# **Agricultural Economics**

Course Title wit	h Credit load M.Sc (Agri.)	
Course Code	Course Title	Credit Hours
AEC-501*	Micro Economic Theory and Applications	3+0
AEC-502*	Agricultural Production Economics	1+1
AEC-503*	Agricultural Marketing and Price Analysis	2+1
AEC-504*	Macro Economics and Policy	2+0
AEC-505*	Econometrics	2+1
AEC-506	Agricultural Development and Policy Analysis	2+0
AEC-507*	Agricultural Finance and Project Management	2+1
AEC-508*	Linear Programming	1+1
AEC-509*	Research Methodology for Social Sciences	1+1
AEC-510	Indian Economy: History and Contemporary Issues	2+0
AEC-511	International Economics	1+1
AEC-591	Master's Seminar	1+0
AEC-599	Master's Research	30
Minor Courses	: Title with Credit load M.Sc (Agri.)	
AEC-512	Institutional Economics	1+0
AEC-513	Natural Resource and Environmental Economics	1+1
AEC-514	Commodity Future Trading	2+0
AEC-515	Development Economics	2+0
AEC-516	Rural Marketing	2+0
AEC-517	Evolution of Economic Thought	1+0
under Agricultural social science gro	courses should be selected from the courses listed in BSMA guid Economics. Remaining courses may be taken from other disciplin up in agriculture faculty subject to fulfillment of the total required cor guide for Agricultural Economics should be from Agril. Extension	es of redits of
Supporting Cou	ırses	_
STAT-501	Mathematics for Applied Sciences	2+0
STAT-502	Statistical Methods for Applied Sciences	3+1
STAT-503	Computer Applications for Agri-Business & Economics	2+1
provided the opted	choose the above mentioned Supporting Courses or other courses d courses are related to the research problem selected by the stud proved by the Student Advisory committee/HOD".	
Course Title wit	h Credit Ioad Ph. D. (Agri.)	
AEC-601*	Advanced Micro Economic Analysis	1+1
AEC-602*	Advanced Macro Economic Analysis	2+0
AEC-603*	Advanced Econometrics	2+1
AEC-604*	Advanced Production Economics	2+1
AEC-610*	Research and Publication Ethics	2+0
AEC-691	Doctoral Seminar-I	1+0
AEC-692	Doctoral Seminar-II	1+0
AEC-699	Doctoral Research	75

Minor Courses :Title with Credit load Ph.D (Agri.)		
AEC-606	Advanced Agricultural Marketing and Price Analysis	2+1
AEC-607	Quantitative Development Policy Analysis	1+1
AEC-608	Natural Resource Management	1+1
AEC-609	Environmental Economics	2+1

At least one minor course should be selected from the courses listed in BSMA guidelines under Agricultural Economics. Remaining courses may be taken from other disciplines of social science group in agriculture faculty subject to fulfillment of the total required credits of minor course. Minor guide for Agricultural Economics should be from Agril. Extension/ Agril Statistics.

Supporting Courses : Title with Credit load Ph.D (Agri.)		
AEC-605	Operations Research	2 + 1
	Note: One course of 600 series of 2 credits from Statistics/Ext.Edu.	

The student may choose the above mentioned Supporting Courses or other courses provided the opted courses are related to the research problem selected by the student and be mandatorily approved by the Student Advisory committee/HOD".

#### **Agricultural Extension**

Course Title with Credit load M.Sc (Agri.)		
Course Code	Course Title	Credit Hours
EXT-501*	Extension Landscape	2+0
EXT-502*	Applied Behaviour Change	2+1
EXT-503*	Organisational Behavior and Development	2+1
EXT-504*	Research Methodology in Extension	2+1
EXT-505*	Capacity Development	2+1
EXT-506*	ICTs for Agricultural Extension and Advisory Services	2+1
EXT-507*	Evaluation and Impact Assessment	2+1
EXT-591	Master's Seminar	1+0
EXT-599	Master's Research	30
Minor Courses : Title with Credit load M.Sc (Agri.)		
EXT-508	Managing Extension Organizations	2+1
EXT-509	Enabling Innovation	1+1
EXT-510	Gender Mainstreaming	2+1
A c l		10

At least two minor courses should be selected from the courses listed in BSMA guidelines under Agricultural Extension Education. Remaining minor courses may be taken from other disciplines of social science group in agriculture faculty subject to fulfillment of the total required credits of minor course. Minor guide for Agricultural Extension Education should be from Agril. Economics/ Agril Statistics.

