

**Assignment Titles for Fourth Semester- 2021-2023 Batch**

| <b>Roll No.</b>      | <b>Name</b>                | <b>Assignment Titles</b>   |
|----------------------|----------------------------|--|
| <b>2021023460001</b> | <b>Sabitha Valandina G</b> | <p><b>4.1.a. Plant genome organization: Nucleus, Chloroplast and Mitochondria.</b></p> <p><b>4.1.b. Structural features of a typical plant gene.</b></p> <p><b>4.2. Non probability sampling techniques and random sampling techniques.</b></p> <p><b>4.3. Water irrigation; advanced irrigation system such as drip, microtube and sprinkler systems.</b></p>   |
| <b>2021023460002</b> | <b>Karthika P</b>          | <p><b>4.1.a. Molecular markers – STS, Microsatellites, RAPD, SCAR and AFLP.</b></p> <p><b>4.1.b. Tagging, mapping and cloning of plant genes</b></p> <p><b>4.2. Measures of central tendency: Mean - median - mode</b></p> <p><b>4.3. Vegetative propagation using stem, leaf and root cuttings</b></p>  |
| <b>2021023460003</b> | <b>Jansi S R</b>           | <p><b>4.1.a. Mitochondrial genome and Cytoplasmic male sterility</b></p> <p><b>4.1.b. Regulation of gene expression in plant development</b></p> <p><b>4.2. Measures of dispersion: Range - mean deviation - standard deviation.</b></p> <p><b>4.3. Propagation by division and layering, bulbs, corms, tubers and rhizomes-budding and grafting</b></p>   |
| <b>2021023460004</b> | <b>Geetha P</b>            | <p><b>4.1.a. Classification and functions of Seed storage proteins.</b></p> <p><b>4.1.b. Plant hormones and Plant transposons</b></p> <p><b>4.2. Test of significance: Null hypothesis - alternate hypothesis</b></p> <p><b>4.3. Indoor gardening: Foliage plants, flowering plants, hanging basket, Bonsai plants - Training and pruning.</b></p>   |
| <b>2021023460005</b> | <b>Karthika M</b>          | <p><b>4.1.a. Molecular Pharming and Transgenic plant derived products for commercial applications</b></p> <p><b>4.1.b. Golden rice and FlavrSavr®</b></p> <p><b>4.2. Data base searches - FASTA, BLAST - PSI BLAST</b></p> <p><b>4.3. Principles and methods of designing outdoor garden - hedges, edges, fences, trees, climbers, rockeries, arches, terrace garden</b></p>   |
| <b>2021023460006</b> | <b>Renuga R</b>            | <p><b>4.1.a. Direct Plant transformation techniques.</b></p> <p><b>4.1.b. Selectable markers: Types and their role in plant transformation.</b></p> <p><b>4.2. PHYLODRAW- Phylogenetic tree.</b></p> <p><b>4.3. Production of seeds, their certification, storage and germplasm collection</b></p>   |
| <b>2021023460007</b> | <b>Vinodhini S</b>         | <p><b>4.1.a. Symbiotic nitrogen fixation in legumes by Rhizobia</b></p> <p><b>4.1.b. Reporter genes: Types and role in optimizing transformation</b></p> <p><b>4.2. Sequence alignment - sequence similarity searches, amino acid substitution matrices</b></p> <p><b>4.3. Micropropagation – Introduction, stages and types of explants for commercial propagation, importance and applications of micropropagation</b></p> |

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|               |                |  |
|---------------|----------------|--|
| 2021023460008 | Mary Shylaja S | <p>4.1.a. In-Direct plant transformation technique.</p> <p>4.1.b. Plant genetic engineering for herbicide resistance</p> <p>4.2. Laws of Thermodynamics and Energy transductions in biological systems.</p> <p>4.3. Principles and protocols, protoplast culture and fusion- Importance of protoplast fusion and applications</p>  |
| 2021023460009 | Ilakkiaselvi K | <p>4.1.a. Symbiotic nitrogen fixation in legumes by Rhizobia</p> <p>4.1.b. Reporter genes: Types and role in optimizing transformation.</p> <p>4.2. Sequence alignment - sequence similarity searches, amino acid substitution matrices</p> <p>4.3. Layout for a model college garden</p>  |
| 2021023460010 | Nithya J       | <p>4.1.a. Direct Plant transformation techniques.</p> <p>4.1.b. Selectable markers: Types and their role in plant transformation.</p> <p>4.2. Data base searches - FASTA, BLAST - PSI BLAST</p> <p>4.3. Lawn making and maintenance</p>  |
| 2021023460011 | Muthusamy S    | <p>4.1.a. Plant genetic engineering for Virus resistance (Antisense RNA approach, Cross protection Satellite RNA, Ribozymes and Coat protein mediated protection).</p> <p>4.1.b. Promoters used in plant vectors.</p> <p>4.2. Photobiology: Dual nature of light, characteristics of solar radiation, solar energy.</p> <p>4.3. Native and synthetic hormones and other growth regulators- their importance in horticulture, gardening and landscaping</p> |
| 2021023460012 | Sumathi T      | <p>4.1.a. In-Direct plant transformation technique.</p> <p>4.1.b. Plant genetic engineering for herbicide resistance</p> <p>4.2. Laws of Thermodynamics and Energy transductions in biological systems.</p> <p>4.3. Principles and protocols, protoplast culture and fusion- Importance of protoplast fusion and applications</p>  |
| 2021023460013 | Devika B       | <p>4.1.a. Direct Plant transformation techniques.</p> <p>4.1.b. Selectable markers: Types and their role in plant transformation.</p> <p>4.2. PHYLODRAW- Phylogenetic tree.</p> <p>4.3. Production of seeds, their certification, storage and germplasm collection</p>   |
| 2021023460014 | Uma K          | <p>4.1.a. Symbiotic nitrogen fixation in legumes by Rhizobia</p> <p>4.1.b. Reporter genes: Types and role in optimizing transformation.</p> <p>4.2. Sequence alignment - sequence similarity searches, amino acid substitution matrices</p> <p>4.3. Layout for a model college garden</p>  |

