

Syllabus for B.Sc. (Hons) Agriculture Year – I (Sem. I)

Subject Code:

Subject Short Name: Agron. 1.2

Subject Name: Fundamentals of Agronomy

Objective:

1. To impart the basic and fundamental knowledge of Agronomy

Credits Earned: 3 Credits (2+1)

Course Outcomes: After completion of this course, Students will be able to

- Adopt the proper package of practices for a particular crop to obtain higher yield.
- Follow the crop rotation, mixed cropping, relay cropping and other relevant practices for maximization of crop production.
- Follow the use of different farm implements on soil.
- Know about methods and utilization of fertilizer application in different crops.

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Progressive Assessment (PA)	Viva (V)	Term work (TW)	
2	0	2	3	40	20	20	10	10	100

Theory Content:

Unit	Topics	Contact Hours
1	Agronomy and its scope: definition, meaning and scope of agronomy, art, science and business of crop production	2
2	Relation of Agronomy with other disciplines of Agricultural Science, fields crops and classification, importance, ecology and ecosystem	2
3	Seeds and sowing: Definitions of crops, variety and seed.	1
4	Factors affecting crop stands establishment and method of sowing	2

5	Tillage and tith: Definition, objectives, types, advantages and disadvantages of tillage including conservation tillage.	2
6	Crop density and geometry: plant geometry and planting geometry, its effect on growth, yield	2
7	Crop nutrition: Definition of essential nutrients, criteria of essentiality, functional elements, classification of essential nutrients, role of macro and micro nutrients	1
8	Nutrient absorption, active and passive absorption of nutrients, forms of plant nutrients absorbed by plants, Combined /uncombined forms	1
9	Factors affecting integration of various enterprises of farming for livelihood	1
10	Manures and fertilizers	1
11	Nutrient use efficiency	1
12	Integrated Nutrient Management (INM)	1
13	Green manure	1
14	Water management	1
15	Weeds: Definition, Importance and basics of classification of weeds and their control	1
16	Agro-climatic zones of India and the state	1
17	cropping systems and cropping pattern	1
18	Sustainable crop production	1
19	Growth and development of crops	1
	Total	24

Practical Content:

Unit	Topics	Contact Hours
1	A visit to Instructional Crop farm and study on field crops	2

2	Identification of crops, seeds, fertilizers and pesticides	2
3	Crops and cropping systems in different Agro-climatic zones of the state	2
4	Study of some preparatory tillage and inter tillage implements	2
5	Practice of ploughing / puddling and inter cultivation in field crops	2
6	Numerical exercises on calculation of seed, plant population and fertilizer requirement	2
7	Study of yield contributing characters and yield estimation of crops	2
8	Identification of weeds in different crops	2
9	Seed germination and viability test of seed	2
10	Practice on time and method of application of manures and fertilizers	2
	Total	20

Reference Books:

- Rao V S. 1992. Principles of Weed Science. Oxford and IBH Publishing Co. Ltd. New Delhi.
- Reddy Yellamanda T and Shankar Reddy G H. 1995. Principles of Agronomy. Kalyani Publishers, Ludhiana.
- Reddy, S. R. 2008. Principle of Crop Production, Kalyani Publisher, Ludhiana.
- Yawalkar K S and Agarwal J P. 1977. Manures and Fertilizers. Agricultural Horticultural Publishing House, Nagpur.

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process.

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
25%	25%	20%	10%	10%	10%

Instructional Method:

1. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by white board may also use any of tools such as demonstration, role play, quiz, brain storming, MOOCs etc.
2. The internal evaluation will be done on the basis of continuous evaluation of students in the class-rooms.
3. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory/ field.
4. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.