***R. E. Society’s***

**R. P. Gogate College of Arts & Science and**

**R. V. Jogalekar College of Commerce (Autonomous), Ratnagiri**

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**Department of Botany**

**UG Programme 2024-25**

**Syllabus for F. Y. B. Sc. (Botany)**

**Semester II**

**Under Choice Based Credit System (CBCS)**

R. P. Gogate College of Arts & Science and

R. V. Jogalekar College of Commerce (Autonomous), Ratnagiri

**Board of Studies in Botany**

**Academic Year 2024-25**

| **Nomenclature of the Course** | | | **SEC**-**Propagation of Horticultural Plants -I** | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Class** | | | F.Y.B.Sc. | | | |
| **Semester** | | | 02 | | | |
| **Course Code** | | | USBOTSEC1 | | | |
| **No. of Credits** | | | 02 | | | |
| **Nature** | | | Practical | | | |
| **Type** | | | SEC | | | |
|  | | | | | | |
| **Course Outcomes:** | | | | | | |
| **Students will be able to:**  **CO1:** Gain the knowledge about various propagation techniques for horticultural plants.  **CO2:** Able to propagate the vegetable,spices and medicinal plants by different propagation  techniques.  **CO3:** Learn the stem, root and leaf cutting techniques for propagation of plants.  **CO4:** Able to propagate the horticultural plants by use of underground plant parts like corms  and bulbs. | | | | | | |
|  | | | | | | |
| **Syllabus:** | | | | | | |
| **Unit No.** | | **Unit Title** | | **Sub titles (Learning Points)** | | |
| **1.** | | **Plant propagation techniques in Horticultural Plants -I** | | **Introduction to plant propagation**  **Plant parts used for propagation :** Root, Stem, Leaf, Corm,Bulb,Rhizome and Seeds.  **Plant Propagation Techniques: Cutting -**Stem, Root,Leaf  **Vegetative plant parts :** Rhizome , Bulb, Corm,Runners  **Layering : Simple , Compound, Air layering**  **Propagation by Seeds**  **Study of garden implements and their uses** | | |
| **Practical** | | | | | | |
| **1.** | | **Plant propagation techniques in Horticultural Plants -I** | | Study of garden implements and their use. for different purposes.   * Implements for digging and soil preparation * Implements for weeding * Implements for pruning * Implements for budding * Implements for watering * Implements for Spraying * Implements for harvesting | | |
| Preparation of bed , preparation of pot . | | |
| Plant propagation by Seeds - *Ocimum sanctum, Abrus precatorius* | | |
| Plant propagation by Rhizome- *Curcuma longa, Zinziber officinale, Acorus calamus* | | |
| Plant propagation by Crm/ Bulb- *Allium sativum, Allium cepa* | | |
| Plant propagation by Runner- *Cynodon dactylon, Centella asiatica* | | |
| Plant propagation by Stem cutting : *Hibiscus*, Rose | | |
| Plant propagation by Root cutting : - *Aegle marmelos* | | |
| Plant propagation by Leaf cutting : - *Aloe vera* , *Bryophyllum* | | |
| Plant propagation by Simple layering: *Piper longum*, *Piper nigrum* | | |
| Plant propagation by Compound layering: *Pothos* , *Piper nigrum* | | |
| Plant propagation by Air layering: *Cinnamomum zeylanicum* | | |
| **Prescribed Text/s (If any):**   * Basic Horticulture - Jitendra singh , Kalyani publication,2008. * Propagation practices - M K Sadhu,New age international,1989. * Indoor gardening - S C Dey,Agrobios (india),2003. * Plant propagation and nursery management -Dr. Arun kumar singh,Arun kumar,S K Kataria and Sons Publication,2023. * Instant Horticulture- S N Gupta,Jain Brothers,2023. * Basics of horticulture - K.V.Peter,New India Publishing Agency (NIPA),2021   **Other Learning Resources recommended:** | | | | | | |

**Evaluation Pattern**

1. **Continuous Internal Evaluation: Maximum Marks: 20 marks**

| **Method** | **Marks** |
| --- | --- |
| **Active class participation** | **05 marks** |
| **Journal** | **05 marks** |
| **Class test** | **10 marks** |

1. **Semester End Examination: Maximum Marks: 30 marks**

| **Question No. and Sub questions (If any)** | **Unit and sub unit (with number and title)** | **Type of Question**  **(Essay / short note / Objective / Diagram, etc.)** | **Marks** |
| --- | --- | --- | --- |
| **Q. 1** | **Plant propagation techniques in Horticultural Plants -I** | **Propagation technique** | **10 marks** |
| **Q. 2.** | **Preparation of bed/pot** | **10 marks** |
| **Q. 3.** | **Identify and describe** | **10 marks** |

