

Department of Ag. Botany
R.K.(PG) College Shamli - 247776
Course outcome

Title: Fundamentals of genetics Ag 102 **3(2+1)**

At the end of Semester the Students will.

1. Understand the significance and historical development of genetics.
2. Awareness of Mendal's law's of heridity and its importance.
3. Explore the linkage and Crossing over in plants, certain point concerning the nature of crossing over, detection of linkage and crossing over and its importance.
4. Know about the Nucleic acids are genetic Materials and Properties of genetic Code.
5. Attain the Knowledge of Structure and synthesis of Nucleic acids.
6. Acquire detail Knowledge of sex linked inheritance, sex influenced and sex limited characters in Human, drosophila and in plants.
7. Get the knowledge of cell-division such as Mitosis and meiosis and gametogenesis in respect to plants and human.
8. Learn about the genes, chromosomes and Structural change in chromosomes in plants.

Title: Elementry crop Physiology - D-293 **3(2+1)**

At the end of Semester the Students will.

1. Understand the role of plant physiology in Agriculture i.e cell structure and its function, diffusion, osmosis, and imbibitions.
2. Learn the roll of essential nutrients, deficiency symptoms and their absorption in plants.
3. Get, how photosynthesis occurs - Light and dark reaction in plants and their importance.
4. Ability to understand the mechanism of respiration, transpiration, Assimilation of Nitrogen, Photoperiodism and Plant growth Substances.

Title: Principles of plant breeding - D-392 **3(2+1)**

At the end of Semester the Students will.

1. Attain Knowledge of History, objectives and Scope of plant breeding.
2. Know the different mode of reproduction in crop plants in relation to breeding technique.
3. Explore the plant variation, its king and causes.
4. Gain Knowledge about male Sterility in plants and its importance.
5. Make outlines of plant breeding programme and Ideal plant types.
6. Understand the different breeding methods in Cross-pollinated crops such as - Introduction, Selection, utilization of hybrid vigour, synthetic and Compostie variety.
7. Know the importance of Polyploidy in plant breeding, Role of Polyploidy in evelaution and in improvement of crops.
8. Acquire detail Knowledge of Mutation such as - gene, Structural and numerical

mutation. Application, Limitation of mutation in plant breeding and its importance.

9. Get about the breeding methods for Asexually propagated crops i.e Clonal Selection, hybridization etc.

Title: Breeding of field crops D-492 3(2+1)

At the end of Semester the Students will.

1. Acquire the Knowledge about origin, distribution and objectives of different field crops in respect of breeding.
2. Learn, what are the breeding problems in field crops in India, their systematic description and economic importance of crops.
3. Know the different methods of breeding, adopted and achievements with reference to cereals, Pulses and oilseeds crops.

Title: Introduction to plant biotechnology D-591 3(2+1)

At the end of Semester the Students will.

1. Understand general knowledge about the scope and importance of plant biotechnology.
2. Learn about the basic concept involved in plant biotechnology/genetic engineering such as replication of DNA of endonuclease, Electrophoresis of restricted DNA Fragments.
3. Ability to understand the cloning vectors for recombination DNA such as - cauliflower Mosaic virus, Tobacco Mosaic virus.
4. Get acquainted about application of plant genetic engineering in crop improvements.
5. Acquire detail Knowledge about the plant tissue culture such as - Culture media used in plant tissue culture, micropropagation of plants and application of plant tissue culture in crop improvements.

Title: Principles of seed technology-oilseeds and commercial crops D-691 2(1+1)

At the end of Semester the Students will.

1. Learn about the history and importance of seed technology in respect of crop production.
2. Acquire detail knowledge of different classes of seeds, characteristics of quality seeds and its importance.
3. Awareness of general technique of seed production in important agricultural crops such as cereals, pulses, oilseeds and commercial crops.
4. Attain knowledge about the factors affecting seed longevity, quality and causes of seed deterioration with reference to genetic and storage.
5. Get basic principles of seed resting such as importance, procedure, purity, viability and germination.
6. Explore the certification procedure for important field crops.

Title Rural Agricultural Work Experience (RAW) D-891(c) Ag. Botany 1(0+1)

At the end of Semester the Students will.

1. Able to varieties demonstration and visit to crop improvement centres to acquainted with varietal traits and improved varieties.
2. Get the Knowledge about seed organization (Private and Public) in seed production.
3. Understand the seed production and technique of different crops followed crop/ variety wise in the industries.
4. Explore the knowledge of harvest and post harvest, handling of seeds, methods of harvest, threshing, drying, cleaning, grading, storage treatment in the field.
5. Know about the seed testing of different crops in the field.
6. Learn how seeds distribution and marketing process occurs in their respected fields.
7. Acquire detail knowledge about specific problems created related to seed production.