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|               |                     |  |
|---------------|---------------------|--|
| 2021023460015 | Gracy S             | <p>4.1.a. Molecular Pharming and Transgenic plant derived products for commercial applications</p> <p>4.1.b. Golden rice and FlavrSavr®</p> <p>4.2. Data base searches - FASTA, BLAST - PSI BLAST</p> <p>4.3. Principles and methods of designing outdoor garden - hedges, edges, fences, trees, climbers, rockeries, arches, terrace garden</p> |
| 2021023460016 | Nancy Mary P        | <p>4.1.a. Plant genome organization: Nucleus, Chloroplast and Mitochondria.</p> <p>4.1.b. Structural features of a typical plant gene.</p> <p>4.2. Non probability sampling techniques and random sampling techniques.</p> <p>4.3. Water irrigation; advanced irrigation system such as drip, microtube and sprinkler systems.</p>               |
| 2021023460017 | Kudiyarasi          | <p>4.1.a. Plant genome organization: Nucleus, Chloroplast and Mitochondria.</p> <p>4.1.b. Structural features of a typical plant gene.</p> <p>4.2. Non probability sampling techniques and random sampling techniques.</p> <p>4.3. Water irrigation; advanced irrigation system such as drip, microtube and sprinkler systems.</p>               |
| 2021023460018 | Raju N              | <p>4.1.a. Molecular markers – STS, Microsatellites, RAPD, SCAR and AFLP.</p> <p>4.1.b. Tagging, mapping and cloning of plant genes</p> <p>4.2. Measures of central tendency: Mean - median - mode</p> <p>4.3. Vegetative propagation using stem, leaf and root cuttings</p>  |
| 2021023460019 | Hepsiba Celestina J | <p>4.1.a. Mitochondrial genome and Cytoplasmic male sterility</p> <p>4.1.b. Regulation of gene expression in plant development</p> <p>4.2. Measures of dispersion: Range - mean deviation - standard deviation.</p> <p>4.3. Propagation by division and layering, bulbs, corms, tubers and rhizomes-budding and grafting</p>                     |
| 2021023460020 | Surya Praba D       | <p>4.1.a. Classification and functions of Seed storage proteins.</p> <p>4.1.b. Plant hormones and Plant transposons</p> <p>4.2. Test of significance: Null hypothesis - alternate hypothesis</p> <p>4.3. Indoor gardening: Foliage plants, flowering plants, hanging basket, Bonsai plants - Training and pruning.</p>                           |
| 2021023460021 | Thangammal R        | <p>4.1.a. Direct Plant transformation techniques.</p> <p>4.1.b. Selectable markers: Types and their role in plant transformation.</p> <p>4.2. PHYLODRAW- Phylogenetic tree.</p> <p>4.3. Production of seeds, their certification, storage and germplasm collection</p>   |

**Assignment Titles for Fourth Semester- 2021-2023 Batch**

|               |                 |   |
|---------------|-----------------|---|
| 2021023460022 | Praveena D      | 4.1.a. Symbiotic nitrogen fixation in legumes by Rhizobia<br>4.1.b. Reporter genes: Types and role in optimizing transformation.<br>4.2. Sequence alignment - sequence similarity searches, amino acid substitution matrices<br>4.3. Layout for a model college garden  |
| 2021023460023 | Navaneetham A   | 4.1.a. Molecular Pharming and Transgenic plant derived products for commercial applications<br>4.1.b. Golden rice and FlavrSavr®<br>4.2. Data base searches - FASTA, BLAST - PSI BLAST<br>4.3. Principles and methods of designing outdoor garden - hedges, edges, fences, trees, climbers, rockeries, arches, terrace garden |
| 2021023460024 | Sudhakaran G.K. | 4.1.a. Plant genome organization: Nucleus, Chloroplast and Mitochondria.<br>4.1.b. Structural features of a typical plant gene.<br>4.2. Non probability sampling techniques and random sampling techniques.<br>4.3. Water irrigation; advanced irrigation system such as drip, microtube and sprinkler systems.               |

Last Date for Submission of Assignments: 28<sup>th</sup> March, 2023 10:00 a.m.

Hard Copies of the Assignments should reach the following address on or before the Last Date mentioned above:

**Dr. M. JOTHI BASU**  
**Programme Coordinator- M. Sc., Botany**  
**Assistant Professor in Botany**  
**Directorate of Distance Education**  
**Alagappa University**  
**Karaikudi- 630 003**