



RAFFLES
UNIVERSITY

TEACHING PLAN: Crop Production Technology-II (*Rabi Crops*)

SCHOOL: (SOAS) SCHOOL OF AGRICULTURAL SCINCES		ACADEMIC SESSION: 2023 – 2024		FOR STUDENTS’ BATCH: IV th Semester		
1	Course No.	AAG-T-202				
2	Course Title	Crop Production Technology-II (<i>Rabi Crops</i>)				
3	Credits	2 (1+1)				
4	Learning Hours		Contact Hours	72		
			Assessment	9		
			Guided Study	9		
			Total hours	90		
5	Course Objective	1. Students will be oriented with the Origin, geographic distribution, morphology, classification, Economic importance, soil and climatic requirement, varieties, cultural practices and yield of Rabi cereals, pulses, oilseeds, fibre crops, forage crops and medicinal and aromatic plants etc.				
6	Course Outcomes	1. Student will able to recognize and identify the Rabi crops. 2. To know the Origin, geographical distribution, economic importance, soil and climatic requirements, varieties, cultural practices and yield of Rabi crops. 3. To know basic morphological characteristics and Identify weeds in rabi season crops, Pulses-chickpea, lentil, peas; oilseeds-rapeseed, mustard and sunflower; sugar crops-sugarcane, Medicinal and aromatic crops-mentha, lemon grass and citronella, Forage crops-berseem, lucerne and oat. 4. With proper knowledge of irrigation, additional area of Rabi crops requiring less water can be increased. 5. Students will be able to know about the economic importance of medicinal and Aromatic crops in present sphere.				
7	Outline syllabus:					
7.01	Paper Code	Unit	Introduction		Page Numbers ¹	Lect ures
7.02	AAG-T-202	Unit I (Rabi Cereals)	1. An introduction of Rabi season: Cereal, Pulses, Oilseeds, Fibre, Fodder crops and Medicinal crops. 2. Crop production of Wheat 3. Crop production of Barley		Volume-I(65-97) Volume-I(202-226)	1 4 2
		Unit II (Rabi Pulses)	1. Crop production of Chickpea 2. Crop production of Lentil 3. Crop production of Pea		Volume-I (320-378)	2 1 2
		Unit III (Rabi Oilseeds)	1. Crop production of Rapeseed and Mustard 2. Crop production of Sunflower		Volume-II (80-118) Volume-II (119-167)	2 2
		Unit IV (Sugar crops, Med.&Arom, Fodder crops)	1. Crop production of Sugarcane 2. Crop production of Mentha 3. Crop production of Lemon grass 4. Crop production of Citronella 5. Crop production of Berseem 6. Crop production of Lucern 7. Crop production of Oat		Volume-II (469-527)	3 1 1 1 2 1 1

8	Course Evaluation	
8.1	CA: 10%	
8.1.1	Attendance	25 %
8.1.2	Homework	2 Assignments, 50%
8.1.3	Quizzes	2 Quizzes, 25%
8.1.4	Projects	-
8.1.5	Presentation	-
8.1.6	Any other	Practical Examination- 30%
8.2	MTE	10%
8.3	End-term examination: 50%	
9	Text Books & References	
9.1	Text book	Field crops Production, Foodgrain crops Volume-I, by Dr. Rajendra Prasad, Indian Council of Agricultural Research, New Delhi. Field crop Production, Commercial crops Volume-II by Dr. Rajendra Prasad, Indian Council of Agricultural Research, New Delhi.
9.2	References	- Principles of Crop production, by Reddy SR, Kalyani publications. - Modern techniques of raising field crops Chhida Singh, Prem Singh and Rajbir Singh - Crops of India N.R.Das - Principles Of Crop Production, by S.R REDDY, C NAGAMANI, Kalyani Publications. - A Manual on Crop Production Technology (Kharif and Rabi), Lokesh Kumar Jain https://agrifair.in/wp-content/uploads/2021/01/crop-production-technology-2rabi-crops.pdf - Agronomy of field crops S.R. Reddy. Crop Production Technology I & II – Kharif and Rabi Crops – As per 5th Deans Committee Recommendations, B. S. Lalitha, N. Mavarkar, B. R. Premalatha, 2020
9.3	Video References	https://www.youtube.com/watch?v=HNR0HzgRjFs https://www.youtube.com/watch?v=NEVhJaVX2sI https://www.youtube.com/watch?v=wHu-ia6oxlk