#### **Supporting Courses**

STAT-502	Statistical Methods for Applied Sciences	3+1

The student may choose the above mentioned Supporting Course or other courses provided the opted courses are related to the research problem selected by the student and be mandatorily approved by the Student Advisory committee/HOD".

Course Title with Credit load Ph. D. (Agri.)		
EXT-601*	Policy Engagement and Extension	2+1
EXT-602*	Methodologies for Social and Behavioural Research	2+1
EXT-603*	Technology Commercialization and Incubation	2+1
EXT-604*	Educational Technology and Instructional Design	2+1
EXT-691	Doctoral Seminar-I	1+0
EXT-692	Doctoral Seminar-II	1+0
EXT-699	Doctoral Research	75
Minor Courses :Title with Credit load Ph.D (Agri.)		
EXT-605	Risk Management and Climate Change Adaptation	2+1
EXT-606	Livelihood Development	1+1
EXT-607	Facilitation for People Centric Development	2+1
At least one miner course should be calested from the courses listed in DSMA guidelines		

At least one minor course should be selected from the courses listed in BSMA guidelines under Agricultural Extension Education. Remaining courses may be taken from other disciplines of social science group in agriculture faculty subject to fulfillment of the total required credits of minor course. Minor guide for Agricultural Extension Education should be from Agril. Economics/ Agril Statistics.

#### **Agricultural Meteorology**

Course Title with Credit load M.Sc (Agri.)		
Course Code	Course Title	Credit Hours
AGM-501*	Fundamentals of Meteorology	2+1
AGM-502*	Fundamentals of Agricultural Meteorology	2+1
AGM-503	Crop-Weather Relationships	2+0
AGM-504*	Agrometeorological Measurements and Instrumentation	1+2
AGM-505	Crop Micrometeorology	2+1
AGM-506	Evapotranspiration and Soil Water Balance	2+1
AGM-507	Crop Weather Models	1+2
AGM-508	Applied Agricultural Climatology	1+2
AGM-509	Weather Forecasting	2+1
AGM-510	RS and GIS Applications in Agricultural Meteorology	2+1
AGM-511	Strategic Use of Climatic Information	2+1
AGM-512	Weather and Climate Risk Management	2+0
AGM-513	Aerobiometeorology	2+1
AGM-591	Master's Seminar	1+0
AGM-599	Master's Research	30
Course Title with Credit load Ph. D. (Agri.)		
AGM-601*	Climate Change and Sustainable Development	2+1
AGM-602	Meteorology of Air Pollution	2+2
AGM-603	Livestock and Fisheries Meteorology	2+2
AGM-604	Hydrometeorology	2+1
AGM-605	Analytical Tools and Methods for Agro-Meteorology	1+1
AGM-606	Research and Publication Ethics	2+0
AGM-607	Environmental Physics for Agricultural Meteorology	3+0
AGM-608*	Computer Programs and Software for Agrometeorological Data Management	1+1
AGM-691	Doctoral Seminar-I	1+0

AGM-692	Doctoral Seminar-II	1+0
AGM-699	Doctoral Research	75

## **Agricultural Statistics**

Course Title with Credit load M.Sc (Agri.). Statistics		
Course Code	Course Title	Credit
		Hours
STAT-552*	Probability Theory	2+0
STAT-553*	Statistical Methods	2+1
STAT-562*	Statistical Inference	2+1
STAT-563*	Design of Experiments	2+1
STAT-564*	Sampling Techniques	2+1
STAT-565*	Statistical Genetics	2+1
STAT-571*	Multivariate Analysis	2+1
STAT-572*	Regression Analysis	1+1
STAT-573*	Statistical Computing	1+1
STAT-551	Mathematics-I	3+0
STAT-554	Actuarial Statistics	2+0
STAT-555	Bioinformatics	2+0
STAT-556	Econometrics	2+0
STAT-561	Mathematics-II	2+0
STAT-566	Statistical Quality Control	2+0
STAT-567	Optimization Techniques	1+1
STAT-574	Time Series Analysis	1+1
STAT-575	Demography	2+0
STAT-576	Statistical Methods for Life Sciences	2+0
STAT-577	Statistical Ecology	2+0
STAT-591	Master's Seminar	1+0
STAT-599	Master's Research	30
Supporting Cou	irses	
STAT-501	MATHEMATICS FOR APPLIED SCIENCES	2+0
STAT-502	STATISTICAL METHODS FOR APPLIED SCIENCES	3+1
STAT-511	EXPERIMENTAL DESIGNS	2+1
STAT-512	BASIC SAMPLING TECHNIQUES	2+1
STAT-521	APPLIED REGRESSION ANALYSIS	2+1
STAT-522	DATA ANALYSIS USING STATISTICAL PACKAGES	2+1
the opted courses a	hoose the above mentioned Supporting Course or other courses pare related to the research problem selected by the student and bred by the Student Advisory committee/HOD".	
Course Title with	n Credit load Ph. D. (Agri.)	
STAT-601*	Advanced Data Analytics	1+2
STAT-602*	Simulation Techniques	1+1
STAT-603*	Linear Models	2+0
STAT-604*	Advanced Statistical Methods	2+1
STAT-611*	Baysian Inference	2+0
STAT-605	Modeling Techniques for Forecasting	2+1
STAT-606	Stochastic Processes	2+0
STAT-607	Survival Analysis	2+0

