

Semester Syllabus of B.Sc (Ag) Agronomy. C. C. S. University Meerut

Course- II

Semester-I

2+1=3

PRINCIPLES OF CROP PRODUCTION

PRINCIPLES OF AGRONOMY (ICAR)

1. Definition, scope and future of Agronomy.
2. Classification of Crops on Different basis.
3. General principles of Crop production: Climate, soil, preparation, seed and sowing, post sowing-tillage, water management, nutrition, plant protection measures, harvesting, threshing and storage.
4. Crop rotation, Principles, Advantages and Factors affecting the selection of crop rotation. Crop sequences and system with emphasis on mixed cropping, inter cropping and multiple cropping
5. Nutritional management of crops including application of manures, fertilizers, mixed fertilizers and bio-fertilizers. Concept of integrated nutrient supply system.
6. Crop - Yield contributing characters.
7. Tillage: Zero, minimum and conservation tillage.

Practical

1. Study of weather and weather forecasting.
2. Identification of crops, seeds, manures and fertilizers.
3. Framing of crop rotations and preparation of cropping schemes for varying agro-climatic conditions.
4. Preparation of seed bed based on important inter-cropping systems.
5. Calculation of fertilizer requirement, fertilizer mixtures and unit values.
6. Methods of fertilizer application.
7. Calculation based on yield contributing characters.

Course- I

Semester- II

1+1=2

IRRIGATION AND WATER MANAGEMENT

1. Importance of water in crop production.
2. Soil Moisture constants.
3. Water requirement of crops and factors affecting it.
4. Approaches of irrigation scheduling.
5. Systems and methods of irrigation
6. Quantity and quality of irrigation water, water use efficiency - factors affecting W. U. E. and agronomic techniques to boost W. U. E.
7. Measurement of irrigation water.
8. Elementary idea of drainage - Importance, causes and methods.
9. Elementary idea of ET, PET, and CU.

Practical

1. Measurement of irrigation water.
2. Determination of soil moisture content and quality of water.
3. Calculation on consumptive use of water.
4. Numerical exercises on drainage co-efficient.
5. Calculation of irrigation water use efficiency

6. Visit to irrigation and drainage projects.
7. Measurement of irrigation water.

Course- V

Semester- III

2+1=3

CEREALS, MILLETS AND PULSES CROPS

(Field Crops Kharif Crops – I)

Importance, origin, distribution climate varieties soil practices, manuring and irrigation, plant protection, harvesting and processing of the following crops, under different agroclimatic conditions of U.P.

- A. Cereal Crops : Paddy, Maize
- B. Millet Crops : Sorghum and Bajra (Pearlmillet),
- C. Oil seeds : Groundnut, Til, castor
- D. Pulses Crops : Pigeon Pea, Urdbean, Moongbean, Soybean, Cowpea.
- E. Fibre Crops : Cotton, Jute, Sunhemp
- F. Green Manure crops: Sun hemp and Dhancha
- G. Fodder Crops : Sorghum, Pearlmillet, Maize, Napier, Sudangrass, cluster bean, cowpea
- H. Cash crops : Sugarcane, Tobacco

Practical

1. Identification of crop-seeds, plants associated weeds.
2. Practical knowledge of operations from sowing to harvesting of kharif crops included in theory course.
3. Judging of maturity and estimation of yields.
4. Study of crop production techniques at different farms.
5. Calculation of seed and fertilizer requirement of crops.
6. Preparation of seed beds of important crops.
7. Visit to farms of University and Institutes.

Course-

Semester- III

0+1=1

PRACTICAL CROP PRODUCTION

In this course, team of about 10 students will be given a sizable plot of land (100 sq.m. minimum) for a full year. The team will manager crop production enterprise from a to z including maintenance of account and preparation of balance sheet. No paid labours will be supplied and other inputs will be supplied on loan and their cost will be deducted from the receipt of the enterprise. The net profit will be distributed among the students. To cope with natural calamities a revolving fund will be raised by deducting 10% amount from net profit every year. The evaluation of students will be done on the basis of actual working units, share in profit, oral examination and maintenance of accounts and records.

