ST. JOSEPH’S COLLEGE FOR WOMEN (AUTONOMOUS) VISAKHAPATNAM

B.SC.(HONORS) AGRICULTURE AND RURAL DEVELOPMENT WITH SINGLE MAJOR

# I SEMESTER **AGRICULTURE AND RURAL DEVELOPMENT** Time: 2hrs/week

AGRD111(1)  **FUNDAMENTALS OF PLANT BREEDING & GENETICS** Marks:50

w.e.f AK 2023-2024 (Admitted batch) **PRACTICAL SYLLABUS**

**OBJECTIVES:**

* To study Genetics in relation to plant breeding.
* To study the purpose of the cell cycle
* To study about the mendel's laws
* To study identifying the characteristics of self- and cross-pollinated crops and their     breeding methodology for plants

**Course Outcomes:**

**CO1:** Discuss details of cell cycle, heredity and laws of inheritance in genetics

**CO2:** Outline the concepts of karyotype, sex linkage and mutations and central dogma of           genetic material and genetic code.

**CO3:** Explain historical development, concepts, nature and role of plant breeding and modes of reproduction and the different plant breeding methods.

**CO4:** Summarize the development of resistance and tolerance mechanisms.

**EXPERIMENTS:**

1. Study of microscope. **(2Hrs.)**

2. Study of cell structure. **(2Hrs.)**

3. Practice on meiotic cell division. **(2Hrs.)**

4. Monohybrid and its modifications, Dihybrid and Trihybrid. **(4Hrs.)**

5. Test cross and back cross and their epistatic interactions. **(4 Hrs.)**

6. Study of models on DNA and RNA structure. **(4Hrs.)**

7. Plant Breeder’s kit. **(2hrs)**

8. Study of germplasm of various crops. **(2hrs)**

9. Consequences of inbreeding on genetic structure of resulting populations. **(4hrs)**

10. Study of male sterility systems. **(2hrs)**

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