		1
STAT-608	Spatial Statistics	1+1
STAT-612	Advanced Design of Experiments	2+1
STAT-613	Advanced Sampling Techniques	2+1
STAT-614	Advanced Statistical Genetics	2+1
STAT-615	Advanced Time Series Analysis	2+0
STAT-616	Advanced Bioinformatics	2+1
STAT-617	Advanced Econometrics	1+1
STAT-618	Recent Advances in the Field of Specialization	1+0
STAT-691	Doctoral Seminar-I	1+0
STAT-692	Doctoral Seminar-II	1+0
STAT-699	Doctoral Research	75
Course Title with	n Credit load M.Sc. (Agri.). Computer Application	
Course Code	Course Title	Credit Hours
MCA-513*	Mathematics for Applied Sciences	2+0
MCA-514*	Statistical Computing	1+1
MCA-551*	Mathematical Foundations in Computer Science	3+0
MCA-552*	Object Oriented Programming	2+1
MCA-553*	Design and Analysis of Algorithms	2+1
MCA-554	Information Security	2+0
MCA-555	Web Technologies and Applications	1+1
MCA-556	Computer Networks	2+0
MCA-562*	System Software and Programming	2+1
MCA-563*	Internet Technologies	1+1
MCA-564	Bioinformatics Computing	1+1
MCA-565	Soft Computing Techniques	1+1
MCA-571*	Database Management Systems	2+1
MCA-572*	Software Engineering	2+0
MCA-573	Operating System	2+1
MCA-574	Compiler Construction	2+1
MCA-575	Data Warehousing and Data Mining	2+1
MCA-591	Master's Seminar	1+0
MCA-599	Master's Research	30
Supporting Cour	rses	
MCA-501	Computers Fundamentals And Programming	2+1
MCA-502	Computer Organization Andarchitecture	2+0
MCA-511	Introduction Tocommunication Technologies, Computer Networking And Internet	1+1
MCA-512	Information Technology In Agriculture	2+0
The student may che the opted courses a	noose the above mentioned Supporting Course or other courses pare related to the research problem selected by the student and be red by the Student Advisory committee/HOD".	provided
Course Title with	n Credit load Ph. D. (Agri.) Computer Application	
MCA-601*	Spatial Informatics, GIS and Remote Sensing	1+1
MCA-602*	Introduction to Computer Graphics	1+1
MCA-603	Simulation and Modeling	1+1
MCA-604	Introduction to Big Data	2+1
MCA-605	Introduction to lot	2+1
MCA-606	Management Information Systems	2+0
MCA-611*	Computer Oriented Numerical Analysis	2+1
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MCA-612*	Artificial Intelligence and Machine Learning	2+1
MCA-613	Multimedia and Its Applications	1+1
MCA-614	Knowledge Based Systems for Semantic Web	1+1
MCA-615*	Bioinformatics Computing	2+0
MCA-691	Doctoral Seminar-I	1+0
MCA-692	Doctoral Seminar-I	1+0
MCA-699	Doctoral Research	75

