SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Rural Sociology and Educational Psychology
Course Code	AEXT-111 (T)
Course Outcomes & Bloom's Level	**CO1-** Describe the importance and scope of rural sociology in dissemination of improved agricultural technologies to farming communities**(BL1-Remember)** **CO2-** Understand the socioeconomic status of indian social groups in relation to assessing the feasibility of adaptation new agricultural technologies**(BL2-Understand)** **CO3-** Apply the different psychological and behaviorist theories and methods in agriculture extension**(BL3-Apply)** **CO4-** Analyze the role of various social Institution in socioeconomic develoment of agrarian society**(BL4-Analyze)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✓ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG4(Quality education) SDG5(Gender equality) SDG8(Decent work and economic growth) SDG10(Reduced inequalities)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	3	1	-
CO2	-	-	-	3	3	-	-	-	1	-	-	-	1	2	-
CO3	2	-	1	-	-	-	2	-	-	3	-	-	-	-	2
CO4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Human Values and Ethics
Course Code	AEXT-112 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basic concepts of human values and ethics **(BL1-Remember)** **CO2-** Understand the significance of positive attitude, mental satisfaction and selfless service. **(BL2-Understand)** **CO3-** Demonstrate the skills of philosophy of self-exploration **(BL3-Apply)** **CO4-** Analyze the changes occurred in the thinking, nature and behaviour of humans with changing eras. **(BL4-Analyze)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✓ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG4(Quality education) SDG5(Gender equality) SDG8(Decent work and economic growth) SDG10(Reduced inequalities)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	1	1	2	-	-	-	-	-	-	-	-	-	-
CO2	-	1	2	-	1	2	-	1	1	3	1	-	-	-	-
CO3	2	-	-	1	1	3	2	2	2	3	1	2	-	-	-
CO4	-	-	-	-	-	-	-	1	-	-	1	2	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fundamental of Agronomy
Course Code	AGRON-111 [T]
Course Outcomes & Bloom's Level	**CO1-** Define the importance and scope of agronomy in relation to agricultural crop production **(BL1-Remember)** **CO2-** Explain various types of agricultural inputs, which required for crop cultivation **(BL2-Understand)** **CO3-** Calculate the required amount/number of various crop production factors (i.e., seed rate, fertilizers, agrochemicals, plant population) for specific land area **(BL3-Apply)** **CO4-** Analyse the role of various intercultural operations with reference to crop yield and its contributing traits **(BL4-Analyze)** **CO5-** Evaluate the effect of various production factors on overall crop production **(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗
SDG (Goals)	SDG1(No poverty) SDG2(Zero hunger) SDG4(Quality education) SDG5(Gender equality) SDG6(Clean water and sanitation) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	3	-	2	-	-	-	-	-	3	1	-
CO2	-	-	-	-	2	-	2	-	-	-	-	1	1	2	-
CO3	2	-	3	-	2	-	-	-	-	-	-	1	-	-	2
CO4	-	2	-	-	-	-	-	1	-	-	1	-	-	-	-
CO5	-	3	2	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agriculture Heritage
Course Code	AGRON-112 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe the need and importance of Indian agricultural heritage and agricultural resources **(BL1-Remember)** **CO2-** Understand the ancient agricultural practices and its relevant to modern agricultural practices **(BL2-Understand)** **CO3-** Examine the various indigenous technical knowledge (ITK) used in agriculture **(BL3-Apply)** **CO4-** Analyse the rich cultural and spiritual heritage of India in relation to agriculture **(BL4-Analyze)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✓ Environment ✗	SDG (Goals)	SDG2(Zero hunger) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	3	-	2	-	-	-	-	-	3	1	-
CO2	-	-	-	-	3	-	2	-	-	-	-	1	1	3	-
CO3	2	-	3	-	2	-	-	-	-	-	-	1	-	-	2
CO4	-	2	-	-	-	-	-	1	-	-	1	-	-	-	-
CO5	-	3	2	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Introduction to Forestry
Course Code	AGRON-122[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basic concept of forestry and important features Indian Forest Policy**(BL1-Remember)** **CO2-** Classify the Indian forest with their specific features and ecological regions**(BL2-Understand)** **CO3-** Calculate the various parameters of forest**(BL3-Apply)** **CO4-** Examine the different agroforestry systems prevalent in the country**(BL4-Analyze)** **CO5-** Determine the suitability of tree species for different regions based on soil and climatic conditions**(BL5-Evaluate)**

Course Elements	Skill Development ✘ Entrepreneurship ✘ Employability ✘ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✓	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG6(Clean water and sanitation) SDG12(Responsible consuption and production) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	3	-	-	-	-	-	-	-	3	-	-
CO2	-	1	1	2	2	-	-	-	-	-	-	1	1	2	-
CO3	2	-	2	-	3	-	-	-	-	-	1	-	-	2	1
CO4	-	3	-	2	-	-	-	-	-	-	-	-	-	-	-
CO5	-	3	2	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fundamental of Plant Biochemistry and Biotechnology
Course Code	BIOCHEM-BT-111 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe the role and importance of various biomolecules in sustaining the life **()** **CO2-** Explain the metabolic processes involving different bio-molecules **(BL2-Understand)** **CO3-** Apply the various concepts biotechnology in crop plant improvement **(BL3-Apply)** **CO4-** Analyse the different biomolecules in agricultural samples using different biochemical techniques **(BL4-Analyze)** **CO5-** Evaluate the role of biomolecules in affecting the nutritional quality and productivity of agricultural crops **(BL5-Evaluate)**
Course Elements	Skill Development ✔ Entrepreneurship ✘ Employability ✔ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✘
	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	1	-	-	-	-	-	-	-	3	-	-
CO2	-	1	-	1	-	-	-	-	-	-	-	-	1	2	-
CO3	2	-	-	1	1	-	1	1	-	-	-	1	-	1	2
CO4	-	-	-	1	-	-	-	1	-	-	2	-	-	-	-
CO5	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	National Cadet Core**
Course Code	BNCC01GE03 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe the role and scope of NSS program activities **(BL1-Remember)** **CO2-** Understand the community mobilization, Social harmony and national integration **(BL2-Understand)** **CO3-** Organize various social activities **(BL3-Apply)** **CO4-** Analyze the role citizenship, constitution and human rights **(BL4-Analyze)**

Course Elements	Skill Development ✘ Entrepreneurship ✘ Employability ✘ Professional Ethics ✘ Gender ✘ Human Values ✓ Environment ✘	SDG (Goals)	SDG3(Good health and well-being) SDG5(Gender equality)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	1	-	-	-	1	-	2	-	-	-
CO3	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	1	-	-	2	-	-	1	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Introductory Biology*
Course Code	CP-111 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe basic biological concepts of living organism **(BL1-Remember)** **CO2-** Explain the origin and diversity of life on Earth and the evolutionary progression **(BL2-Understand)** **CO3-** Demonstrate species richness in various plant families **(BL3-Apply)** **CO4-** Analyse levels of organization and related functions in plants and animals**(BL4-Analyze)**

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG13(Climate action) SDG14(Life below water) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-
CO2	1	-	-	-	-	3	-	-	-	-	-	-	1	2	-
CO3	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2
CO4	-	-	2	-	-	-	-	2	-	3	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Comprehension and Communication Skills in English
Course Code	ENGL-111 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe role of communication skills in professional life **(BL1-Remember)** **CO2-** Explain the Importance and process of various communication methods **(BL2-Understand)** **CO3-** Demonstrate reading Comprehension **(BL3-Apply)** **CO4-** Categorize the various vocabulary of English language **(BL4-Analyze)** **CO5-** Evaluate the various professional writings and their styles **(BL5-Evaluate)** **CO6-** Develop writing and communication skills in English **(BL6-Create)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗

| **Course Elements** | **SDG (Goals)** | SDG4(Quality education)
SDG5(Gender equality)
SDG10(Reduced inequalities)
SDG16(Peace Justice and strong institutions)
SDG17(Partnerships for the goals) |

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	1	1	2	-	-	-	-	-	-	-	3	-	-
CO2	-	1	2	-	1	2	-	1	1	3	1	-	-	3	2
CO3	2	-	-	1	1	3	2	2	2	3	1	2	-	1	-
CO4	-	-	-	-	-	-	-	1	-	-	1	2	1	-	-
CO5	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-
CO6	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fundamentals of Horticulture
Course Code	HORT-111[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the scope and importance of horticulture along with the basic principles and concepts of orchard establishment, production and management of horticultural crops **(BL1-Remember)** **CO2-** Explain the suitability of horticultural crops under different agro-climatic conditions along with their suitable propagation techniques and management practices **(BL2-Understand)** **CO3-** Demonstrate various techniques and practices of horticultural crops production and management in the field **(BL3-Apply)** **CO4-** Analyse the significance of various propagation techniques and intercultural operations and management practices used in different horticultural crops **(BL4-Analyze)** **CO5-** Evaluate the role of various factors affecting the growth and development and sustainable production horticultural crops **(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG1(No poverty) SDG2(Zero hunger) SDG6(Clean water and sanitation) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	3	1	-
CO2	2	-	-	-	-	-	2	-	-	-	-	-	1	2	-
CO3	2	-	-	1	3	-	3	-	-	-	-	-	-	-	2
CO4	-	1	-	2	-	-	1	-	-	-	-	-	-	-	-
CO5	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fundamental of Soil Science
Course Code	SS-111[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basic concepts and principles of Soil Science **(BL1-Remember)** **CO2-** Explain the behaviour of various soils in relation to crop production and management **(BL2-Understand)** **CO3-** Demonstrate various soil physical, chemical and biological properties and their impact on plant growth **(BL3-Apply)** **CO4-** Examine the soil pollution and its prevention **(BL4-Analyze)** **CO5-** Evaluate the harmful effects of various agrochemicals on soil health

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	**SDG (Goals)**	SDG2(Zero hunger) SDG6(Clean water and sanitation) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	1	-	1	-	-	-	-	-	3	1	-
CO2	1	1	1	-	-	-	1	-	-	-	-	1	1	2	-
CO3	-	1	2	-	1	-	1	-	-	-	-	1	-	-	1
CO4	-	-	-	1	-	-	-	-	-	-	-	2	-	1	-
CO5	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	National Service Scheme**
Course Code	NSS-111 [P]
Course Outcomes & Bloom's Level	**CO1-** Describe the role and scope of NSS program activities**(BL1-Remember)** **CO2-** Understand the community mobilization, Social harmony and national integration**(BL2-Understand)** **CO3-** Organize various social activities**(BL3-Apply)** **CO4-** Analyze the role citizenship, constitution and human right**(BL4-Analyze)**

Course Elements	Skill Development ✘ Entrepreneurship ✘ Employability ✘ Professional Ethics ✘ Gender ✘ Human Values ✓ Environment ✘	SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education) SDG5(Gender equality) SDG8(Decent work and economic growth) SDG16(Peace Justice and strong institutions)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	2	-	-	2	1	2	-	-	-
CO2	-	-	-	-	-	-	1	-	-	1	1	1	-	-	-
CO3	-	-	-	-	-	-	1	-	-	1	1	1	-	-	-
CO4	-	-	-	-	-	-	1	-	-	1	1	1	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Physical Education and Yoga Practices**
Course Code	PED-111 [P]
Course Outcomes & Bloom's Level	

