**Shri Vaishnav Vidyapeeth Vishwavidyalaya**
**Shri Vaishnav Institute of Agriculture, Indore**
**Generic Elective Course**

## AGGE 403: BASICS OF CROP BREEDING AND PLANT BIOTECHNOLOGY 4 (4+0)

| Course Code | Course Name | TEACHING & EVALUATION SCHEME | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | THEORY | | | PRACTICAL | | L | P | CREDITS |
| | | END SEM University Exam | Two term exam* | Teachers Assessment* | END SEM University Exam | Teachers Assessment* | | | |
| AGGE403 | BASICS OF CROP BREEDING AND PLANT BIOTECHNOLOGY | 60 | 20 | 20 | 00 | 00 | 4 | 0 | 4 |

1. **Legends**: L - Lecture; P Practical; C-Credit.

2. ***Teacher Assessment** shall be based on following components: Quiz / Assignment / Project / participation in class.

**Course Objective:** To study the scope and importance of Plant Breeding and Plant Biotechnology.
**Course Outcomes:**

1. Students will be able to identify different methods used in plant biotechnology.
2. Students will be able to analyze the importance of plant breeding and biotechnology in agriculture.

**Unit-1:** Meaning and objectives of plant breeding, History and scope of crop breeding, Importance of crop improvement in agriculture, Centers of origin and domestication of crops

**Unit-2:** Selection methods (mass selection, pure line selection), Hybridization and its steps, Heterosis and its significance

**Unit-3:** Introduction to plant biotechnology, Tools and techniques of biotechnology, Plant tissue culture: concept and applications

**Unit-4:** PCR techniques and its application, Molecular Markers like RAPD and SSR, Transgenic and its application in crop improvement

**Unit-5:** Introduction and meaning of intellectual property, types of intellectual property, IPR in India – Patents, copyright, Trademark, industrial design, Geographical indication and Trade secrets

**Suggested Reading**


1. Chawla H S (2002) Introduction to Plant Biotechnology. 2nd Edition, Oxford IBH publishing New Delhi.
2. Purohit S S (2004) Biotechnology: Fundamentals and Applications 3rd Edition, Jodhpur.
3. Walker, J.M. 2008. Plant Biotechnology and Genetics: Principles, Techniques and Applications.


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