#### Agronomy

Course Title with Credit load M.Sc (Agri.)		
Course Code	Course Title	Credit
Agron F01*	Modern Concepts in Crop Broduction	Hours 3+0
Agron-501*	Modern Concepts in Crop Production	3+0
Agron-502*	Principles and Practices of Soil Fertility and Nutrient Management	2+1
Agron-503*	Principles and Practices of Weed Management	2+1
Agron-504*	Principles and Practices of Water Management	2+1
Agron-505	Conservation Agriculture	1+1
Agron-506	Agronomy of Major Cereals and Pulses	2+1
Agron-507	Agronomy of Oilseed, Fibre and Sugar Crops	2+1
Agron-508	Agronomy of Medicinal, Aromatic and Underutilized Crops	2+1
Agron-509	Agronomy of Fodder and Forage Crops	2+1
Agron-510	Agrostology and Agro-Forestry	2+1
Agron-511	Cropping System and Sustainable Agriculture	2+0
Agron-512	Dryland Farming and Watershed Management	2+1
Agron-513	Principles and Practices of Organic Farming	2+1
Agron-591	Master's Seminar	1+0
Agron-599	Master's Research	30
Course Title with	h Credit load Ph. D. (Agri.)	
Agron-601*	Current Trends in Agronomy	3+0
Agron-602	Recent Trends in Crop Growth and Productivity	2+1
Agron-603	Irrigation Management	2+1
Agron-604	Recent Trends in Weed Management	2+0
Agron-605	Integrated Farming Systems for Sustainable Agriculture	2+0
Agron-606	Soil Conservation and Watershed Management	2+1
Agron-607	Stress Crop Production	2+1
Agron-608*	Research and Publication Ethics	2+0
Agron-691	Doctoral Seminar-I	1+0
Agron-692	Doctoral Seminar-II	1+0
Agron-699	Doctoral Research	75

## **Biochemistry**

Course Title with Credit load M.Sc (Agri.)		
Course Code	Course Title	Credit Hours
BIOCHEM-501*	Basic Biochemistry	3+1
BIOCHEM-502*	Intermediary Metabolism	3+0
BIOCHEM-503*	Enzymology	2+1
BIOCHEM-504	Molecular Biology	2+1
BIOCHEM-505*	Techniques in Biochemistry	2+2
BIOCHEM-506	Immunochemistry	2+1
BIOCHEM-507	Plant Biochemistry	2+1
BIOCHEM-508	Animal Biochemistry	3+0
BIOCHEM-509	Nutritional Biochemistry	2+1
BIOCHEM-510	Nitrogen and Sulphur Metabolism	2+1
BIOCHEM-511	Biochemistry on Xenobiotics	2+0
BIOCHEM-591	Master's Seminar	1+0
BIOCHEM-599	Master's Research	30
Course Title wit	h Credit Ioad Ph. D. (Agri.)	
BIOCHEM-601*	Advanced Enzymology	2+1
BIOCHEM-602	Advanced Molecular Biology	3+0
BIOCHEM-603	Biochemistry of Biotic and Abiotic Stresses	3+0
BIOCHEM-604	Frontier Topics in Biochemistry	2+0
BIOCHEM-605	Concepts and Aplication of Omics in Biological Science	3+0
BIOCHEM-606	Biomembranes	2+0
BIOCHEM-607*	Application of Techniques in Biochemistry	1+2
BIOCHEM-691	Doctoral Seminar-I	1+0
BIOCHEM-692	Doctoral Seminar-II	1+0
BIOCHEM-699	Doctoral Research	75

## Entomology

Course Title with Credit load M.Sc (Agri.)		
Course Code	Course Title	Credit Hours
ENT-501*	Insect Morphology	2+1
ENT-502*	Insect Anatomy and Physiology	2+1
ENT-503*	Insect Taxonomy	1+2
ENT-504*	Insect Ecology	2+1
ENT-505*	Biological Control of Insect Pests and Weeds	2+1
ENT-506*	Toxicology of Insecticides	2+1
ENT-507	Host Plant Resistance	1+1
ENT-508*	Concepts of Integrated Pest Management	2+0
ENT-509*	Pests of Field Crops	2+1
ENT-510*	Pests of Horticultural and Plantation Crops	2+1
ENT-511*	Post Harvest Entomology	1+1
ENT-512	Insect Vectors of Plant Pathogens	1+1