Course Elements	Skill Development ✖ Entrepreneurship ✖ Employability ✖ Professional Ethics ✖ Gender ✖ Human Values ✖ Environment ✖	**SDG (Goals)**	SDG3(Good health and well-being) SDG5(Gender equality)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	-	-	-	-	3	-
CO2	-	1	-	3	-	-	-	-	-	-	-	-	3	1	-
CO3	-	2	3	-	1	-	-	-	-	-	-	-	-	-	-
CO4	-	-	3	-	-	-	-	-	-	-	-	2	-	-	-
CO5	-	-	1	-	2	-	2	-	-	-	-	1	-	-	-
CO6	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fundamentals of Agriculture Economics
Course Code	AE-121 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe the micro and macro level of Indian agriculture **(BL1-Remember)** **CO2-** Illustrate of the law of demand and supply **(BL2-Understand)** **CO3-** Demonstration of Market Structure, Market Force, and National Income in Our Indian Agricultural Sector **(BL3-Apply)** **CO4-** Examine the bank's credit policy and the manner in which Indian banks operate**(BL4-Analyze)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	-	-	-	-	-	-	-	2	1	-
CO2	-	1	-	-	2	-	-	-	-	2	-	-	1	2	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
CO4	-	-	1	-	1	3	-	2	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Soil and Water Conservation Engineering
Course Code	AENG-121[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the importance of soil and water conservation in natural resource management**(BL1-Remember)** **CO2-** Understand the mechanism of various processes of soil erosion**(BL2-Understand)** **CO3-** Apply appropriate soil & water conservation techniques in a various field conditions**(BL3-Apply)** **CO4-** Examine the effect of erosion problem in the soil**(BL4-Analyze)** **CO5-** Evaluate the soil loss by different empirical equations and RS & GIS technique**(BL5-Evaluate)** **CO6-** Design various soil & water conservation structures in order to control soil erosion and subsequent safe disposal of water**(BL6-Create)**

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	1	-	1	-	-	-	-	-	3	1	-
CO2	-	1	1	-	1	-	2	-	-	-	-	1	1	2	-
CO3	2	-	1	1	3	-	1	-	-	-	-	2	-	-	2
CO4	-	2	-	-	-	-	-	-	-	-	-	1	-	-	-
CO5	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
CO6	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fundamentals of Agricultural Extension Education
Course Code	AEXT-121[T]
Course Outcomes & Bloom's Level	**CO1-** Remember the concept and need of Extension education.**(BL1-Remember)** **CO2-** Understand the various tools and elements of extension education**(BL2-Understand)** **CO3-** Apply rural and community development Program in village and local area.**(BL3-Apply)** **CO4-** Analyse the extension system in India and various policies of government.**(BL4-Analyze)** **CO5-** Evaluate new trends and schemes under extension education**(BL5-Evaluate)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG2(Zero hunger) SDG4(Quality education) SDG8(Decent work and economic growth) SDG10(Reduced inequalities) SDG11(Sustainable cities and economies) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
CO2	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
CO4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Communication Skills and Personality Development
Course Code	AEXT-122[T]
Course Outcomes & Bloom's Level	**CO1-** Remember various communication skills. **(BL1-Remember)** **CO2-** Understand the reading writing techniques of general and technical articles. **(BL2-Understand)** **CO3-** Apply the knowledge of domains and components in understanding the human behaviour. **(BL3-Apply)** **CO4-** Analyse the psychology of social interactions for ego and behaviour of communicator. **(BL4-Analyze)** **CO5-** Evaluate the role of writing skills in the overall personality development **(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG4(Quality education) SDG5(Gender equality) SDG8(Decent work and economic growth) SDG10(Reduced inequalities) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	1	-	-	-	-	-	-	-	3	-	-
CO2	-	2	3	2	2	1	-	-	-	-	-	-	-	3	-
CO3	3	-	2	2	2	2	-	-	-	-	-	-	-	1	2
CO4	-	1	-	1	-	-	-	-	-	1	1	1	-	-	-
CO5	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fundamentals of Crop Physiology
Course Code	CP-121[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the role and importance of plant physiology in crop growth and development**(BL1-Remember)** **CO2-** Explain the functions of various mineral nutrients in crop physiology**(BL2-Understand)** **CO3-** Demonstrate the effect of plant growth regulators or phyto-hormones in development of crop plants**(BL3-Apply)** **CO4-** Analyse the different metabolic pathways of bio-molecules**(BL4-Analyze)** **CO5-** Determine the different physiological growth parameters involved in development of agricultural crops**(BL5-Evaluate)**

Course Elements	Skill Development ✘ Entrepreneurship ✘ Employability ✘ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✔	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	-	-	-	-	-	-	3	-	-
CO2	-	1	-	-	1	-	-	-	-	-	-	1	1	2	-
CO3	1	-	2	-	-	-	-	-	-	-	-	-	-	2	1
CO4	-	1	-	1	-	-	-	-	-	-	2	-	-	-	-
CO5	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fundamentals of Entomology
Course Code	ENT-121[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the structure and function of insect along with their ecology.**(BL1-Remember)** **CO2-** Classify insects according to their morphology, anatomy and physiology.**(BL2-Understand)** **CO3-** Demonstrate the relationship of insect appendages with their habit and habitat.**(BL3-Apply)** **CO4-** Analyse the effect of climatic conditions on insect life.**(BL4-Analyze)** **CO5-** Evaluate the insect behavior in relation to other organisms present in their niche and ecosystem.**(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	-	-	-	-	-	-	3	1	-
CO2	-	2	1	-	-	1	1	-	-	-	-	1	1	2	-
CO3	2	-	1	-	-	1	2	-	-	-	-	1	-	-	2
CO4	-	1	1	-	-	-	1	-	-	-	-	-	-	-	-
CO5	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fundamentals of Genetics
Course Code	GPB-121[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basic concept of genetics**(BL1-Remember)** **CO2-** Understand the various principles and laws of heredity**(BL2-Understand)** **CO3-** Demonstrate the deviations from mendelian inheritance with scientific explanations**(BL3-Apply)** **CO4-** Analyze the nature, structure and functions of cell and genetic materials**(BL4-Analyze)** **CO5-** Determine the inheritance pattern of a given trait**(BL5-Evaluate)**

Course Elements	Skill Development ✕ Entrepreneurship ✕ Employability ✕ Professional Ethics ✕ Gender ✕ Human Values ✕ Environment ✕	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG4(Quality education) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	1	-	1	-	-	-	-	-	3	1	-
CO2	-	1	1	-	1	-	2	-	-	-	-	1	1	2	-
CO3	2	-	1	1	3	-	1	-	-	-	-	2	-	1	1
CO4	-	2	-	-	-	-	-	-	-	-	-	1	-	-	-
CO5	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agricultural Microbiology
Course Code	MICROB- 121[T]
Course Outcomes & Bloom's Level	**CO1-** Describe various microbe types with emphasis on plant parasitic and beneficial organisms and their significant role in agriculture **(BL1-Remember)** **CO2-** Discuss the growth and reproduction pattern of different agricultural microbes **(BL2-Understand)** **CO3-** Demonstrate the fundamental techniques which are necessary in culturing of the microbes**(BL3-Apply)** **CO4-** Analyse the role of microbes in affecting the productivity of agricultural crops and quality of agriculture produce **(BL4-Analyze)** **CO5-** Evaluate the isolated fungi and bacteria with reference to their potential utilization in enhancing the biotic and abiotic stress in crop plants **(BL5-Evaluate)**

Course Elements	Skill Development ✘ Entrepreneurship ✘ Employability ✘ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✓	SDG (Goals)	SDG2(Zero hunger) SDG6(Clean water and sanitation) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	-	-	-	-	-	-	3	-	-
CO2	-	1	-	-	-	-	1	-	-	-	-	1	1	2	-
CO3	1	-	2	-	-	-	2	-	-	-	-	2	-	2	1
CO4	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-
CO5	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fundamentals of Plant Pathology
Course Code	PP-121[T]
Course Outcomes & Bloom's Level	**CO1-** Highlighting the scope and objective of plant diseases and its development.**(BL1-Remember)** **CO2-** Interpret about various pathogens including bacteria, fungus, virus and nematodes and their life cycles**(BL2-Understand)** **CO3-** Experimenting concept of disease, causal agents of plant diseases**(BL3-Apply)** **CO4-** Explaining important microorganisms and understand host pathogen interactions**(BL4-Analyze)** **CO5-** Experimenting to analyze and identify the causal organisms of diseases.**(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	**SDG (Goals)**	SDG2(Zero hunger) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	-	-	-	-	-	-	3	1	-
CO2	-	1	1	2	-	-	-	-	-	-	-	-	-	3	-
CO3	2	-	1	1	-	-	2	-	-	1	2	2	-	-	2
CO4	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-
CO5	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agricultural Finance and Co-operation
Course Code	AE-211[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the main characteristics of the Indian credit system and financial organisations.**(BL1-Remember)** **CO2-** Understand the roles and goals of both the commercial bank and the central bank**(BL2-Understand)** **CO3-** Apply a variety of statistical and monetary approaches to the project's evaluation**(BL3-Apply)** **CO4-** Examine the cooperative credit structure and profit statement in agriculture-related enterprises**(BL4-Analyze)** **CO5-** Evaluate the various credit payback options offered by Indiana's banking system**(BL5-Evaluate)**

Course Elements	Skill Development ✘ Entrepreneurship ✘ Employability ✘ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✘	SDG (Goals)	SDG1(No poverty) SDG2(Zero hunger) SDG5(Gender equality) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	-	-	-	-	-	-	3	1	-
CO2	-	1	-	1	1	1	-	1	-	-	2	1	1	3	-
CO3	3	1	2	1	2	2	-	2	-	-	3	2	-	-	2
CO4	-	2	-	1	-	-	-	1	-	-	1	1	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Farm Machinery and Power
Course Code	AENG-211[T]
Course Outcomes & Bloom's Level	**CO1-** Define the farm power sources and describe the different operations in farm machinery **(BL1-Remember)** **CO2-** Understand the principles of farm machinery management for different soil, crops and operations **(BL2-Understand)** **CO3-** Calculate the performance of farm machinery under actual field conditions **(BL3-Apply)** **CO4-** Examine the working principle of different system of tractor & parts of internal combustion engines **(BL4-Analyze)** **CO5-** Evaluate the performance of harvesting, threshing and special equipment for various farm operations**(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-
CO2	-	2	1	1	2	2	-	-	-	-	1	-	-	-	-
CO3	1	-	1	2	2	1	-	-	-	-	-	1	-	-	-
CO4	-	1	-	-	-	-	-	-	-	-	1	2	-	-	-
CO5	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Crop Production Technology-I (Kharif crops)		
Course Code	AGRON- 211[T]		
Course Outcomes & Bloom's Level	**CO1-** Describe the nutraceuticals values and economic importance of various Kharif agricultural crops**(BL1-Remember)** **CO2-** Understand the soil and climatic requirements of different Kharif crops**(BL2-Understand)** **CO3-** Demonstrate the nursery preparation and transplanting in rice**(BL3-Apply)** **CO4-** Examine the impact of various biotic and abiotic stress on the productivity of different crops**(BL4-Analyze)** **CO5-** Determine the cost of cultivation of different crops**(BL5-Evaluate)**		
Course Elements	Skill Development ✔ Entrepreneurship ✘ Employability ✔ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✘	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	1	2	-	-	3	-	-	-	-	-	-	-	-	-
CO2	-	-	-	2	-	1	-	-	3	-	-	-	-	-	-
CO3	3	-	-	-	-	2	-	-	-	-	-	-	-	-	-
CO4	2	-	-	3	-	1	-	-	-	-	-	-	-	-	-
CO5	-	3	-	-	-	1	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Live-stock and Poultry Management		
Course Code	AHS- 211[T]		
Course Outcomes & Bloom's Level	**CO1-** Describe the principles of Livestock production and management **(BL1-Remember)** **CO2-** Understand the various concepts and procedures of livestock and poultry management **(BL2-Understand)** **CO3-** Organize the livestock and poultry farms in sustainable and efficient manner **(BL3-Apply)** **CO4-** Analyze the various challenges/problems of livestock and poultry management and suggest the appropriate solution for them **(BL4-Analyze)** **CO5-** Evaluate the impact of livestock and poultry on sustainable integrated farming systems **(BL5-Evaluate)**		
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	-	-	-	-	3	-
CO2	-	-	1	-	3	-	-	-	-	-	-	-	3	-	-
CO3	-	-	2	3	-	1	-	-	-	-	-	-	-	1	3
CO4	-	-	-	3	2	-	-	-	-	-	-	2	-	-	-
CO5	-	-	1	-	2	-	2	-	-	-	-	1	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Environmental Studies and Disaster Management
Course Code	CP-211 [T]
Course Outcomes & Bloom's Level	**CO1-** Gain knowledge about environment and Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource. **(BL1-Remember)** **CO2-** To know about Ecosystem and gain knowledge, how biotic components depend upon the abiotic components. **(BL2-Understand)** **CO3-** Gain knowledge about the conservation of biodiversity and its importance. **(BL3-Apply)** **CO4-** Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures. **(BL4-Analyze)** **CO5-** Students are able to learn types of disasters causes and impact of disaster and International strategy for disaster reduction. **(BL5-Evaluate)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	SDG (Goals)	SDG1(No poverty) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG11(Sustainable cities and economies) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	1	-	-	-	-	-	3	-	-
CO2	-	1	2	2	1	2	3	2	-	-	-	1	1	2	-
CO3	2	-	1	2	1	3	2	3	1	-	-	2	-	2	1
CO4	-	1	-	1	-	-	-	3	-	-	-	2	-	-	-
CO5	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Fundamentals of Plant Breeding
Course Code	GPB- 211[T]
Course Outcomes & Bloom's Level	**CO1-** To impart knowledge on the principles and procedures of plant breeding.**(BL1-Remember)** **CO2-** Explain various breeding methods, their significance and drawbacks.**(BL2-Understand)** **CO3-** Demonstrate the high yielding varieties/hybrids through various conventional and modern molecular approaches**(BL3-Apply)** **CO4-** Inference of genetic basis and methods of breeding.**(BL4-Analyze)** **CO5-** Determine to assess food security through breeding tools and Intellectual Property coverage**(BL5-Evaluate)**

