**GOVERNMENT POSTGRADUATE COLLEGE, AMBALA CANTT.**

 **SESSION : 2023-24**

 **NAME OF FACULTY: DR ROHINI SINGH**

 **Sub. Code : Bot 06, Name of course: Economic Botany**

 **Syllabus**

Max. Marks – 40 External: 40

Min. marks : 16 Internal Assessment-10

Time – 3 Hrs.

**Note:** Five questions to be attempted in all, selecting two questions from each unit. Question No. 1 will be compulsory (short answer type). Nine questions are to be set spread over the entire syllabus. All questions carry equal marks.

**UNIT-I**

 Origin, distribution, botanical description, brief idea of cultivation and uses of the following: Food plants- Cereals (Rice, Wheat and Maize).

 Pulses- (Gram, Arhar and Pea).

 Vegetables- (Potato, Tomato and Onion).

Fibers- Cotton, Jute and Flax.

Oils- Groundnut, Mustard and Coconut.

**UNIT-II**

Morphology of plant part used, brief idea of cultivation and uses of the following: Spices- Coriander, Ferula, Ginger, Turmeric, Cloves.

 Medicinal Plants- Cinchona, Rauwolfia, Atropa, Opium, Cannabis, Neem.

Botanical description and processing of: Beverages- Tea and Coffee.

 Rubber- Hevea. Sugar- Sugarcane.

General account and sources of timber; energy plantations and bio-fuels.

 **Suggested Readings**:

1. Kocchar, S.L. 1998: Economic Botany in Tropics, 2nd edition, MacMillan India Ltd., New Delhi.

 2. Sambammurthy, A.V.S.S. And Subramanyam, N.S. 1989: A Textbook of Economic Botany, Wiley Eastern Ltd., New Delhi.

 3. Sharma, O.P. 1996: Hills Economic Botany (Late Dr. A.F. Hill adapted by O.P. Sharma), Tata McGraw Hill Co. Ltd., New Delhi.

 4. Simpson, B.B. and Conner-Ogorzaly, M. 1986: Economic Botany- Plants in our World, McGraw Hill, New York.

**Course Objectives:**

This course aims to critically engage students **with concepts of economically important plants.** The course objectives of course ‘Economic Botany’ are as below:

* **Cereals:** To understand the Origin, distribution, botanical description, brief idea of cultivation and uses of the following: Food plants- Cereals (Rice, Wheat and Maize)
* **Pulses:** To understand the Origin, distribution, botanical description, brief idea of cultivation and uses of the Pulses- (Gram, Arhar and Pea).
* **Vegetables:** To understand the Origin, distribution, botanical description, brief idea of cultivation and uses of the Vegetables- (Potato, Tomato and Onion).
* **Fibres**: To understand the Origin, distribution, botanical description, brief idea of cultivation and uses of the Fibers- Cotton, Jute and Flax.
* **Oil**: To understand the Origin, distribution, botanical description, brief idea of cultivation and uses of the Oils- Groundnut, Mustard and Coconut.
* **Spices:** Morphology of plant part used, brief idea of cultivation and uses of the following Spices- Coriander, Ferula, Ginger, Turmeric, Cloves.
* **Medicinal Plants**: Morphology of plant part used, brief idea of cultivation and uses of the following Medicinal Plants- Cinchona, Rauwolfia, Atropa, Opium, Cannabis, Neem.
* **Beverages:** Botanical description and processing of: Beverages- Tea and Coffee.
* **Rubber**: To understand the Origin, distribution, botanical description, brief idea of cultivation and uses of the Hevea.
* **Sugarcane:** To understand the Origin, distribution, botanical description, brief idea of cultivation and uses of the Sugarcane.
* **Timber:** General account and sources of timber; energy plantations and bio-fuels.

**Course Outcomes:**

After the successful completion of the course, students will be able to:

* Students can explain the Origin, distribution, botanical description, brief idea of cultivation and uses of the following: Food plants- Cereals (Rice, Wheat and Maize)
* Students will be able to explain the Origin, distribution, botanical description, brief idea of cultivation and uses of the Pulses- (Gram, Arhar and Pea).
* Students will be able to describe the Origin, distribution, botanical description, brief idea of cultivation and uses of the Vegetables- (Potato, Tomato and Onion). .
* They can explain the Origin, distribution, botanical description, brief idea of cultivation and uses of the Fibers- Cotton, Jute and Flax.
* Students can describe the the Origin, distribution, botanical description, brief idea of cultivation and uses of the Oils- Groundnut, Mustard and Coconut.
* Students can describe the morphology of plant part used, brief idea of cultivation and uses of the following Spices- Coriander, Ferula, Ginger, Turmeric, Cloves
* They can briefly explain the botanical description and processing of: Beverages- Tea and Coffee.
* Students can briefly the Origin, distribution, botanical description, brief idea of cultivation and uses of the Sugarcane
* They can describe the the Origin, distribution, botanical description, brief idea of cultivation and uses of the Hevea.
* They can write briefly about the general account and sources of timber; energy plantations and bio-fuels.

These objectives collectively aim to equip students with a comprehensive understanding of theoretical and practical knowledge of economically important plants. By covering these topics, students will learn about the Origin, distribution, botanical description, brief idea of cultivation and uses of various plants of economic value.

# Lesson Plan

|  |  |  |
| --- | --- | --- |
| **Week****No** | **Scheduled Dates** | **Topics to be covered** |
| **1** | **1-6 January** | Origin, distribution, botanical description, brief idea of cultivation and uses of Rice. Class test |
| **2** | **8-13 January** |  Origin, distribution, botanical description, brief idea of cultivation and uses Wheat . Class test |
| **3** | **15-20 January** | Origin, distribution, botanical description, brief idea of cultivation and uses of Maize. Class test |
| **4** | **22-27 January** | Origin, distribution, botanical description, brief idea of cultivation and uses of Pulses- (Gram, Arhar and Pea).Origin, distribution, botanical description, brief idea of cultivation and uses of Vegetables- (Potato, Tomato and Onion).  |
| **5** | **29-3 February** | Origin, distribution, botanical description, brief idea of cultivation and uses of Fibers- Cotton, Jute and Flax. Class test |
| **6** | **5-10 February** | Origin, distribution, botanical description, brief idea of cultivation and uses of Oils- Groundnut, Mustard and Coconut. |
| **7** | **12-17 February** | Morphology of plant part used, brief idea of cultivation and uses of the following: Spices- Coriander, Ferula, Ginger, Turmeric, Cloves. |
| **8** | **19-24 February** | Morphology of plant part used, brief idea of cultivation and uses of the following Medicinal Plants- Cinchona, Rauwolfia, Atropa, Opium, Cannabis, Neem. Class test |
| **9** | **26-2 March** | Botanical description and processing of: Beverages- Tea , Class test |
| **10** | **4-9 March** | Botanical description and processing of Coffee, Class Test |
| **11** | **11-16 March** |  Morphology of plant part used, brief idea of cultivation and uses of the Rubber- Hevea, Student seminar |
| **12** | **18-23 March** | Morphology of plant part used, brief idea of cultivation and uses of the Sugar- Sugarcane, Student seminar |
| **13** | **1-6 April** | General account and sources of timber; energy plantations and bio-fuels ,Student seminar |
| **14** | **8-13 April** | Final Test, Previous Year Question Papers Discussion ,Student seminar |
| **15** | **15-20 April** | Assignments, Student’s querries and REVISION of Contents |
| **16** | **22-27 April** | Practical Examination as per Schedule of KUK |