ENT 540	Dringinles of Assertance	4.4	
ENT-513	Principles of Acarology	1+1	
ENT-514	Vertebrate Pest Management	1+1	
ENT-515	Techniques in Plant Protection	0+1	
ENT-516	Apiculture	2+1	
ENT-517	Sericulture	2+1	
ENT-518	Lac Culture	2+1	
ENT-519	Molecular Approaches in Entomology	2+1	
ENT-520	Plant Quarantine, Biosafety and Biosecurity	2+0	
ENT-521	Edible and Therapeutic Insects	1+1	
ENT-522	Medical and Veterinary Entomology	1+1	
ENT-523	Forest Entomology	1+1	
ENT-591	Master's Seminar	1+0	
ENT-599	Master's Research	30	
Course Title with	Course Title with Credit load Ph. D. (Agri.)		
ENT-601*	Insect Phylogeny and Systematics	1+2	
ENT-602*	Insect Physiology and Nutrition	2+1	
ENT-603*	Insect Ecology and Diversity	2+1	
ENT-604	Insect Behaviour	1+1	
ENT-605*	Bio-Inputs for Pest Management	2+1	
ENT-606*	Insecticide Toxicology and Residues	2+1	
ENT-607	Plant Resistance to Insects	1+1	
ENT-608	Acarology	1+1	
ENT-609	Molecular Entomology	1+1	
ENT-610	Integrated Pest Management	2+0	
ENT-691	Doctoral Seminar-I	1+0	
ENT-692	Doctoral Seminar-II	1+0	
ENT-699	Doctoral Research	75	

#### **Genetics and Plant Breeding**

Course Title with Credit load M.Sc (Agri.)		
Course Code	Course Title	Credit Hours
GPB-501*	Principles of Genetics	2+1
GPB-502*	Principles of Plant Breeding	2+1
GPB-503*	Fundamentals of Quantitative Genetics	2+1
GPB-504	Varietal Development and Maintenance Breeding	1+1
GPB-505	Principles of Cytogenetics	2+1
GPB-506*	Molecular Breeding and Bioinformatics	2+1
GPB-507	Breeding for Quality and Special Traits	2+1
GPB-508	Mutagenesis and Mutation Breeding	2+1
GPB-509	Hybrid Breeding	2+1
GPB-510	Seed Production and Certification	1+1
GPB-511	Crop Breeding-I (Kharif Crops)	2+1
GPB-512	Crop Breeding-II (Rabi Crops)	2+1
GPB-513	Breeding Vegetable Crops	2+1
GPB-514	Breeding Fruit Crops	2+1
GPB-515	Breeding Ornamental Crops	2+1
GPB-516	Breeding for Stress Resistance and Climate Change	2+1

GPB-517	Germplasm Characterization and Evaluation	1+1
GPB-518	Genetic Enhancement for PGR Utilization	1+1
GPB-591	Master's Seminar	1+ 0
GPB-599	Master's Research	30
Course Title with	h Credit load Ph. D. (Agri.)	
GPB-601*	Advances in Plant Breeding Systems	3+0
GPB-602	Advances in Biometrical Genetics	2+1
GPB-603	Molecular Cytogenetics for Crop Improvement	2+0
GPB-604	Plant Genetics Resources, Conservation and Utilization	2+0
GPB-605*	Genomics in Plant Breeding	3+0
GPB-606	Population Genetics	2+0
GPB-607	Crop Evolution	3+0
GPB-608	Breeding Designer Crops	1+1
GPB-609*	IPR and Regulatory Mechanism (e-course)	1+0
GPB-691	Doctoral Seminar-I	1+0
GPB-692	Doctoral Seminar-II	1+0
GPB-699	Doctoral Research	75

## Microbiology

Course Title with Credit load M.Sc (Agri.)		
Course Code	Course Title	Credit Hours
MICRO-501	Techniques in Microbiology	0+2
MICRO-502*	Principles of Microbiology	3+1
MICRO-503*	Microbial Physiology and Metabolism	3+1
MICRO-504	Microbial Genetics	2+1
MICRO-505*	Soil Microbiology	2+1
MICRO-506	Microbial Biotechnology	2+1
MICRO-507*	Food Microbiology	2+1
MICRO-508	Bacteriophages	1+1
MICRO-509	Environmental Microbiology	2+1
MICRO-510	Industrial Microbiology	2+1
MICRO-511	Biofertilizer Technology	2+1
MICRO-512	Cyanobacterial and Algal Biotechnology	2+0
MICRO-591	Master's Seminar	1+0
MICRO-599	Master's Research	30
Course Title with	n Credit load Ph. D. (Agri.)	
MICRO-601*	Improvement in Fermentation Technology	2+1
MICRO-602	Microbial Physiology and Regulation	2+0
MICRO-603*	Recent Developments in Soil Microbiology	2+0
MICRO-604	Recent Approaches in Environmental Microbiology	2+0
MICRO-605*	Plant Microbe Interactions	2+1
MICRO-691	Doctoral Seminar-I	1+0
MICRO-692	Doctoral Seminar-II	1+0
MICRO-699	Doctoral Research	75

