botany****Course : SEC-1 (OR)****(Intellectual Property Rights)****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* of the following questions: 2×5=10
 - (a) What is Intellectual Property Right (IPR)?
 - (b) What do you mean by sui-generis region?
 - (c) What is protection of plant variety?
 - (d) Define bio-piracy.
 - (e) What is WTO?
 - (f) What is copyright transfer?
 - (g) Define patent.
 - (h) What is breeders exemptions?

2. Write short notes on *any two*: 5×2=10
 - (a) Farmers Right Act (FRA)
 - (b) Process Patent and Product Patents
 - (c) Traditional Knowledge
 - (d) Data base and Data Protection

3. Answer *any two* of the following questions: 10×2=20
 - (a) What are the obligation and implications of patenting biological material? How do patents differ from other IRRs? 5+5
 - (b) Discuss IRRs available of plant genetic resources (PGRs) and crop varieties. How do Plant Breeder Rights differ from patents? 5+5
 - (c) Distinguish between 'Farmers privilege' and 'Farmers rights'? What provision for these are made in 'Protection of Plant Varieties' (PPV) and 'Farmers Right Act' (FRA) that are approved by Indian Parliament in 2001? 5+5

(d) Write short notes:

5+5

(i) GATT

(ii) TRIP

B.Sc. 3rd Semester (Honours) Examination, 2022 (CBCS)**Subject : Botany****Course : SEC-1 (OR)****(Mushroom Culture 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* of the following questions: 2×5=10
- Give one scientific name of each of an edible mushroom and a poisonous mushroom.
 - What is oyster mushroom? Cite one example.
 - Name two essential amino acids present in mushroom.
 - Why is turning important during compost preparation?
 - Name a mushroom research centre in India.
 - Name the type of substrates required for mushroom bed preparation.
 - What is inoculation? Distinguish between inoculation loop and inoculation hook.
 - What is button mushroom? Cite one example.
2. Answer *any two* of the following questions: 5×2=10
- Briefly enumerate the low cost method of paddy straw mushroom production.
 - Briefly describe the short-term preservation of mushroom after harvesting.
 - Enumerate the factors affecting mushroom bed preparation.
 - Discuss different types of food prepared from mushroom.
3. Answer *any two* of the following questions: 10×2=20
- Describe the infrastructural facilities required for mushroom cultivation.
 - Define spawn. What are the characteristics of good spawn? Write the precautionary measures during spawn preparation. 2+4+4=10
 - What is cost benefit ratio in mushroom marketing? How is it calculated? What is export value? 4+3+3=10
 - Describe the mushroom cultivation procedure by using polythene bag method.
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B.Sc. 3rd Semester (Honours) Examination, 2022 (CBCS)**Subject : Botany****Course : SEC-1 (OR)****(Medicinal Botany)****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 of the following: 2×5=10
- (a) Name the oldest inheritance of India. Name one ethnic group of West Bengal.
- (b) Name two biosphere reserves of India.
- (c) What is the difference between endemic and endangered plants?
- (d) Define palaeoethnobotany.
- (e) Name two plants used for the treatment of tumors.
- (f) What is herbarium?
- (g) Name two endangered medicinal plants.
- (h) What is polyherbal formulation'?
2. Answer *any two* questions of the following: 5×2=10
- (a) Give an account of scopes and importance of medicinal plants.
- (b) What is Umoor-e-tabiya concept in Unani medicine?
- (c) Define ethnobotany. Discuss the role of sacred grooves in conservation of plants. 2+3
- (d) What is *in-situ* conservation? Distinguish between national park and biosphere reserve. Name one biosphere reserve and one national park in India. 1+2+2
3. Answer *any two* questions of the following: 10×2=20
- (a) What do you mean by folk medicine? Mention its importance for indigenous peoples and local communities. Give a concise account on scope of ethnobotany 2+4+4
- (b) Why are many medicinally important plants found to be as threatened? What are the measures can take to conserve these plants? Give examples of any two endangered medicinal plants. 2+6+2

- (c) What is the meaning of 'Ayurveda'? What are the concepts of panchamahabhutas, saptadhatu and tridosha in Ayurveda? 1+3+3+3
- (d) Give a short account of different plants used in Siddha medicine. Comment on 'Red List Criteria'. 5+5
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B.Sc. 3rd Semester (Honours) Examination, 2022 (CBCS)**Subject : Botany
Course : SEC-1 (OR)
(Agricultural Botany)****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: 2×5=10
- What is critical day length?
 - Differentiate between trace and tracer elements.
 - What is VAM?
 - Name two bacteria that can be used as biofertilizer.
 - State two importance of GMO.
 - What do you mean by co-transformation?
 - Define heterosis.
 - What is meant by molecular marker?
2. Answer *any two* questions: 5×2=10
- Name one nitrogenous plant hormone. State its role in plants. 1+4
 - With flow diagram describe the process of Agrobacterium mediated transformation.
 - Describe the importance of Mycorrhizae in Agriculture.
 - Briefly describe the process of breaking seed dormancy.
3. Answer *any two* questions: 10×2=20
- Define Munch hypothesis with suitable diagram. Briefly describe Cohesion-Tension theory. 2+8
 - Why are C₄ plants more productive than C₃ plants? Describe the process of CO₂ fixation in C₃. 2+8
 - Briefly describe any one method of Cyanobacteria isolation. Mention the steps of mass multiplication of that Cyanobacteria. What precaution should be taken for its long-term storage? 2+5+3
 - Define mass selection. Schematically represent the process of pureline selection. Point out the merits of this process. 2+6+2
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