Course Elements		SDG (Goals)	
Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗		SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG13(Climate action) SDG15(Life on land)	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	1	-	-	-	-	-	-	-	3	1	-
CO2	-	2	-	-	1	-	1	1	-	-	-	1	1	3	-
CO3	3	-	1	1	2	-	1	-	1	-	-	2	-	-	2
CO4	-	1	-	1	-	-	-	1	-	-	-	1	-	1	-
CO5	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Production Technology for Vegetables and Spices
Course Code	HORT- 211[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the nutraceuticals values and economic importance of various vegetable and spice crops **(BL1-Remember)** **CO2-** Classify the vegetable and spice crops based on different parameters **(BL2-Understand)** **CO3-** Demonstrate nursery raising in various vegetable crops **(BL3-Apply)** **CO4-** Examine the impact of various biotic and abiotic stress on the productivity of vegetables and Spices **(BL4-Analyze)** **CO5-** Determine the cost of cultivation of different vegetable and spice crops **(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG8(Decent work and economic growth) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	2	-	-	-	-	-	-	-	3	-	-
CO2	-	2	2	-	1	-	1	-	-	-	1	-	-	3	-
CO3	1	-	1	2	1	-	2	-	-	-	-	2	-	1	3
CO4	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
CO5	-	3	2	1	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Statistical Methods
Course Code	STAT-221[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the application and importance of statistics in the field of agriculture **(BL1-Remember)** **CO2-** Understand the basic concepts of various statistical tools used for agricultural data analysis **(BL2-Understand)** **CO3-** Calculate the various statistical parameters of given data samples **(BL3-Apply)** **CO4-** Analyze the significance of various statistical tools results and draw meaningful inference **(BL4-Analyze)** **CO5-** Evaluate the use/role of various statistical software used for agricultural data sets test/analysis **(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG4(Quality education) SDG5(Gender equality) SDG8(Decent work and economic growth) SDG10(Reduced inequalities) SDG12(Responsible consuption and production) SDG13(Climate action)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	3	-	-	-	-	-	-	-	-	-	3	1	-
CO2	-	3	1	-	3	-	-	-	-	-	-	-	1	3	-
CO3	3	-	3	-	-	-	1	-	-	-	-	-	-	-	2
CO4	-	3	2	-	-	-	-	-	-	-	-	2	-	-	-
CO5	-	2	-	-	2	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agri- Informatics
Course Code	STAT-222[T]
Course Outcomes & Bloom's Level	**CO1-** Identify the parts of computer and their applications**(BL1-Remember)** **CO2-** Describe the computer programming and MS office. **(BL2-Understand)** **CO3-** Demonstrate the application of MS office for presentation and report writing. **(BL3-Apply)** **CO4-** Estimate water and nutrient requirements of crop using CSM and IT tools. **(BL4-Analyze)** **CO5-** Evaluate the outcomes of ICT interventions in agriculture. **(BL5-Evaluate)** **CO6-** Develop plan for application of agri-informatics approach for solving agriculture-based problems. **(BL6-Create)**
Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	2	-	-	-	-	-	-	-	3	1	-
CO2	-	3	3	3	2	-	-	-	-	-	-	-	1	3	-
CO3	2	-	-	2	-	-	-	-	-	-	2	-	-	-	2
CO4	-	2	-	3	-	-	-	-	-	-	2	2	-	-	-
CO5	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agricultural Marketing, Trade and Prices
Course Code	AE- 221 [T]
Course Outcomes & Bloom's Level	**CO1-** Define agricultural marketing methods, along with their pros and cons. **(BL1-Remember)** **CO2-** Understand the marketing structure of various agricultural input and output with reference to different marketing functions. **(BL2-Understand)** **CO3-** Compute the marketing profit, pricing spread, producer surplus and efficiency. **(BL3-Apply)** **CO4-** Analyse marketing functions, market information and market intelligence for improving the producer income. **(BL4-Analyze)** **CO5-** Evaluate the structure and operation of the agricultural marketing channel. **(BL5-Evaluate)**
Course Elements	Skill Development ✘ Entrepreneurship ✘ Employability ✘ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✘	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG8(Decent work and economic growth) SDG10(Reduced inequalities) SDG12(Responsible consuption and production) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	1	-	-	-	-	-	2	1	-
CO2	-	2	1	2	-	1	1	1	-	-	2	-	1	3	-
CO3	2	-	2	3	2	2	1	2	-	-	3	-	-	-	2
CO4	-	2	-	1	-	-	-	2	-	-	3	-	-	-	-
CO5	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Renewable Energy and Green Technology
Course Code	AENG-221[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the classification of conventional and renewable Energy sources**(BL2-Understand)** **CO2-** Understand the need of renewable energy in agricultural sector**(BL2-Understand)** **CO3-** Demonstration the biogas plants and also calculate the capacity of biogas plant**(BL3-Apply)** **CO4-** Examine the different solar energy gadgets and their uses**(BL4-Analyze)** **CO5-** Determine the production process of biofuels, biodiesel, bio-oil and biogas**(BL5-Evaluate)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	**SDG (Goals)**	SDG7(Affordable and clean energy) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and production) SDG13(Climate action) SDG14(Life below water) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	-	-	-	-	-	-	-	-	2	1	-
CO2	-	1	2	1	-	-	1	-	-	-	1	-	-	-	-
CO3	2	-	1	-	-	-	2	-	-	-	1	1	-	3	2
CO4	-	2	1	-	-	-	-	-	-	-	1	2	-	-	-
CO5	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Crop Production Technology - II (Rabi crops)
Course Code	AGRON- 221[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basic concepts of cultivation practices and post-harvest technologies of different Rabi crops**(BL1-Remember)** **CO2-** Explain steps involved in preparation of field outline, crop production and management **(BL2-Understand)** **CO3-** Apply the principles and concepts of agronomy on the field to improve the crop productivity and resource use efficiency **(BL3-Apply)** **CO4-** Investigate the role of different agricultural inputs on yield the quality of different Rabi crops **(BL4-Analyze)** **CO5-** Assess the economic viability of different methods and technologies in different cropping system **(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	3	2	-	1	-	-	-	-	-	3	1	-
CO2	-	1	3	2	2	2	1	-	-	-	-	-	1	1	-
CO3	2	-	3	2	2	2	2	1	-	-	1	1	-	-	2
CO4	-	1	-	3	-	-	-	1	-	-	1	-	-	1	-
CO5	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Farming System & Sustainable Agriculture
Course Code	AGRON- 222 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basic concepts cropping systems and sustainable agriculture **(BL1-Remember)** **CO2-** Explain the interaction between different farm enterprises **(BL2-Understand)** **CO3-** Utilize the different concepts of IFS to enhance the crop productivity in sustainable ecosystem **(BL3-Apply)** **CO4-** Investigate the sustainability of different indicators in various framing system **(BL4-Analyze)** **CO5-** Judge the sustainability of various farming system models in different agro-climatic conditions to get the optimum output of the resources in sustainable manner **(BL5-Evaluate)**
Course Elements	Skill Development ✘ Entrepreneurship ✘ Employability ✔ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✔	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG14(Life below water) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	3	2	-	1	-	-	-	-	-	3	1	-
CO2	-	1	3	2	2	2	1	-	-	-	-	-	1	2	-
CO3	2	-	3	2	2	2	2	1	-	-	1	1	-	-	2
CO4	-	1	-	3	-	-	-	1	-	-	1	-	-	1	-
CO5	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Introductory Agrometeorology and Climate Change
Course Code	AGRON-223[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basic terminology and definitions in the field of Agro-meteorology **()** **CO2-** Understand the climatic normal, process of weather formation, relationship between weather variables and agriculture. **()** **CO3-** Apply the technics for modification of climate to minimization the losses and improve the crop yield. **()** **CO4-** Analysis the causes of extreme weather conditions and the factors responsible for climate change and global warming. **()** **CO5-** Appraise the impact of particular weather and climate on crop and livestock production. **()**
Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG8(Decent work and economic growth) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	3	-	-	-	-	-	-	-	3	1	-
CO2	-	1	1	2	2	-	-	-	-	-	-	1	1	2	-
CO3	2	-	2	-	3	-	-	-	-	-	1	-	-	-	2
CO4	-	3	-	2	-	-	-	-	-	-	-	-	-	1	-
CO5	-	3	2	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Principles of Seed Technology
Course Code	GPB- 221[T]
Course Outcomes & Bloom's Level	**CO1-** Describe role of quality seed, basic principles and concepts of seed production technology, seed storage, certification and marketing **(BL1-Remember)** **CO2-** Classify different categories of seed and dormancy and discuss the importance of various field operation used in seed production **(BL2-Understand)** **CO3-** Demonstrate seed production technology in cereals, oilseed and pulses crop and seed certification process and laws associated with seed legislation **(BL3-Apply)** **CO4-** Analyze seed health (Purity, viability, germination) and examine the causes and treatment to break dormancy of seed and marketing potential of seed **(BL4-Analyze)** **CO5-** Assess the process seed production of various agricultural crops in different seed production systems and seed quality testing and marketing process **(BL5-Evaluate)** **CO6-** Formulate the seed production, storage, certification and marketing strategies for various agricultural crops under the different ecosystems **(BL6-Create)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG5(Gender equality) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	1	-	-	-	-	-	-	-	3	1	-
CO2	-	2	-	-	1	-	1	1	-	-	-	1	1	2	-
CO3	3	-	1	1	2	-	1	-	1	-	-	2	-	-	1
CO4	-	1	-	1	-	-	-	1	-	-	-	1	-	1	-
CO5	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	2	-	-	-	-	-	-	-	-	1	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Production Technology for Ornamental Crops, MAP and Landscaping
Course Code	HORT- 221[T]
Course Outcomes & Bloom's Level	**CO1-** Identify the different ornamental, medicinal and aromatic plants with their respective uses **(BL1-Remember)** **CO2-** Understand the basic principles of landscaping used for planning and layout of gardens. **(BL2-Understand)** **CO3-** Demonstrate various intercultural operations and postharvest practices used in ornamental, medicinal and aromatic crops **(BL3-Apply)** **CO4-** Analyse the challenges and opportunities in marketing of ornamental, medicinal and aromatic crops produces **(BL4-Analyze)** **CO5-** Determine the cost of cultivation of different ornamental, medicinal and aromatic crops **(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG8(Decent work and economic growth) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	2	-	-	-	-	-	-	-	3	1	-
CO2	-	2	2	-	1	-	1	-	-	-	1	-	-	3	-
CO3	1	-	1	2	1	-	2	-	-	-	-	2	-	-	3
CO4	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
CO5	-	3	2	1	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Production Technology for Fruit and Plantation Crops
Course Code	HORT- 222[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the status and scope of fruit and plantation crops and national and international level**(BL1-Remember)** **CO2-** Understand the climatic requirement of various fruit and plantation crops.**(BL2-Understand)** **CO3-** Demonstrate the various intercultural operations practiced in horticultural crops**(BL3-Apply)** **CO4-** Analyze the role of canopy management for maximising the yield and quality of fruit and plantation crops produces**(BL4-Analyze)** **CO5-** Evaluate the impact of various technologies on fruit and plantation production**(BL5-Evaluate)**
Course Elements	Skill Development ✔ Entrepreneurship ✔ Employability ✔ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✘	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	2	-	-	-	-	-	-	-	3	1	-
CO2	-	2	2	-	1	-	1	-	-	-	1	-	1	2	-
CO3	1	-	1	2	1	-	1	-	-	-	-	2	-	3	1
CO4	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
CO5	-	3	2	1	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Problematic Soils and their Management
Course Code	SS- 221[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the current scenario of problematic soils in India. **(BL2-Understand)** **CO2-** Illustrate the processes responsible for the formation of problematic soils **(BL2-Understand)** **CO3-** CO-3 Apply remote sensing and GIS techniques for identification, diagnosis and management of problematic soils. **(BL3-Apply)** **CO4-** Analyse the quality of irrigation water and soil health and its suitability for use in various crops **(BL4-Analyze)** **CO5-** Assess the effects of various reclamation strategies in management of problematic soils **(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	2	-	-	-	-	-	3	1	-
CO2	-	1	1	-	-	-	1	-	-	-	-	1	1	2	-
CO3	2	2	2	1	2	-	2	-	-	-	-	2	-	-	1
CO4	-	-	-	2	-	-	-	-	-	-	-	1	-	1	-
CO5	-	1	1	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Education Tour
Course Code	EDUT - 200
Course Outcomes & Bloom's Level	**CO1-** To define social life**(BL1-Remember)** **CO2-** To compare Real-Life Situations**(BL2-Understand)** **CO3-** To make the models of the Social and Emotional Development**(BL3-Apply)** **CO4-** To classify the unique opportunities **(BL4-Analyze)** **CO5-** To evaluate Social and Emotional Development**(BL5-Evaluate)** **CO6-** To develop new skills and interests**(BL6-Create)**
Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG4(Quality education) SDG8(Decent work and economic growth) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG16(Peace Justice and strong institutions) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	1	-	-	2	-	-	-	-	-	-
CO2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	1	-	-	-	-	-	-	-	1	-	-	1	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Micro propagation Technologies
Course Code	ELCT– GPB-221[T]
Course Outcomes & Bloom's Level	**CO1-** To understand terminology and definitions related to micro-propagation **(BL1-Remember)** **CO2-** To acquainted with different micro-propagtion techniques **(BL2-Understand)** **CO3-** To apply the knowledge for micro-propagation of economically valued crops **(BL3-Apply)** **CO4-** To get familiar with the requirements to set up a plant tissue culture laboratory **(BL4-Analyze)** **CO5-** To design strategies for commercial exploration of gained knowledge on micro-propagation technology **(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG5(Gender equality) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	2	-	-	-	-	-	-	-	3	1	-
CO2	-	3	2	1	3	-	1	-	-	-	-	1	1	3	-
CO3	3	-	1	2	1	-	-	1	-	-	1	2	-	-	2
CO4	-	3	-	1	-	-	1	-	-	-	1	1	-	1	-
CO5	-	2	5	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agribusiness Management
Course Code	ELCT-AE-221[T]
Course Outcomes & Bloom's Level	**CO1-** Remember various functions of management**(BL1-Remember)** **CO2-** Describe agribusiness, its concepts and value addition chain**(BL2-Understand)** **CO3-** Apply the knowledge of management functions in establishing and running agribusiness profitably. **(BL3-Apply)** **CO4-** Analyse agri-business situations, implement plans and manage strategic change**(BL4-Analyze)** **CO5-** Appraise the projects for their economic feasibility and profitability**(BL5-Evaluate)** **CO6-** Prepare profitable agribusiness projects with capital and market management**(BL6-Create)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG5(Gender equality) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	1	-	-	-	-	-	-	-	3	1	-
CO2	-	2	1	-	2	-	1	-	-	-	2	-	-	3	-
CO3	2	-	2	1	2	-	1	-	-	-	1	1	-	-	2
CO4	-	1	1	-	-	-	-	-	-	-	-	2	-	-	-
CO5	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Processing Technology of Cereals
Course Code	ELCT-FST-221[T]
Course Outcomes & Bloom's Level	**CO1-** Memorize the morphology, composition and nutritive value**(BL1-Remember)** **CO2-** Describe the milling of cereals**(BL2-Understand)** **CO3-** Demonstrate cereal based processed products**(BL3-Apply)** **CO4-** Use the cereal-based by-products**(BL4-Analyze)** **CO5-** Analyses cereal based secondary and tertiary processing**(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG5(Gender equality) SDG7(Affordable and clean energy) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	1	-	-	2	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-
CO4	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-
CO5	1	2	-	1	-	-	-	-	-	-	1	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Hi-tech. Horticulture
Course Code	ELCT-HORT-221[T]
Course Outcomes & Bloom's Level	**CO1-** Students will be equipped with sufficient theoretical knowledge with practical skills on hi-tech horticulture technology and methods **(BL1-Remember)** **CO2-** Theoretical knowledge about precision farming and various implements used in nursery preparation. **(BL2-Understand)** **CO3-** Study about INM & IPM, IWM, protected cultivation, remote sensing and GIS and DGPS. **(BL3-Apply)** **CO4-** Ability to use techniques and instruments involved in the study of orchard practice equipment **(BL4-Analyze)** **CO5-** Understand the basic practice of nursery preparation and propagation method **(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG5(Gender equality) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	-	-	-	-	-	-	-	-	3	1	-
CO2	-	1	1	-	1	-	-	-	-	-	-	-	1	2	-
CO3	2	-	1	1	1	-	1	-	-	-	-	2	-	3	1
CO4	-	2	-	-	-	-	-	-	-	-	-	1	-	-	-
CO5	-	1	1	2	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Weed Management
Course Code	ELCT–AGRON-221[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basics concepts of weeds management different weed plants and herbicides along with their respective characteristics & nature **(BL1-Remember)** **CO2-** Classify and characterized various crop weed plants and herbicides based on different parameters **(BL2-Understand)** **CO3-** Demonstrate the use of different methods and technology of weed management in the field **(BL3-Apply)** **CO4-** Investigate the differential effects of various herbicides on different weed plants and examine and cause and management of herbicide resistance **(BL4-Analyze)** **CO5-** Evaluate the integrated weed management (IWM) models in different crops under different crop-weed ecology **(BL5-Evaluate)**
Course Elements	Skill Development ✔ Entrepreneurship ✘ Employability ✘ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✔	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	3	2	-	1	-	-	-	-	-	3	1	-
CO2	-	1	3	2	2	2	1	-	-	-	-	-	1	2	-
CO3	2	-	3	2	2	2	2	1	-	-	1	1	-	-	2
CO4	-	1	-	3	-	-	-	1	-	-	1	-	-	1	-
CO5	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Entrepreneurship Development and Business Communication
Course Code	AEXT-311[T]
Course Outcomes & Bloom's Level	**CO1-** Remember the entrepreneurial and managerial attributes.**(BL1-Remember)** **CO2-** Describe the agri-preneurship, startups and commercialization**(BL2-Understand)** **CO3-** Apply the knowledge of entrepreneurial and managerial attributes for operating and managing an enterprise**(BL3-Apply)** **CO4-** Analyze the emerging domestic and international issues related to agriculture entrepreneurship**(BL4-Analyze)** **CO5-** Prepare their own project for establishing enterprises as trained entrepreneurs they would not seek the job, but give the job to others.**(BL5-Evaluate)**