# Molecular Biology and Biotechnology

Course Title with Credit load M.Sc (Agri.)		
Course Code	Course Title	Credit
MDD 504		Hours
MBB-501	Principles of Biotechnology	3+0
MBB-502*	Fundamentals of Molecular Biology	3+0
MBB-503*	Molecular Cell Biology	3+0
MBB-504*	Techniquesin Molecular Biology I	0+3
MBB-505*	Omics and Systems Biology	2+1
MBB-506	Plant Genetic Engineering	3+0
MBB-507	Techniques in Molecular Biology II	0+3
MBB-508	Introduction to Bioinformatics	2+1
MBB-509	Plant Tissue Culture	2+1
MBB-510	Microbial and Industrial Biotechnology	2+1
MBB-511	Molecular Plant Breeding	2+1
MBB-512	IPR, Bio-Safety & Bioethics	2+0
MBB-513	Immunology and Molecular Diagnostics	3+0
MBB-514	Nano Biotechnology	2+1
MBB-515	Environmental Biotechnology	3+0
MBB-516	Bio-Entrepreneurship	1+0
MBB-517	Stress Biology and Genomics	2+0
MBB-518	Gene Regulation	2+0
MBB-591	Master's Seminar	1+0
MBB-599	Master's Research	30
Course Title with	h Credit load Ph. D. (Agri.)	
MBB-601*	Plant Molecular Biology	3+0
MBB-602*	Plant Genome Engineering	3+0
MBB-603	Plant Omics and Molecular Breeding	3+0
MBB-604	Commercial Plant Tissue Culture	2+0
MBB-605	Plant Microbe Interaction	2+0
MBB-606	RNA Biology	1+0
MBB-607	Plant Hormones and Signaling	2+0
MBB-608	Computational and Statistical Tools in Biotechnology	2+1
MBB-691	Doctoral Seminar-I	1+0
MBB-692	Doctoral Seminar-II	1+0
MBB-699	Doctoral Research	75

## Nematology

Course Title with Credit load M.Sc (Agri.)		
Course Code	Course Title	Credit Hours
NEMA-501*	Principles of Nematology	2+1
NEMA-502	Principles of Taxonomy	2+0
NEMA-503*	Structural & Functional Organization of Nematodes	2+1
NEMA-504*	Nematode Systematics	2+1
NEMA-505*	Nematological Techniques	1+2
NEMA-506*	Nematode Diseases of Crops	3+1

NEMA-507	Nematode Biology and Physiology	2+1
NEMA-508	Nematode Ecology	2+1
NEMA-509	Nematode Interactions with Other Organisms	2+1
NEMA-510*	Nematode Management	2+1
NEMA-511	Beneficial Nematodes	1+1
NEMA-512	Principles of Integrated Pest Management	1+1
NEMA-513	Disease Resistance in Plants	2+0
NEMA-514	Plant Quarantine, Biosafety and Biosecurity	2+0
NEMA-515	IPM in Protected Cultivation	2+1
NEMA-591	Master's Seminar	1+0
NEMA-599	Master's Research	30
Course Title with	n Credit load Ph. D. (Agri.)	
NEMA-601*	Nematode Phylogeny and Systematics	2+1
NEMA-602*	Nematode Disease Development and Host Resistance	2+1
NEMA-603*	Advances in Nematode Management	2+1
NEMA-604*	Physiological and Molecular Nematology	2+1
NEMA-605	Plant Biosecurity and Biosafety	2+0
NEMA-691	Doctoral Seminar-I	1+0
NEMA-692	Doctoral Seminar-II	1+0
NEMA-699	Doctoral Research	75