**F.Y.B.Sc.**

**(Skill Enhancement course)**

**Duration- 2 hrs Maximum marks 30**

**Note- Show all the preparations to the examiner.**

| Q.1 | Demonstrate the propagation techniques ---------- and ------------- using specimen A and B. | 10 |
| --- | --- | --- |
| Q.2 | Demonstrate the technique of preparation of bed / pot for the given plant specimen C and D. | 10 |
| Q.3 | Identify the plant part and describe the propagation technique to be followed for specimen E, F, G, H and I. | 10 |

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**Keys:-**

**A and B-** Vegetative propagation- runner, suckers, bulb, tuber, rhizome

Cutting- stem, leaf cutting

Layering- air layering

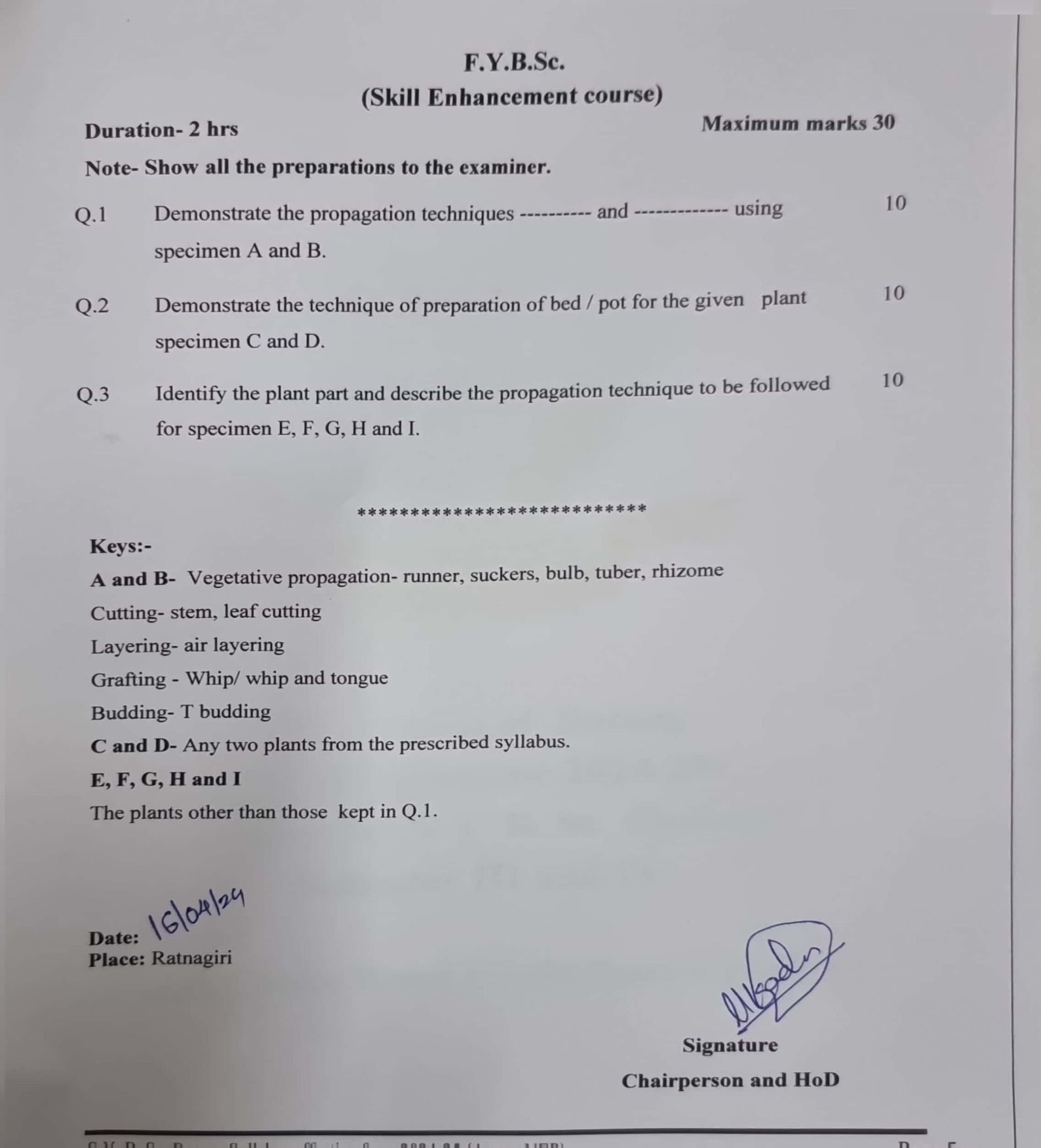
Grafting - Whip/ whip and tongue

Budding- T budding

**C and D-** Any two plants from the prescribed syllabus.

**E, F, G, H and I**

The plants other than those kept in Q.1.

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