Course Elements	Skill Development ✔ Entrepreneurship ✘ Employability ✘ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✘	**SDG (Goals)**	SDG1(No poverty) SDG4(Quality education) SDG5(Gender equality) SDG8(Decent work and economic growth) SDG10(Reduced inequalities) SDG12(Responsible consuption and production) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-
CO3	-	-	2	2	1	-	-	-	-	-	-	-	-	-	-
CO4	-	3	-	-	-	-	2	-	-	-	-	-	-	-	-
CO5	-	-	3	-	2	-	-	-	2	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Geoinformatics and Nano-technology and Precision Farming
Course Code	AGRON-311 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basics of geoinformatics and nanotechnology in relation to precision farming **(BL1-Remember)** **CO2-** Explain about the effective use of inputs result in greater crop yield with good quality without affecting the environment **(BL2-Understand)** **CO3-** Apply precision agriculture which address both economic and environmental issues that surround production agriculture today **(BL3-Apply)** **CO4-** Simplify and encourage the farmers to study of special and temporal variability of the input parameters using primary data in field level **(BL4-Analyze)** **CO5-** Judge about the consequences of applying imbalance dose of farm input like irrigation, fertilizer, insecticides and pesticides **(BL5-Evaluate)**
Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	**SDG (Goals)**	SDG2(Zero hunger) SDG6(Clean water and sanitation) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	3	-	3	-	-	-	-	-	3	-	-
CO2	-	2	2	2	3	2	3	-	-	-	-	-	1	2	-
CO3	-	-	2	2	3	2	3	-	-	-	-	-	-	2	1
CO4	-	2	-	2	-	-	-	-	-	-	-	-	-	-	-
CO5	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Environmental Studies and Disaster Management
Course Code	CP-311 [T]
Course Outcomes & Bloom's Level	CO1- Gain knowledge about environment and Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource. **(BL1-Remember)** CO2- To know about Ecosystem and gain knowledge, how biotic components depend upon the abiotic components. **(BL2-Understand)** CO3- Gain knowledge about the conservation of biodiversity and its importance. **(BL3-Apply)** CO4- Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures. **(BL4-Analyze)** CO5- Students are able to learn types of disasters causes and impact of disaster and International strategy for disaster reduction. **(BL5-Evaluate)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	SDG (Goals)	SDG1(No poverty) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG11(Sustainable cities and economies) SDG13(Climate action) SDG14(Life below water) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	1	-	-	-	-	-	3	-	-
CO2	-	1	2	2	1	2	3	2	-	-	-	1	1	2	-
CO3	2	-	1	2	1	3	2	3	1	-	-	2	-	2	1
CO4	-	1	-	1	-	-	-	3	-	-	-	2	-	-	-
CO5	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Pests of Crops and Stored Grain and their Management
Course Code	ENT-311 [T]
Course Outcomes & Bloom's Level	**CO1-** Familiarized with identification of different insect pest of field, horticulture, ornamentals, vegetables and stored grains at the field level.**(BL1-Remember)** **CO2-** Understand how insects affect animal and Plant health and agricultural production, and be able to safely manipulate populations of beneficial and destructive species in habitats and in production agro-ecosystems with minimal environmental impact**(BL2-Understand)** **CO3-** To be able about the biology, diversity, distribution of insects, and their relationships to crop and the environment condition of a particular area**(BL3-Apply)** **CO4-** To understand identification of nature of damage and symptoms caused by the pest so suitable technique of pest management can be apply for effective control.**(BL4-Analyze)** **CO5-** Management of crop pest through Integrated Pest Management approach without side effect on plant, animal and environment health**(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
CO3	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
CO5	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Crop Improvement-I (Kharif Crops)
Course Code	GPB-311 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe basic concepts of various methods and technologies used in crop improvement **(BL1-Remember)** **CO2-** Explain the various procedures used for PGR conservation, transfer of traits of interest and advance technologies used for seed production in different kharif crops **(BL2-Understand)** **CO3-** Utilize the crop improvement concepts and principles for developing improved varieties, F1 hybrids and advance breeding lines **(BL3-Apply)** **CO4-** Investigate the suitability of different methods and technologies for the particular traits depending upon gene action, inheritance pattern and nature of donor parents **(BL4-Analyze)** **CO5-** Assess the breeding behaviour of various breeding population along with their maintenance strategies **(BL5-Evaluate)** **CO6-** Formulate the breeding strategies for transferring gene of interest from different gene of various biotic and abiotic stress and quality traits **(BL6-Create)**
Course Elements	Skill Development ✔ Entrepreneurship ✘ Employability ✔ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✘	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	2	-	-	-	-	-	-	-	3	1	-
CO2	-	3	2	1	3	-	1	-	-	-	-	1	1	3	-
CO3	3	-	1	2	1	-	-	1	-	-	1	2	-	-	2
CO4	-	3	-	1	-	-	1	-	-	-	1	1	-	1	-
CO5	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Intellectual Property Rights
Course Code	GPB-312 [T]
Course Outcomes & Bloom's Level	**CO1-** Define the basic concepts of intellectual property rights and describe different kinds of IPRs**(BL1-Remember)** **CO2-** Explain the various legal frameworks and instruments related to IPRs**(BL2-Understand)** **CO3-** Apply the various IPR tools with respect to wealth and value creation in a knowledge based economy**(BL3-Apply)** **CO4-** Analyse the process of protection of the various kinds of intellectual property (IP) at national and international level**(BL4-Analyze)** **CO5-** Evaluate the impact of National IPR Policy on agricultural research and innovation**(BL5-Evaluate)**
Course Elements	Skill Development ✘ Entrepreneurship ✘ Employability ✘ Professional Ethics ✓ Gender ✘ Human Values ✘ Environment ✘	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG4(Quality education) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG10(Reduced inequalities) SDG12(Responsible consuption and production) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
CO3	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
CO5	-	-	-	1	-	-	2	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Disease of field and Horticultural crops and Their Management-1
Course Code	PP-311 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe the types of symptoms produced by Fungal, Bacterial, viral and Phytoplasmal pathogens on field and horticultural crops. **(BL1-Remember)** **CO2-** Identify the different types of pathogens and their etiology associated with field and horticultural crops. **(BL2-Understand)** **CO3-** Demonstrate the disease cycle and favourable condition for development of diseases **(BL3-Apply)** **CO4-** Investigate the management practices for major diseases of field and horticultural crops**(BL4-Analyze)**