## **Plant Pathology**

Course Title with Credit load M.Sc (Agri.)		
Course Code	Course Title	Credit Hours
PL.PATH-501*	Mycology	2+1
PL.PATH-502*	Plant Virology	2+1
PL.PATH-503*	Plant Pathogenic Prokaryotes	2+1
PL.PATH-504*	Plant Nematology	2+1
PL.PATH-505*	Principles of Plant Pathology	2+1
PL.PATH-506*	Techniques in Detection and Diagnosis of Plant Diseases	0+2
PL.PATH-507	Principles of Plant Disease Management	2+1
PL.PATH-508	Epidemiology and Forecasting of Plant Diseases	1+0
PL.PATH-509	Disease Resistance in Plants	2+0
PL.PATH-510	Ecology of Soil-Borne Plant Pathogens	1+1
PL.PATH-511	Chemicals and Botanicals in Plant Disease Management	2+1
PL.PATH-512	Detection and Management of Seed Borne Pathogens	2+1
PL.PATH-513	Biological Control of Plant Diseases	1+1
PL.PATH-514	Integrated Disease Management	2+1
PL.PATH-515*	Diseases of Field and Medicinal Crops	2+1
PL.PATH-516	Diseases of Fruits, Plantation and Ornamental Crops	2+1
PL.PATH-517	Diseases of Vegetable and Spices Crops	2+1
PL.PATH-518	Post Harvest Diseases	2+1
PL.PATH-519	Plant Quarantine and Regulatory Measures	1+0
PL.PATH-591	Master's Seminar	1+0
PL.PATH-599	Master's Research	30

Course Title with Credit load Ph. D. (Agri.)		
Course Code	Course Title	Credit Hours
PL.PATH-601	Advances in Mycology	2+1
PL.PATH-602	Advances in Virology	2+1
PL.PATH-603	Advances in Plant Pathogenic Prokaryotes	2+1
PL.PATH-604*	Molecular Basis of Host-Pathogen Interaction	2+1
PL.PATH-605	Principles and Procedures of Certification	1+0
PL.PATH-606	Plant Biosecurity and Biosafety	2+0
PL.PATH-691	Doctoral Seminar-I	1+0
PL.PATH-692	Doctoral Seminar-II	1+0
PL.PATH-699	Doctoral Research	75

#### **Plant Physiology**

Course Title with	n Credit load M.Sc (Agri.)	
Course Code	Course Title	Credit Hours
PP-501*	Principles of Plant Physiology-I: Plant Water Relations and Mineral Nutrition	2+1
PP-502*	Principles of Plant Physiology-II: Metabolic Processes and Growth Regulation	2+1
PP-503*	Plant Developmental Biology: Physiological and Molecular Basis	2+1
PP-504	Physiological and Molecular Responses of Plants to Abiotic Stresses	2+1
PP-505	Hormonal Regulation of Plant Growth and Development	2+1
PP-506	Physiological and Molecular Mechanisms of Mineral Nutrient Acquisition and Their Functions	2+1
PP-507	Photosynthetic Processes, Crop Growth and Productivity and Concepts of Crop Modelling	2+1
PP-508	Physiology of Field Crops	2+0
PP-509	Physiology of Horticulture Crops	2+0
PP-510*	Seed Physiology	2+1
PP-511	Phenotyping Physiological Processes	2+0
PP-512	Crop Growth Regulation and Management	2+0
PP-591	Master's Seminar	1+0
PP-599	Master's Research	30
Course Title with	n Credit load Ph. D. (Agri.)	
PP-601	Functional Genomics and Genes Associated With a Few Physiological Processes	2+0
PP-602*	Signal Perceptions and Transduction and Regulation of Physiological Processes	2+0
PP-603	Molecular Approaches for Improving Physiological Mechanisms Through Trait Introgression	2+1
PP-604	Plant Phenomics - Next Generation Phenomics Platforms	2+0
PP-605	Experimental Techniques to Characterize Plant Processes for Crop Improvement	0+2
PP-606	Global Climate Change and Crop Response	2+0
PP-607*	Physiological and Molecular Aspects of Source-Sink Capacity for Enhancing Yield	3+0

PP-608	Seed and Fruit Growth and Their Quality Improvement	2+0
PP-609	Plant-Microbe Interactions	2+1
PP-610	Weed Biology and Physiology of Herbicide Action	2+0
PP-691	Doctoral Seminar-I	1+0
PP-692	Doctoral Seminar-II	1+0
PP-699	Doctoral Research	75