Course- I

Semester- IV

2+1=3

OIL SEEDS COMMERCIALS CROPS

Field Crops II

RABI CROPS (ICAR)

Importance, origin, distribution, climate, varieties improved, agronomic practices managing and irrigation, plant protection, harvesting and processing of the following crops under various agro climatic conditions of U.P.

- A. Cereal Crops : Wheat, Barley, Oat
- B. Oilseed Crops : Rapeseed and Mustard, Linseed,
Sunflower
- C. Pulse crops : Chickpea, Fieldpea, Lentil, Rajmash
- D. Fodder Crops : Oat, Berseem, Lucerne
- E. Cash Crops : Potato and Mentha

Practical

Studies the practical course for the field crops I with suitable allegation of crops included in the syllabus.

Course-V

Semester- V

1+1=2

WEED MANAGEMENT

1. Definition, classification and general characteristics of weeds, Losses caused by weeds and dispersal of the weeds.
2. Concepts of prevention and eradication of weeds.
3. Principles and methods of solving weed problem.
4. Weed control schedules for important field crops of U.P.
5. Integrated weed management system and its importance.
6. Control of Abnoxious weeds viz. Sedge grass, Kane, Baisuri, Satyanasi, Kans, and Parthenium.
7. Introduction to herbicides: basic concept, classification and factors affecting foliage & soil applied herbicides.

Practical

1. Identification and preservation of important weeds of locality.
2. Calculation on quantities of herbicides, weed control efficiency and weed index.
3. Calculation of cost involved in different weed control schedules.
4. Calculation on intensity of weeds.
5. Tours and visits to problematic areas and research centers.

Course-IV

Semester- VI

2+1=3

FARMING SYSTEM AND SUSTAINABLE AGRICULTURE

(CROP PLANNING, FARM MANAGEMENT AND SUSTAINABLE AGRICULTURE)

1. Farming systems- Definition, types and methods of farming system.
2. Definition, scope and advantage of sustainable agriculture. Concept, importance, need. Ecological basis and indicators of sustainability.
3. Modern agriculture in relation to sustainable agriculture.
4. Sustainable agriculture in relation to tillage fertilizers, irrigation, weed management and plant protection measures.
5. Important cropping systems for sustainable agriculture.
6. Problems of soil health, land degradation and conservation of natural resources including soil and water as part of sustainable resource management.

Practical

1. Evaluation of constraints and optimization of farming system.
2. Measurement of sustainability by different indices.

3. Preparation of model/ chart in relation to sustainability.

4. Visit to Agriculture Universities and PDFSR Modipuram, Meerut.

Semester- VII

2+1=3

Sl. No.	Department	Credit Hours	Title of the course
1.	Agriculture Extension	1+1=2	Rural agricultural work experience all departments related in field work
2	Agriculture Economics	1+1=2	
3	Agriculture Botany	0+1=1	
4	Agriculture Chemistry	0+1=1	
5	Agriculture Dairy	0+1=1	
6	Agriculture Engineering	0+1=1	
7	Agriculture Horticulture	0+1=1	
8	Agriculture Soil conservation	0+1=1	
9	Agronomy (Practical Crop Production)	0+1=1	
10-	Agriculture Plant Pathology	0+1=1	

11	Agriculture Entomology	0+1=1	
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RAINFED AGRICULTURE

DRY LAND FARMING AND WATER SHED MANAGEMENT

1. Definition, Characteristics and extent of rainfed/dry land farming areas in the country and the state of U.P.
2. Problems in dryland agriculture.
3. Moisture conservation practices and use of antitranspirants in dryland farming.
4. Watershed management concept, Principles and practices.
5. Selection of suitable crops, crop relations and crop mixtures for various categories of rainfed areas.

Practical

1. Preparation of crop rotations and cropping schemes for rainfed farming and dry land agriculture.
2. Determination of Soil Moisture constants.
3. Studies on moisture depletion pattern and rainfed farming.
4. Study of practical application of antitranspirants.
5. Visit to Dry farming research stations.
6. Maintenance of practical record.