Course Elements	Skill Development ✔ Entrepreneurship ✘ Employability ✔ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✔	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	-	-	-	-	2	-	3	1	-
CO2	-	1	1	1	-	-	-	-	-	-	-	-	-	3	-
CO3	3	-	2	2	2	1	2	-	-	-	2	2	-	-	2
CO4	-	2	-	3	1	2	2	-	-	-	2	1	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Principals of integrated Pest and Disease Management
Course Code	PP-312 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basic concepts and principles of integrated pest and diseases management **(BL1-Remember)** **CO2-** Identify the different pest and diseases in crop plants **(BL2-Understand)** **CO3-** Demonstrate the effectiveness of different component of IPDM **(BL3-Apply)** **CO4-** Investigate the occurrence and forecasting of Insect-pests and diseases **(BL4-Analyze)** **CO5-** Evaluate the suitability of modules of IPDM in different environmental conditions **(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	-	-	-	-	-	-	3	1	-
CO2	-	1	2	2	-	-	-	-	-	-	-	-	-	3	-
CO3	3	-	-	1	2	-	-	-	-	1	2	2	-	-	2
CO4	-	2	-	-	-	-	-	-	-	1	1	1	-	-	-
CO5	-	-	1	2	-	-	1	-	-	2	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Manures, Fertilizers and Soil Fertility Management
Course Code	SS-311 [T]
Course Outcomes & Bloom's Level	**CO1-** Describe different types of manures and fertilizers**(BL1-Remember)** **CO2-** Understand the use of different types of manures and fertilizers in soil fertility management**(BL2-Understand)** **CO3-** Estimate the content of major essential plant nutrients in soil and plant samples**(BL3-Apply)** **CO4-** Examine the deficiency and toxicity symptoms of essential plant nutrients**(BL4-Analyze)** **CO5-** Justify the role of integrated nutrient management practices in maintaining the soil health in sustainable manner**(BL5-Evaluate)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
CO4	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Practical Crop Production-I (Kharif Crop)
Course Code	AGRON-312 [P]
Course Outcomes & Bloom's Level	**CO1-** Describe the basic concepts and principles of crop production, management and protection **(BL1-Remember)** **CO2-** Illustrate the conventional practices and novel technological advances in the field of crop production, seed production and crop protection **(BL2-Understand)** **CO3-** Utilize the conventional and novel technologies in field to achieve high economic return in sustainable manner **(BL3-Apply)** **CO4-** Analyse the impact of various intercultural operation, technological intervention on yield and quality in different kharif crops **(BL4-Analyze)** **CO5-** Assess the sustainability of various crop production technologies for commercial crop production and quality seed production with better cost benefit ratio **(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG4(Quality education) SDG7(Affordable and clean energy) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG10(Reduced inequalities) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	3	-	3	-	-	-	-	-	3	-	-
CO2	-	2	2	2	3	2	3	-	-	-	-	-	1	2	-
CO3	-	-	2	2	3	2	3	-	-	-	-	-	-	2	1
CO4	-	2	-	2	-	-	-	-	-	-	-	-	-	-	-
CO5	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Commercial Plant Breeding
Course Code	ELCT-GPB-311[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the breeding techniques for commercial production of seed **(BL1-Remember)** **CO2-** Classify the seed production systems through the breeding techniques **(BL2-Understand)** **CO3-** Demonstrate various methods of Commercial breeding techniques at field and laboratory levels **(BL3-Apply)** **CO4-** Analyse various techniques and the effectiveness of breeding techniques utilized at commercial level. **(BL4-Analyze)** **CO5-** Assess the quality of the seed and Judge the performance of high yielding and resistance varieties of different crops **(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG2(Zero hunger) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	2	-	-	-	-	-	-	-	3	1	-
CO2	-	3	2	1	3	-	1	-	-	-	-	1	1	3	-
CO3	3	-	1	2	1	-	-	1	-	-	1	2	-	-	2
CO4	-	3	-	1	-	-	1	-	-	-	1	1	-	1	-
CO5	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agriculture Journalism
Course Code	ELCT-AE-311[T]
Course Outcomes & Bloom's Level	**CO1-** Know about basics of agricultural journalism.**(BL1-Remember)** **CO2-** Understand the difference between different types of journalism.**(BL2-Understand)** **CO3-** Apply their knowledge in communication media**(BL3-Apply)** **CO4-** Improve readability measures**(BL4-Analyze)** **CO5-** Analyze the source of information and their role in agricultural journalism**(BL5-Evaluate)** **CO6-** Develop better sources of agriculture information.**(BL6-Create)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG4(Quality education) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
CO4	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
CO5	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Artificial Intelligence
Course Code	ELCT-AENG-311[T]
Course Outcomes & Bloom's Level	**CO1-** Remember the LIPS and PROLOG. **(BL1-Remember)** **CO2-** Describe A and AO logarithm**(BL2-Understand)** **CO3-** Apply the knowledge of LIPS and PROLOG in constructing symbolic grammars for natural language that would be used to construct logical representations of sentences. **(BL3-Apply)** **CO4-** Analyse the uncertainty on the basis of probabilistic interferences. **(BL4-Analyze)** **CO5-** Prepare the robot with artificial intelligence. **(BL5-Evaluate)**
Course Elements	Skill Development ✔ Entrepreneurship ✘ Employability ✘ Professional Ethics ✔ Gender ✘ Human Values ✘ Environment ✘	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG4(Quality education) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	1	-	-	-	-	-	-	-	3	1	-
CO2	-	2	1	-	2	-	1	-	-	-	2	-	-	3	-
CO3	2	-	2	1	2	-	1	-	-	-	1	1	-	-	2
CO4	-	1	1	-	-	-	-	-	-	-	-	2	-	-	-
CO5	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Biopesticides and Biofertilizers
Course Code	ELCT-ENT-311[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the importance of bio-pesticides in present scenario. **(BL1-Remember)** **CO2-** Explain the concepts and classification of bio-fertilizers and bio-pesticides **(BL2-Understand)** **CO3-** Utilize the quality parameters of various agricultural products and bio-fertilizer in maintaining the soil health**(BL3-Apply)** **CO4-** Examine the significance and implementation of bio-pesticide and bio-fertilizer in organic farming**(BL4-Analyze)** **CO5-** Determine the performance of bio-pesticides/ bio-fertilizers through field application**(BL5-Evaluate)** **CO6-** Formulate the various bio-pesticides and bio-fertilizers**(BL6-Create)**
Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	1	-	-	-	-	-	-	-	3	1	-
CO2	-	1	1	-	2	-	1	-	-	-	2	-	-	3	-
CO3	2	-	2	1	2	-	1	-	-	-	1	1	-	-	2
CO4	-	1	1	-	-	-	-	-	-	-	-	2	-	-	-
CO5	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Processing Technology of Fruits and Vegetables
Course Code	ELCT-FST-311[T]
Course Outcomes & Bloom's Level	**CO1-** State the production, processing status and supply chain of fruits and vegetables **(BL1-Remember)** **CO2-** Explain the basic processing methods of processing and canning **(BL2-Understand)** **CO3-** Use the processing methods for formulation of the products from fruits and vegetables **(BL3-Apply)** **CO4-** Examine the specifications for different processed products formulated by regulatory bodies **(BL4-Analyze)** **CO5-** Judge the Preparation, preservation and machines for manufacturing different processed products **(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	-	-	-	-	-	-	-	-	3	1	-
CO2	-	1	1	-	1	-	-	-	-	-	-	-	1	2	-
CO3	2	-	1	1	1	-	1	-	-	-	-	2	-	3	1
CO4	-	2	-	-	-	-	-	-	-	-	-	1	-	-	-
CO5	-	1	1	2	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Landscaping
Course Code	ELCT-HORT-311[T]
Course Outcomes & Bloom's Level	**CO1-** Define the knowledge on landscape designing**(BL1-Remember)** **CO2-** Explain importance of Software based learning of landscape architecture**(BL2-Understand)** **CO3-** Demonstrate the various methods/ approaches of Bonsai management. **(BL3-Apply)** **CO4-** Examine the methods of various lawn management techniques. **(BL4-Analyze)** **CO5-** Evaluate various software for landscape based on performance and designing **(BL5-Evaluate)** **CO6-** Develop plan or layout of public and private landscape area. **(BL6-Create)**

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	-	-	-	-	-	-	-	-	3	1	-
CO2	-	1	1	-	1	-	-	-	-	-	-	-	1	2	-
CO3	2	-	1	1	1	-	1	-	-	-	-	2	-	3	1
CO4	-	2	-	-	-	-	-	-	-	-	1	-	-	-	-
CO5	-	1	1	2	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Farm Management, Production and Resources Economics
Course Code	AE-321[T]
Course Outcomes & Bloom's Level	**CO1-** Describes law of return in farm management **(BL1-Remember)** **CO2-** Understand factor-product, factor-factor and product- product relationship in static production economics. **(BL2-Understand)** **CO3-** Utilization of farm resources and selection of crops and livestock's enterprises **(BL3-Apply)** **CO4-** Examine the farm planning and farm budgeting techniques **(BL4-Analyze)** **CO5-** Evaluate the balance sheet and profit and loss statement **(BL5-Evaluate)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
CO2	-	1	-	1	1	1	-	1	-	-	2	1	-	-	-
CO3	3	1	2	1	2	2	-	2	-	-	3	2	-	-	-
CO4	-	2	-	1	-	-	-	1	-	-	1	1	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Protected Cultivation And Secondary Agriculture
Course Code	AENG-321[T]
Course Outcomes & Bloom's Level	**CO1-** List out the importance of Protected cultivation and its scope in India. **(BL1-Remember)** **CO2-** Discuss various types of greenhouse structures **(BL2-Understand)** **CO3-** Apply the concept of protected cultivation in major crops of India. **(BL3-Apply)** **CO4-** Examine the basics of nursery management under protected structures. **(BL4-Analyze)** **CO5-** Evaluate the utility of different growing media and growing conditions under protected structures. **(BL5-Evaluate)** **CO6-** Create the budget and design for protected cultivation and structures. **(BL6-Create)**