# Seed Science and Technology

Course Title with Credit load M.Sc (Agri.)				
Course Code	Course Title	Credit Hours		
SST-501*	Seed Developmental Biology	1+1		
SST-502	Seed Dormancy and Germination	1+1		
SST-503*	Seed Production Principles and Techniques in Field Crops	2+1		
SST-504*	Seed Production Principles and Techniques in Vegetable Crops	2+1		
SST-505	Seed Production Techniques in Fruits, Flowers, Spices, Plantation and Medicinal Crops	2+1		
SST-506	Seed Production Techniques in Forage, Pasture and Green Manure Crops	1+1		
SST-507*	Seed Legislation and Certification	2+1		
SST-508*	Post Harvest Handling and Storage of Seeds	2+1		
SST-509*	Seed Quality Testing and Enhancement	1+1		
SST-510	Seed Technology of Tree Species	1+1		
SST-511	Seed Industry and Marketing Management	1+1		
SST-512	Seed Health Testing and Management	1+1		
SST-591	Master's Seminar	1+0		
SST-599	Master's Research	30		
Course Title with	n Credit load Ph. D. (Agri.)			
SST-601*	Hybrid Seed Production Technology	2+1		
SST-602	Organic Seed Production	1+1		
SST-603	Physiology and Biochemistry of Seeds	1+1		
SST-604*	Genetic Purity and DUS Testing	2+1		
SST-605	Seed Vigour and Crop Productivity	1+1		
SST-606*	Advances in Seed Science	2+0		
SST-607	Advances in Seed Quality Enhancement	1+1		
SST-608	Germplasm Conservation Techniques	1+1		
SST-609	Seed Ecology	1+1		
SST-610	Seed Planning, Trade and Marketing	1+1		
SST-691	Doctoral Seminar-I	1+0		
SST-692	Doctoral Seminar-II	1+0		
SST-699	Doctoral Research	75		

#### **Soil Science**

Course Title with Credit load M.Sc (Agri.)				
Course Code	Course Title	Credit Hours		
Soil-501*	Soil Physics	2+1		
Soil-502*	Soil Fertility and Fertilizer Use	3+1		
Soil-503*	Soil Chemistry	2+1		
Soil-504*	Soil Mineralogy, Genesis and Classification	2+1		
Soil-505	Soil Erosion and Conservation	2+1		
Soil-506	Soil Biology and Biochemistry	2+1		
Soil-507	Radioisotopes in Soil and Plant Studies	1+1		
Soil-508	Soil, Water and Air Pollution	2+1		
Soil-509	Remote Sensing and GIS Technique for Soil and Crop Studies	2+1		
Soil-510	Analytical Technique and Instrumental Methods in Soil and Plant Analysis	0+2		
Soil-511	Management of Problematic Soils and Water	2+1		
Soil-512	Land Degradation and Restoration	1+0		
Soil-513	Soil Survey and Land Use Planning	2+0		
Soil-514	Introduction to Nanotechnology	2+1		
Soil-591	Master's Seminar	1+0		
Soil-599	Master's Research	30		
Course Title with	n Credit load Ph. D. (Agri.)			
Soil-601	Recent Trends in Soil Physics	2+0		
Soil-602	Modern Concept in Soil Fertility	2+0		
Soil-603*	Physical Chemistry of Soil	2+0		
Soil-604*	Soil Genesis and Micromorphology	2+0		
Soil-605	Biochemistry of Soil Organic Matter	2+0		
Soil-606	Soil Resource Management	3+0		
Soil-607	Modelling of Soil Plant System	2+0		
Soil-608	Clay Mineralogy	2+1		
Soil-609	Recent Trends in Soil Microbial Biodiversity	2+1		
Soil-691	Doctoral Seminar-I	1+0		
Soil-692	Doctoral Seminar-II	1+0		
Soil-699	Doctoral Research	75		

#### **Non Gradial Common Courses**

Course Title with Credit load			
Course Code	Course Title	Credit Hours	
PGS-501	Library and Information Services	0+1	
PGS-502	Technical Writing and Communications Skills	0+1	
PGS-503	Intellectual Property and Its Management in Agriculture	1+0	
PGS-504	Basic Concepts in Laboratory Techniques	0+1	
PGS-505	Agricultural Research, Research Ethics and Rural Development Programmes	1+0	
PGS-506	Advertising and Brand Management	1+0	
	Note: (a) For all the faculties other than M.B.A. (ABM) five courses i.e., (1),(2), (3), (4) and (5) are compulsory. (b) For M.B.A. Faculty, five courses i.e., (1), (2), (3), (5) and (6) are compulsory		