Outcome no. → Syllabus topic↓	1	2	3	4	5
Paper Code.Unit I (1)	✓				✓
Paper Code. Unit I (2)	✓	✓	✓	✓	
Paper Code. Unit I (3)	✓	✓	✓	✓	
Paper Code.Unit II (1)	✓	✓	✓	✓	
Paper Code. Unit II(2)	✓	✓	✓	✓	
Paper Code. Unit II(3)	✓	✓	✓	✓	
Paper Code.Unit III (1)	✓	✓	✓	✓	
Paper Code.Unit III (2)	✓	✓	✓		
Paper Code.Unit IV (1)	✓	✓	✓		
Paper Code.Unit IV (2)	✓	✓	✓	✓	✓
Paper Code.Unit IV (3)	✓	✓	✓		✓
Paper Code.Unit IV (4)	✓	✓	✓		✓
Paper Code.Unit IV (5)	✓	✓	✓		
Paper Code.Unit IV (6)	✓	✓	✓		
Paper Code.Unit IV (7)	✓	✓	✓	✓	

QUESTION BANK

Section A

UNIT-I

1. Give the taxonomic classification of wheat. Explain the irrigation schedule of dwarf varieties of wheat.
2. What are the three distinct species of Barley? Describe the manuring and fertilization in Barley.
3. Explain the different varieties of desi gram and kabuli gram describing their duration and yield potential.
4. Discuss the climatic requirement, soil, seed sowing and manuring in lentil.
5. Differentiate between garden pea and field pea.
6. What is the planting timing and the methods of cultivation involved in Chickpea and lentil?
7. Name different varieties of wheat, chickpea, peas, lentil?
8. Name the weeds found in wheat, barley and chickpea. Explain the ways to control the weed infestation in these crops.

UNIT II

9. Name the early ripening and mid late ripening varieties of sugarcane. What are the critical stages for water management in sugarcane?
10. Give different classification and kinds of mustard and rapeseed grown in India.
11. Explain manuring and fertilization in sunflower, safflower and linseed.
12. Give the taxonomic classification and seed rate of sugarcane and sugar beet.
13. Name the pigment or chemical compound responsible for pungency in rapeseed and mustard, toxicity in lathyrus, and low cholesterol in sunflower and safflower oil.
14. Specify the family name of mustard, safflower, linseed and sugar beet.

UNIT III

1. Classify lemon grass, citronella and palma rosa taxonomically.
2. Briefly explain the uses of Lemon grass and palma rosa.
3. Explain the field preparation and planting of Lemon grass and citronella.
4. Describe the characteristic features of different species of lemon grass cultivated worldwide.
5. Give the botanical description and explain the two important varieties of citronella.

UNIT IV

1. Describe the field preparation, seed rate and sowing of potato.
2. Give the details of field preparation, seed rate and irrigation in berseem and oat.
3. Explain different improved varieties of Safflower.
4. What are the various cropping system followed in potato, Lucerne and oat. Name the different cultivated varieties of berseem and lucerne?
5. Explain the classification of oat based on chromosome number and the area of cultivation.

Section- B

UNIT-I

1. Give the botanical description of wheat in context to root system, shoot system, stem, inflorescence, florets and kernels.
2. Explain the different zones of wheat and barley cultivation. Name the major diseases occurring in wheat and barley along with the causal organisms.
3. Differentiate between the two varieties of chickpea grown in India describing their morphological

features.

4. Describe the harvesting and threshing in lentil, pea, french bean and lathyrus mentioning the yield potential of each crop.

UNIT-II

5. Describe in details the three cultivated species of sugarcane.
6. Explain the cultivation practice of growing Sunflower?
7. Specify the soil type, seed rate, spacing, and yield potential of rapeseed, mustard sunflower and safflower.

UNIT-III

8. Describe the cultivation practices of Java Citronella.
9. Explain how Mentha can be grown in rajasthan region
10. Describe harvesting and yield (herbage and oil) in lemongrass and citronella.
11. Describe the package and practices of growing Lemon grass.

UNIT-IV

12. Explain in details the early, mid and late duration varieties of potato grown all over the world.
13. Describe the methods adopted in weed management in potato, lucerne and oat.
14. Define earthing up and explain its advantages. Mention the stage at which earthing up is done in potato and sugarcane.

Section- C

1. Discuss in detail the classification of wheat on basis of chromosome number and economic importance.
2. What are the different methods of sowing adopted for wheat cultivation? Explain.
3. What are the critical stages for irrigation in barley, lentil, peas, sunflower and mustard?
4. How is the weed infestation reduced in lentil, peas, mustard and sunflower?
5. Describe in details the scientific methods followed in cultivation of potato.
6. How the inclusion of pulses in crop rotation helps in enriching the fertility status of soil? Explain.
7. What are the scientific approaches followed in growing sugarcane.
8. Explain the uses of mentha, citronella.
9. How safflower is successfully cultivated in Rajasthan.
10. How berseem can be grown as fodder crop? Describe.
11. What are the different scientific methods involved in cultivation of oat?