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	SDG (Goals)	SDG2(Zero hunger) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	1	-	-	-	-	-	-	-	3	1	-
CO2	-	2	1	-	2	-	1	-	-	-	2	-	-	3	-
CO3	2	-	2	1	2	-	1	-	-	-	1	1	-	-	2
CO4	-	1	1	-	-	-	-	-	-	-	-	2	-	-	-
CO5	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-
CO6	-	-	-	-	-	2	-	-	-	-	2	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Rainfed Agriculture and Watershed Management
Course Code	AGRON-321[T]
Course Outcomes & Bloom's Level	**CO1-** Study the concepts of watershed management and its effect on land, water and ecosystem resources **(BL1-Remember)** **CO2-** Understand public policies and practices of watershed planning **(BL2-Understand)** **CO3-** Apply the principles and concepts in the field to conserve water resources and improve the crop productivity in Rainfed ecosystems **(BL3-Apply)** **CO4-** Analyse the impact of watershed planning through case studies **(BL4-Analyze)** **CO5-** Assess control and mitigation techniques for watershed problem **(BL5-Evaluate)**
Course Elements	Skill Development ✔ Entrepreneurship ✘ Employability ✔ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✔

Course Elements		SDG (Goals)	SDG1(No poverty) SDG2(Zero hunger) SDG6(Clean water and sanitation) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
CO3	-	3	3	1	1	2	1	1	2	-	1	1	-	-	2
CO4	-	3	3	1	1	-	-	1	-	-	1	1	-	1	-
CO5	-	3	2	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Principal Of Organic Farming
Course Code	AGRON-322[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the principles and scopes of organic farming. **(BL1-Remember)** **CO2-** Explain the concept of organic ecosystem; and organic nutrient resources and its fortification **(BL2-Understand)** **CO3-** Demonstrate the restrictions to nutrient use in organic farming. **(BL3-Apply)** **CO4-** Analyse the certification process and standards of organic farming. **(BL4-Analyze)**

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-
CO3	-	3	3	1	1	2	1	1	2	-	1	1	-	-	2
CO4	-	3	3	1	1	-	-	1	-	-	1	1	-	1	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Management of Beneficial Insect
Course Code	ENT-321[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the importance of beneficial insects including pollinators, parasitoids and predators. **(BL1-Remember)** **CO2-** Explain the rearing techniques and management practices of beneficial insects according to their behavioural and ecological aspects **(BL2-Understand)** **CO3-** Demonstrate the mass multiplication techniques of commercial insects and biological control agents. **(BL3-Apply)** **CO4-** Analyse the effect of cultivation methods of commercial insect on their produce and also mass rearing techniques of bio-control agents **(BL4-Analyze)** **CO5-** Evaluate the effect of natural enemies on the pest management**(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	**SDG (Goals)**	SDG2(Zero hunger) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	2	-	1	-	-	-	-	-	2	1	-
CO2	-	1	1	2	1	2	2	1	-	-	1	1	1	3	-
CO3	3	-	2	3	2	1	3	2	-	-	2	2	-	-	2
CO4	-	1	-	1	-	-	-	1	-	-	1	1	-	-	-
CO5	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Principles of food science and Nutrition
Course Code	FST-321 [T]
Course Outcomes & Bloom's Level	**CO1-** State the importance of physical properties of components of food**(BL1-Remember)** **CO2-** Identify the nutritional composition of food**(BL2-Understand)** **CO3-** Use the principles of preservation and methods of preservations**(BL3-Apply)** **CO4-** Examine the nutritional deficiency in the community**(BL4-Analyze)** **CO5-** Judge and formulation of balanced diet**(BL5-Evaluate)**

Course Elements	Skill Development ✘ Entrepreneurship ✘ Employability ✘ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✘	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG12(Responsible consuption and production) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	1	-	-	-	-	-	-	-	3	-	-
CO2	-	1	-	1	-	-	-	-	-	-	-	-	1	2	-
CO3	2	-	-	1	1	-	1	1	-	-	-	1	-	1	2
CO4	-	-	-	1	-	-	-	1	-	-	2	-	-	-	-
CO5	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Crop Improvement-II (Rabi Crops)		
Course Code	GPB-321[T]		
Course Outcomes & Bloom's Level	**CO1-** To recognize the techniques of crop improvements**(BL1-Remember)** **CO2-** To understand the implementation of different crop improvement techniques. **(BL2-Understand)** **CO3-** To apply various techniques for improving the crops.**(BL3-Apply)** **CO4-** To analyses different crop improvement techniques for finding definite goals. **(BL4-Analyze)** **CO5-** To evaluate the improvement in the crops.**(BL5-Evaluate)**		
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	2	-	-	-	-	-	-	-	3	1	-
CO2	-	3	2	1	3	-	1	-	-	-	-	1	1	3	-
CO3	3	-	1	2	1	-	-	1	-	-	1	2	-	-	2
CO4	-	3	-	1	-	-	1	-	-	-	1	1	-	1	-
CO5	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Post Harvest Management and Value Addition of Fruit and Vegetables
Course Code	HORT-321[T]
Course Outcomes & Bloom's Level	**CO1-** Understand the causes of postharvest loss and changes in fruits and vegetables. **(BL1-Remember)** **CO2-** Illustrate the maturity and ripening process. **(BL2-Understand)** **CO3-** Describe different storage techniques for horticultural produce. **(BL3-Apply)** **CO4-** Discuss principle and methods of processing or value addition. **(BL4-Analyze)** **CO5-** Prepare value added product from fruit and vegetable **(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	1	-	-	-	-	-	-	-	3	1	-
CO2	-	1	1	-	1	-	-	-	-	-	1	-	1	2	-
CO3	1	-	1	1	2	-	-	-	-	-	-	1	-	1	3
CO4	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
CO5	-	2	2	1	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Disease of field and Horticultural crops and Their Management-II
Course Code	PP-321[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the types of symptoms produced by Fungal, Bacterial, viral and Phytoplasmal pathogens on field and horticultural crops. **(BL1-Remember)** **CO2-** Identify the different types of pathogens and their etiology associated with field and horticultural crops. **(BL2-Understand)** **CO3-** Demonstrate the disease cycle and favourable condition for development of diseases **(BL3-Apply)** **CO4-** Investigate the management practices for major diseases of field and horticultural crops. **(BL4-Analyze)**

Course Elements	Skill Development ✔ Entrepreneurship ✘ Employability ✔ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✔	SDG (Goals)	SDG2(Zero hunger) SDG12(Responsible consuption and production) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	-	-	-	-	-	-	2	-	2	1	-
CO2	-	1	1	1	-	-	-	-	-	-	-	-	1	3	-
CO3	3	-	2	2	2	1	2	-	-	-	2	-2	-	-	2
CO4	-	2	-	3	1	2	2	-	-	-	2	-1	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Practical Crop Production-II (Rabi Crop)
Course Code	AGRON-323 [P]
Course Outcomes & Bloom's Level	**CO1-** Describe the basic concepts and principles of crop production, management and protection **(BL1-Remember)** **CO2-** Illustrate the conventional practices and novel technological advances in the field of crop production, seed production and crop protection **(BL2-Understand)** **CO3-** Utilize the conventional and novel technologies in field to achieve high economic return in sustainable manner **(BL3-Apply)** **CO4-** Analyse the impact of various intercultural operation, technological intervention on yield and quality in different Rabi crops **(BL4-Analyze)** **CO5-** Assess the sustainability of various crop production technologies for commercial crop production and quality seed production with better cost benefit ratio in different Rabi crops **(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG4(Quality education) SDG5(Gender equality) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG10(Reduced inequalities) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	1	3	-	2	-	-	-	-	-	3	1	-
CO2	-	-	-	-	3	-	2	-	-	-	-	1	1	2	-
CO3	2	-	3	-	2	-	-	-	-	-	-	1	-	-	2
CO4	-	2	-	-	-	-	-	1	-	-	1	-	-	-	-
CO5	-	3	2	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Molecular Biology
Course Code	ELCT-GPB-321[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basic understanding on plant genetics and hereditary **(BL1-Remember)** **CO2-** Understanding of structures, functions, and internal controls within individual cells **(BL2-Understand)** **CO3-** Recognize and interpret the structural and functional aspects of plant molecules and their interactions **(BL3-Apply)** **CO4-** Analyse various techniques and the effectiveness of molecular breeding at commercial level. **(BL4-Analyze)** **CO5-** Assess for the new opportunities to speed up plant breeding **(BL5-Evaluate)** **CO6-** Develop high yielding verities and enhancing crop resilience to combined abiotic and biotic stress **(BL6-Create)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	-	-	-	-	-	-	-	-	3	1	-
CO2	-	1	1	-	1	-	-	-	-	-	-	-	1	2	-
CO3	2	-	-	1	1	-	1	-	-	-	-	2	-	3	1
CO4	-	2	1	-	-	-	-	-	-	-	-	1	-	-	-
CO5	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Information Technology for Land and Water management
Course Code	ELCT-AENG-321[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basics of geoinformatics and nanotechnology in relation to precision farming **(BL1-Remember)** **CO2-** Explain about the effective use of inputs result in greater crop yield with good quality without affecting the environment **(BL2-Understand)** **CO3-** Apply precision agriculture which address both economic and environmental issues that surround production agriculture today **(BL3-Apply)** **CO4-** Simplify and encourage the farmers to study of special and temporal variability of the input parameters using primary data in field level **(BL4-Analyze)** **CO5-** Judge about the consequences of applying imbalance dose of farm input like irrigation, fertilizer, insecticides and pesticides **(BL5-Evaluate)**
Course Elements	Skill Development ✘ Entrepreneurship ✘ Employability ✘ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✘	**SDG (Goals)**	SDG2(Zero hunger) SDG6(Clean water and sanitation) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	3	-	3	-	-	-	-	-	3	-	-
CO2	-	2	2	2	3	2	3	-	-	-	-	-	1	2	-
CO3	-	-	2	2	3	2	3	-	-	-	-	-	-	2	1
CO4	-	2	-	2	-	-	-	-	-	-	-	-	-	-	-
CO5	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	System Simulation And Agro-Advisory
Course Code	ELCT-AEXT-321[T]
Course Outcomes & Bloom's Level	**CO1-** Describe the basic concepts of various System simulation tools and techniques used in agriculture fields**(BL1-Remember)** **CO2-** Compare the various simulation systems with their pros and cons**(BL2-Understand)** **CO3-** Demonstrate the use of various software for crop modelling, weather forecasting, dissemination of agroadvisory**(BL3-Apply)** **CO4-** Analyse the results obtained from different simulation systems with scientific interpretation**(BL4-Analyze)** **CO5-** Assess the suitability of different systems in optimum crop modelling diseases forecasting and weather forecasting**(BL5-Evaluate)**
Course Elements	Skill Development ✔ Entrepreneurship ✘ Employability ✔ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✘	**SDG (Goals)**	SDG2(Zero hunger) SDG13(Climate action) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	2	1	-	2	-	-	-	-	-	1	3	-
CO2	-	2	3	3	2	2	2	1	-	-	-	-	3	1	-
CO3	2	-	2	2	2	1	-	-	-	-	-	-	-	-	2
CO4	-	2	-	1	-	-	-	1	-	-	1	-	-	-	-
CO5	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agrochemicals
Course Code	ELCT-ENT-321[T]
Course Outcomes & Bloom's Level	**CO1-** acquaint with the advantages and disadvantages of pesticides, plant growth regulators and fertilizers in present scenario. **(BL1-Remember)** **CO2-** classify pesticides and fertilizers on the basis of various parameters**(BL2-Understand)** **CO3-** apply pesticides for the protection of plants and fertilizers to maintain soil health. **(BL3-Apply)** **CO4-** analyze the residual effect of pesticides and fertilizers. **(BL4-Analyze)** **CO5-** evaluate the efficacy of pesticides formulation and fertilizers through field application. **(BL5-Evaluate)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG12(Responsible consuption and production) SDG14(Life below water) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	1	-	-	-	-	-	-	-	3	1	-
CO2	-	2	1	-	2	-	-	-	-	-	2	-	-	3	-
CO3	2	-	2	1	2	-	1	-	-	-	1	1	-	-	2
CO4	-	1	1	-	-	-	1	-	-	-	-	2	-	-	-
CO5	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Food Safety and Standards
Course Code	ELCT-FST-321[T]
Course Outcomes & Bloom's Level	**CO1-** Define food safety, hazards and risks factors **(BL1-Remember)** **CO2-** Understand importance of hygiene, sanitation in food service establishments and national- international food laws and standards **(BL2-Understand)** **CO3-** Utilize food safety management tools and their need for food quality maintenance **(BL3-Apply)** **CO4-** Examine water quality, sanitation, hygiene and waste disposal of food processing unit **(BL4-Analyze)** **CO5-** Judge packaging, product, nutritional labelling and recent outbreaks **(BL5-Evaluate)**

Course Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	-	-	-	-	-	-	-	-	3	1	-
CO2	-	1	1	-	1	-	-	-	-	-	-	-	1	2	-
CO3	2	-	-	1	1	-	1	-	-	-	-	2	-	3	1
CO4	-	2	1	-	-	-	-	-	-	-	-	1	-	-	-
CO5	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Protected Cultivation
Course Code	ELCT-HORT-321[T]
Course Outcomes & Bloom's Level	**CO1-** To list out and remember the importance of Protected cultivation and its scope in India. **(BL1-Remember)** **CO2-** To classify the concept of classifications of protected structures. **(BL2-Understand)** **CO3-** To apply the concept of protected cultivation for major crops. **(BL3-Apply)** **CO4-** To examine the Basics of nursery management under protected structures. **(BL4-Analyze)** **CO5-** To evaluate the utility of growing media and growing condition under protected structures. **(BL5-Evaluate)** **CO6-** To create the budget and design for protected cultivation and structures. **(BL6-Create)**
Course Elements	Skill Development ✔ Entrepreneurship ✘ Employability ✔ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✔	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	2	-	-	-	-	-	-	-	-	3	1	-
CO2	-	1	1	-	1	-	-	-	-	-	-	-	1	2	-
CO3	2	-	1	1	1	-	1	-	-	-	-	2	-	1	1
CO4	-	2	-	-	-	-	-	-	-	-	-	1	-	-	-
CO5	-	1	1	2	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	2	-	-	-	-	-	-	-	2	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Village Attachment
Course Code	RAWE-401
Course Outcomes & Bloom's Level	**CO1-** To provide an opportunity to the students to understand the rural setting in relation to agriculture and allied activities**(BL1-Remember)** **CO2-** To make the students familiar with socio-economic conditions of the farmers and their problems.**(BL2-Understand)** **CO3-** To impart diagnostic and remedial knowledge to the students relevant to real field situations through practical training**(BL3-Apply)** **CO4-** To develop communication skills in students using extension teaching methods in transfer of technology.**(BL4-Analyze)** **CO5-** To acquaint students with on-going extension and rural development programmes.**(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG4(Quality education) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	3	1	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-
CO3	-	3	2	1	-	-	1	1	1	-	1	1	-	-	2
CO4	-	2	3	1	-	-	-	1	-	-	1	1	-	1	-
CO5	-	2	2	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Unit Attachment
Course Code	RAWE-402
Course Outcomes & Bloom's Level	**CO1-** Students will acquire training in the field/lab work activities**(BL1-Remember)** **CO2-** Evaluation of various practical exposure in the industry/ firm, institutions**(BL2-Understand)** **CO3-** Analyze the challenges of concerned institutions, industry **(BL3-Apply)** **CO4-** Evaluate the quality materials & marketing channels effects to the product**(BL4-Analyze)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG2(Zero hunger) SDG4(Quality education) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	2	2	1	-	3	-	1	1	1	1	2	-
CO3	-	3	3	1	1	3	2	1	2	-	1	1	-	-	2
CO4	-	3	3	1	1	-	-	1	-	-	1	1	-	1	-
CO5	-	3	3	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agro- Industrial attachment
Course Code	RAWE-403
Course Outcomes & Bloom's Level	**CO1-** To expose the students to Industrial environment, this cannot be simulated in the university**(BL1-Remember)** **CO2-** To introduce the students to a variety of Materials, Machines, Processes, Products, and their applications in addition to pertinent shop management topics.**(BL2-Understand)** **CO3-** To impart to the pupils an understanding of the manufacturing processes, problem-solving techniques, and worker psychology.**(BL3-Apply)** **CO4-** Evaluate the various aspects of entrepreneurship during the programme period**(BL4-Analyze)**
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	2	2	1	-	3	-	1	1	1	1	2	-
CO3	-	3	3	1	1	3	2	1	2	-	1	1	-	-	2
CO4	-	3	3	1	1	-	-	1	-	-	1	1	-	1	-
CO5	-	3	3	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Plant Clinic Attachment
Course Code	RAWE-404
Course Outcomes & Bloom's Level	**CO1-** Students will acquire training in the fields plant protection techniques**(BL1-Remember)** **CO2-** Evaluation of various plant diseases **(BL2-Understand)** **CO3-** Analyze the challenges regarding the implementation of suggested plant protection measures to the farmers**(BL3-Apply)** **CO4-** Evaluate the frequency of various diseases, and the presence of insect pests on various crops & corrective actions to control**(BL4-Analyze)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	2	2	1	-	3	-	1	1	1	1	2	-
CO3	-	3	3	1	1	3	2	1	2	-	1	1	-	-	2
CO4	-	3	3	1	1	-	-	1	-	-	1	1	-	1	-
CO5	-	3	3	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Industrial Training On Product Development And Marketing
Course Code	ELP- ABM-402 [P]
Course Outcomes & Bloom's Level	**CO1-** Students will acquire training in the Industrial production and marketing.**(BL1-Remember)** **CO2-** Evaluation of various Industrial products, marketing channel and cost of production.**(BL2-Understand)** **CO3-** Analyze the challenges in cost of production and marketing.**(BL3-Apply)** **CO4-** Evaluate the role of industries and investors.**(BL4-Analyze)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-
CO3	-	3	2	1	-	-	1	1	1	-	1	1	-	-	2
CO4	-	2	3	1	-	-	-	1	-	-	1	1	-	1	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agri Warehouse Management
Course Code	ELP-AE-401 [P]
Course Outcomes & Bloom's Level	**CO1-** Acquaintance the fundamentals of agricultural warehouse management.**(BL1-Remember)** **CO2-** Familiarize with techniques to store different types of agricultural products.**(BL2-Understand)** **CO3-** Develop the skills in maintaining and organizing inventories.**(BL3-Apply)** **CO4-** Expertise in legal guidelines and safety measures important for agricultural warehouses.**(BL4-Analyze)** **CO5-** Implement more efficient handling and shipping techniques for agricultural products.**(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	2	-	1	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-
CO3	-	1	-	-	-	1	-	-	2	-	-	-	-	-	-
CO4	-	-	-	1	-	-	1	1	-	-	-	-	-	-	-
CO5	-	-	-	-	2	1	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Rural Haat and Market Analysis
Course Code	ELP-AE-402 [P]
Course Outcomes & Bloom's Level	**CO1-** Students will acquire training in the rural market.**(BL1-Remember)** **CO2-** Evaluation of various rural products, marketing channel and cost of production.**(BL2-Understand)** **CO3-** Analyze the challenges in cost of production and marketing.**(BL3-Apply)** **CO4-** Evaluate the role of rural industries and market infrastructure.**(BL4-Analyze)**
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	1	-	-	-	2	-	2	1	-	-	-	-	-	-
CO2	-	1	-	1	-	2	-	-	-	-	1	-	-	-	-
CO3	-	2	-	-	-	-	-	-	-	-	2	-	-	-	-
CO4	-	-	-	-	-	2	-	-	1	-	1	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Poultry Production Technology
Course Code	ELP-AHS-401 [P]
Course Outcomes & Bloom's Level	**CO1-** Describe the role of poultry production in the national economy**(BL1-Remember)** **CO2-** Explain and demonstrate important practices at a poultry farm**(BL2-Understand)** **CO3-** Interpret important Indian and exotic breeds of poultry**(BL3-Apply)** **CO4-** Classification of classes of poultry**(BL4-Analyze)** **CO5-** Evaluate livestock and poultry diseases.**(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG5(Gender equality) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	-	-	-	-	3	-
CO2	-	-	1	-	3	-	-	-	-	-	-	-	3	1	-
CO3	-	-	2	3	-	1	-	-	-	-	-	-	-	-	3
CO4	-	-	-	3	-	-	-	-	-	-	-	2	-	-	-
CO5	-	-	1	-	2	-	2	-	-	-	-	1	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Production Technology for Bio-agents and Bio-fertilizer
Course Code	ELP-ENT-402 [P]
Course Outcomes & Bloom's Level	**CO1-** Describe the importance scope and limitations of bio-agents and bio-fertilizers**(BL1-Remember)** **CO2-** Explain the different types of bio-fertilizers and bio-agents and their mechanism of action**(BL2-Understand)** **CO3-** Demonstrate the procedure for Isolation, identification and purification of different bio-agents and bio-fertilizers**(BL3-Apply)** **CO4-** Explore the various methods of mass multiplication and formulation of bio-agents and bio-fertilizers**(BL4-Analyze)** **CO5-** Develop skill for evaluation and performance of bio-agents and bio-fertilizers in vitro and field application.**(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG12(Responsible consuption and production) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	3	3	1	1	2	3	1	2	-	1	1	-	-	-	2
CO4	3	3	1	1	-	-	1	-	-	1	1	-	-	1	-
CO5	3	3	-	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Storage Entomology
Course Code	ELP-ENT-403 [P]
Course Outcomes & Bloom's Level	**CO1-** Students will acquire training in the fields of Stored protection.**(BL1-Remember)** **CO2-** Evaluation of various Storage damage.**(BL2-Understand)** **CO3-** Analyze the challenges of commercial storage insect pests management.**(BL3-Apply)** **CO4-** Evaluate the role of quality farm product stored protection methods.**(BL4-Analyze)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	3	2	-	2	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	3	-	7	-	-	-	-	-	-	-	-
CO4	-	-	2	1	-	-	1	3	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Integrated Fish Farming
Course Code	ELP-FSC-401 [P]
Course Outcomes & Bloom's Level	**CO1-** Integrate fish farming with other agricultural activities such as crop and livestock production**(BL1-Remember)** **CO2-** Promote sustainability by utilizing agricultural waste for reducing environmental pollution and recourse consumption **(BL2-Understand)** **CO3-** Apply fish farming to benefit multiple income streams providing financial stability **(BL3-Apply)** **CO4-** Analyze the recycling of nutrients from various within systems**(BL4-Analyze)** **CO5-** Evaluate various inputs design to minimize environmental impact by reducing pollution from the ecosystem **(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG14(Life below water) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
CO4	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Seed Testing and Quality Assessment
Course Code	ELP-GPB-402 [P]
Course Outcomes & Bloom's Level	**CO1-** Assess the actual planting value of the seed in terms of its germination capacity**(BL1-Remember)** **CO2-** Evaluation of seed quality attributes of the seed lots which have to be offered for sale.**(BL2-Understand)** **CO3-** Analyze the quality maintenance challenges of commercial Seed.**(BL3-Apply)** **CO4-** Evaluate the role of quality seed and their effect on farming society & seed industry.**(BL4-Analyze)**

Course Elements	Skill Development ✔ Entrepreneurship ✔ Employability ✔ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✘	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG8(Decent work and economic growth) SDG12(Responsible consuption and production) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	1	-	-	-	-	-	-	-	3	-	-
CO2	-	2	3	2	2	1	-	-	-	-	-	-	-	3	-
CO3	3	-	2	2	2	2	-	-	-	-	-	-	-	1	2
CO4	-	1	-	1	-	-	-	-	-	-	1	1	1	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Commercial Horticulture (Vegetable and Spices Crop Production)
Course Code	ELP-HORT-401 [P]
Course Outcomes & Bloom's Level	**CO1-** Describe the importance and scope of vegetable and spices cultivation.**(BL1-Remember)** **CO2-** Explain the knowledge regarding various crop productions under commercial Horticultural.**(BL2-Understand)** **CO3-** Demonstrate various vegetable and spices crops.**(BL3-Apply)** **CO4-** Analyse the challenges of cultivation establishment and management along with the possible practical solutions.**(BL4-Analyze)** **CO5-** Evaluate the hybrid seed production of vegetables and spices. **(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗

	SDG (Goals)
	SDG2(Zero hunger) SDG3(Good health and well-being) SDG5(Gender equality) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	-	-	-	-	3	-
CO2	-	1	-	3	-	-	-	-	-	-	-	-	3	2	-
CO3	-	2	3	-	1	-	-	-	-	-	-	-	-	-	-
CO4	-	-	3	-	-	-	-	-	-	-	-	2	-	-	-
CO5	-	-	1	-	2	-	2	-	-	-	-	1	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Floriculture and landscaping
Course Code	ELP-HORT-402 [P]
Course Outcomes & Bloom's Level	**CO1-** Describe the importance and scope Floriculture and Landscape designing**(BL1-Remember)** **CO2-** Explain the basic concept of landscape architecture**(BL2-Understand)** **CO3-** Demonstrate various Software for landscape architecture**(BL3-Apply)** **CO4-** Analyse the challenges of value addition of commercial floriculture crops**(BL4-Analyze)** **CO5-** Evaluate the role of value addition and essential oil extraction in floriculture industry**(BL5-Evaluate)** **CO6-** Design landscape layout by utilizing Software and Create value added products from waste.**(BL6-Create)**
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG3(Good health and well-being) SDG4(Quality education) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	2	2	1	-	3	-	1	1	1	1	2	-
CO3	-	3	3	1	1	3	2	1	2	-	1	1	-	-	2
CO4	-	3	3	1	1	-	-	1	-	-	1	1	-	1	-
CO5	-	3	3	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	3	1	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Commercial Nursery _____ Horticultural Crops
Course Code	ELP-HORT-404 [P]
Course Outcomes & Bloom's Level	**CO1-** Describe the importance and scope Commercial Nursery in horticultural Crops**(BL1-Remember)** **CO2-** Explain the suitability of Multiplication methods in different horticultural crops**(BL2-Understand)** **CO3-** Demonstrate various plant propagation techniques in the field**(BL3-Apply)** **CO4-** Analyse the challenges of commercial nursery establishment and management along with the possible practical solutions**(BL4-Analyze)** **CO5-** Evaluate the role of PGR and media in mass multiplication of horticultural crops**(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG4(Quality education) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	2	2	1	-	3	-	1	1	1	1	2	-
CO3	-	3	3	1	1	3	2	1	2	-	1	1	-	-	2
CO4	-	3	3	1	1	-	-	1	-	-	1	1	-	1	-
CO5	-	3	3	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Organic Vegetable Production
Course Code	ELP-HORT-406 [P]
Course Outcomes & Bloom's Level	**CO1-** Describe the importance and scope of organic vegetable cultivation.**(BL1-Remember)** **CO2-** Explain the knowledge regarding various organic matters for vegetable productions.**(BL2-Understand)** **CO3-** Demonstrate various vegetable crops under different organic contents.**(BL3-Apply)** **CO4-** Analyse the challenges of organic cultivation, establishment and management along with the possible practical solutions.**(BL4-Analyze)** **CO5-** Evaluate the organic production of vegetables under different organic contents. **(BL5-Evaluate)**
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG12(Responsible consuption and production) SDG13(Climate action)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	2	2	1	-	3	-	1	1	1	1	2	-
CO3	-	3	3	1	1	3	2	1	2	-	1	1	-	-	2
CO4	-	3	3	1	1	-	-	3	-	-	1	1	-	1	-
CO5	-	3	3	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Hydroponics
Course Code	ELP-HORT-407 [P]
Course Outcomes & Bloom's Level	**CO1-** CO-1. Describe the importance and scope Soil-less Cultivation practices and production technology for Exotic horticultural crops**(BL1-Remember)** **CO2-** CO-2. Explain the basic concept of Growing media and Nutrient solution under protected cultivation**(BL2-Understand)** **CO3-** CO-3. Demonstrate various technologies and management practices under Hydroponics**(BL3-Apply)** **CO4-** CO-4. Analyze the challenges of Nutrient management under Hydroponics/protected cultivation**(BL4-Analyze)** **CO5-** CO-5. Evaluate the role of AI technology and marketing strategies under Hydroponic cultivation of horticultural crops**(BL5-Evaluate)** **CO6-** CO-6. Create a model layout plan with proper marketing approaches for exotic horticultural crops under advance hydroponics Schemes**(BL6-Create)**
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG4(Quality education) SDG6(Clean water and sanitation) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	-	-	-	2	-	-	-	-	-	-	-	-
CO3	-	-	2	-	2	-	-	-	-	-	-	-	-	-	-
CO4	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Processing, Preservation and Value Addition in OMA Plants
Course Code	ELP-HORT-408 [P]
Course Outcomes & Bloom's Level	**CO1-** Comprehends various processing techniques applicable to ornamental medicinal and aromatic plants.**(BL1-Remember)** **CO2-** Acquire proficiency in preservation methods enabling effective quality assurance and extended shelf life.**(BL2-Understand)** **CO3-** Apply value addition strategies enabling to capitalize on the diverse applications and market opportunities.**(BL3-Apply)** **CO4-** Develop competence in accessing the quality of processed and preserved products**(BL4-Analyze)** **CO5-** Analyze market dynamics with respect to consumer preference.**(BL5-Evaluate)** **CO6-** Creation of preserve, processed and value-added products sustainably**(BL6-Create)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG4(Quality education) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
CO4	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Multimedia and Graphic Designing & Production of Information Materials
Course Code	ELP-JMC-401 [P]
Course Outcomes & Bloom's Level	**CO1-** Remembering the information about the multimedia and Software design.**(BL1-Remember)** **CO2-** To understand the different types of sounds, editing and mixing in sound.**(BL2-Understand)** **CO3-** Appling the different types of graphics in multimedia and various images format.**(BL3-Apply)** **CO4-** Analyze the different video and animation in multimedia and different file format and their use in multimedia.**(BL4-Analyze)** **CO5-** Evaluation of multimedia application and multimedia in different industries.**(BL5-Evaluate)**
Course Elements	Skill Development ✔ Entrepreneurship ✔ Employability ✔ Professional Ethics ✘ Gender ✘ Human Values ✘ Environment ✘	**SDG (Goals)**	SDG4(Quality education) SDG5(Gender equality) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
CO4	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
CO5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Mushroom Cultivation Technology
Course Code	ELP-PP-401 [P]
Course Outcomes & Bloom's Level	**CO1-** Describe the importance and scope mushroom cultivation**(BL1-Remember)** **CO2-** Explain the different types of mushrooms and their nutritional content**(BL2-Understand)** **CO3-** Demonstrate the spawn production and cultivation of various types of mushrooms**(BL3-Apply)** **CO4-** Explore various cultivation methods, such as indoor and outdoor cultivation**(BL4-Analyze)** **CO5-** Develop skills to identify and prevent contamination issues during mushroom cultivation**(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG2(Zero hunger) SDG3(Good health and well-being) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	3	3	1	1	2	3	1	2	-	1	1	1	-	-	2
CO4	3	3	1	1	-	-	1	-	-	1	1	1	-	1	-
CO5	3	3	-	-	-	-	-	-	-	-	-	-	-	-	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Plant Health Diagnosis and Management
Course Code	ELP-PP-402 [P]
Course Outcomes & Bloom's Level	**CO1-** Describe the importance and scope Plant Health Diagnosis and Management. **(BL1-Remember)** **CO2-** Explain the identifications of different plant diseases and their relation to the weather parameters.**(BL2-Understand)** **CO3-** Demonstrate the isolation of plant pathogen and Koch postulate.**(BL3-Apply)** **CO4-** Analysing and exploring the different isolated pathogens from the field.**(BL4-Analyze)** **CO5-** Evaluating the management practices of different pathogens using bio control agents, botanicals and chemical fungicides.**(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	**SDG (Goals)**	SDG1(No poverty) SDG2(Zero hunger) SDG3(Good health and well-being) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	1	1	-	-	-	-	-	-	-	3	-	-
CO2	-	2	3	2	2	1	-	-	-	-	-	-	-	3	-
CO3	3	-	2	2	2	2	-	-	-	-	-	-	-	1	2
CO4	-	1	-	1	-	-	-	-	-	-	1	1	1	-	-
CO5	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Seed Pathology
Course Code	ELP-PP-403 [P]
Course Outcomes & Bloom's Level	**CO1-** Describe the History and economic importance of seed health in seed industry and plant quarantine**(BL1-Remember)** **CO2-** Explain the important seed borne and seed transmitted pathogens**(BL2-Understand)** **CO3-** Demonstrate the procedure for Isolation, identification and purification of different seed borne pathogens**(BL3-Apply)** **CO4-** Explore the various methods of seed health testing methods**(BL4-Analyze)** **CO5-** Develop skill for detection methods, estimation of storage losses and Integrated management practices for seed borne pathogens**(BL5-Evaluate)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	2	-	-	-	-	2	-	-	-	-	-	-	-	-
CO2	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-
CO4	-	-	2	1	2	-	-	-	-	-	-	-	-	-	-
CO5	-	-	1	1	2	-	2	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Soil, Plant, Water and Seed Testing
Course Code	ELP-SS-401 [P]
Course Outcomes & Bloom's Level	**CO1-** Students will acquire knowledge in the field of soil testing for crop and soil health improvement**(BL1-Remember)** **CO2-** Evaluation of various type of Soil Indexes seed diversity on the basis of seed morphology, Biochemical nature and reproductive behavior.**(BL2-Understand)** **CO3-** Evaluate the challenges of commercial Seed production**(BL3-Apply)** **CO4-** Evaluate the role of quality soil, seed & water availability and their effect on farming society 5**(BL4-Analyze)**

Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG9(Industry Innovation and Infrastructure) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land) SDG17(Partnerships for the goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	3
CO2	-	1	-	3	-	-	-	-	-	-	-	-	3	1	-
CO3	-	2	3	-	1	-	-	-	-	-	-	-	-	-	3
CO4	-	-	3	-	-	-	-	-	-	-	-	2	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SOAG-BSc_HonsAgriculture

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agribusiness and Industrial Management		
Course Code	ELP- ABM-401 [P]		
Course Outcomes & Bloom's Level			
Course Elements		SDG (Goals)	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agricultural Heritage and Agritourism		
Course Code	ELP- ABM-403 [P]		
Course Outcomes & Bloom's Level			
Course Elements		SDG (Goals)	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agricultural waste management
Course Code	ELP- AGRON-401 [P]
Course Outcomes & Bloom's Level	

Course Elements		SDG (Goals)	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Commercial Beekeeping
Course Code	ELP- ENT-401 [P]
Course Outcomes & Bloom's Level	
Course Elements		SDG (Goals)	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Seed Production Technology	
Course Code	ELP- GPB-401 [P]	
Course Outcomes & Bloom's Level		
Course Elements		SDG (Goals)

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Processing of fruits and vegetables for value addition	
Course Code	ELP- HORT-403 [P]	
Course Outcomes & Bloom's Level		
Course Elements		SDG (Goals)	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Protected Cultivation of High value Horticulture Crops		
Course Code	ELP- HORT-405 [P]		
Course Outcomes & Bloom's Level			
Course Elements		**SDG (Goals)**	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agri-based Software Design
Course Code	ELP-AENG-401 [P]
Course Outcomes & Bloom's Level	
Course Elements		SDG (Goals)	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Agriculture Kiosk and Rural Development
Course Code	ELP-AEXT-401 [P]
Course Outcomes & Bloom's Level	

Course Elements		SDG (Goals)	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Introduction to Indigenous Technical Knowledge		
Course Code	ELP-AEXT-402 [P]		
Course Outcomes & Bloom's Level			
Course Elements		SDG (Goals)	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Organic Production Technology	
Course Code	ELP-AGRON-402 [P]	
Course Outcomes & Bloom's Level		
Course Elements		SDG (Goals)	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

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Course mapping with relevance to the local, regional, national, and global developmental needs

Title of the Course	Commercial Crop Production Technology
Course Code	ELP-AGRON-403 [P]
Course Outcomes & Bloom's Level	
Course Elements		SDG (Goals)	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3