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PG Degree Programme Syllabus as per ICAR

M. Sc. (Ag.) Agricultural Economics



Department of Agricultural Economics and Statistics

Session: 2023-2024

- > Programme Structure
- > Programme Outcomes (POs)
- > Course Outcomes (COs)
- > Detailed Syllabus (Course Contents)

Prof.
Rajendra Singh
15.02.2024

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Contents

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1	Framework of the courses	
2	Course wise contents and books for references/resources for M. Sc. (Ag.) Agricultural Economics	

Framework of the courses

The following nomenclature and Credit Hrs. need to be followed while providing the syllabus for all the disciplines.

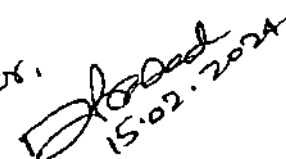

Courses	Credits
Major courses	20
Minor courses	08
Supporting courses	06
Common courses	05
Seminar	01
Thesis	30
Total	70

M.Sc. (Ag.) Agricultural Economics

Semester I

Course Code	Title of the Course	Type	Credits	T/P	EVALUATION (MM-100)		
					INTERNAL CIE	EXTERNAL PRACTICAL	EXTERNAL ETE
AEC-501	Micro Economic Theory & Applications	Major	3(2+1)	T/P	30	20	50
AEC-502	Agricultural Production Economics	Major	2(1+1)	T/P	30	20	50
AEC-509	Research Methodology for Social Science	Major	2(1+1)	T/P	30	20	50
COMP-501	Computer Fundamentals in Agriculture	Supporting	3(2+1)	T/P	30	20	50

1. Minor course is taken from allied programme.

For.  15.02.2024 

Prof. Rajendra Singh (Rajju Bhaiya) University, Prayagraj

Semester II

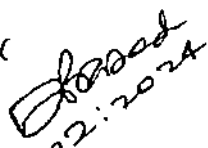

					EVALUATION (MM-100)		
					INTERNAL		EXTERNAL
Course Code	Title of the Course	Type	Credits	T/P	CIE	PRACTICAL	ETE
AEC-507	Agricultural Finance and Project Management	Major	3(2+1)	T/P	30	20	50
AEC-508	Linear Programming	Major	2(1+1)	T/P	30	20	50
AEC-504	Macro Economics and Policy	Major	2(1+1)	T/P	30	20	50
STAT-511	Experimental Designs	Supporting	3(2+1)	T/P	30	20	50
STAT-502	Statistical Method for Applied Science						
PGS-503	Intellectual Property and its Management in Agriculture	Common	1(1+0)	T	40+10*	00	50
PGS-504	Basic Concepts in Laboratory Techniques	Common	1(0+1)	P	40+10*	50	00
AEC-516	Rural Marketing	• Minor	2(1+1)	T/P	30	20	50

1. Select any one from STAT-502 and 511.
2. Minor course is taken from allied programme.

Semester III

					EVALUATION (MM-100)		
					INTERNAL		EXTERNAL
Course Code	Title of the Course	Type	Credits	T/P	CIE	PRACTICAL	ETE
AEC-505	Econometrics	Major	3(2+1)	T/P	30	20	50
AEC-503-	Agricultural Marketing and Price Analysis	• Major	3(2+1)	T/P	30	20	50
PGS-505	Agriculture Research, Research Ethics and Rural Development	Common	1(1+0)	T	40+10*	00	50
PGS-501	Technical Writing and Communication Skills	Common	1(0+1)	P	40+10*	50	00
PGS-502	Library and Information services	Common	1(0+1)	P	40+10*	50	00
EXT-505	Capacity Development	Minor	3(2+1)	T/P	30	20	50
EXT-507	Evaluation and Impact Assessment	Minor	3(2+1)	T/P	30	20	50

1. Minor course is taken from allied programme.

For

 15.02.2024


Semester IV

Course Code	Title of the Course	Type	Credits
AEC-591	Seminar	Compulsory	1(1+0)
AEC-599	Thesis	Compulsory	30(30+0)

*Assignment/PPT Presentation/GD

Note:

- Total credits to be earned by a student for completion of the PG program: $40 + 30(\text{Thesis}) = 70$

For
15.02.2024
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**PG Degree Programme Syllabus as per ICAR
M. Sc. (Ag.) Agricultural Extension**



Department of Agricultural Extension

Session: 2023-2024

- > Programme Structure
- > Programme Outcomes (POs)
- > Course Outcomes (COs)
- r Detailed Syllabus (Course Contents)

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1	Framework of the courses	
2	Course wise contents and books for references/resources for M. Sc. (Ag.) Agricultural Extension	

Framework of the courses

The following nomenclature and Credit Hrs. need to be followed while providing the syllabus for all the disciplines.

Courses	Credits
Major courses	20
Minor courses	08
Supporting courses	06
Common courses	05
Seminar	01
Thesis	30
Total	70

M.Sc. (Ag.) Agricultural Extension

Semester I

Course Code	Title of the Course	Type	Credits	T/P	EVALUATION (MM-100)		
					INTERNAL	EXTERNAL	
					CIE	PRACTICAL	ETE
EXT-501	Development Perspective of Extension Education	Major	3(2+1)	T	30	20	50
EXT-512	Development Communication and Information Management	Major	3(2+1)	T/P	30	20	50
EXT-513	Diffusion and Adoption of Innovations	Minor	3(2+1)	T/P	30	20	50
COMP-501	Computer Application in Agriculture	Supporting	3(2+1)	T/P	30	20	50

1. Minor course is taken from allied programme.
2. *Assignment/PPT Presentation/GD

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Semester II

					EVALUATION (MM-100)		
					INTERNAL		EXTERNAL
Course Code	Title of the Course	Type	Credits	T/P	CIE	PRACTICAL	ETE
EXT-504	Research Methodology in Extension	Major	3(2+1)	T/P	30	20	50 -
EXT-505	Capacity Development	Major	3(2+1)	T/P	30	20	50
STAT-511	Experimental Designs	Supporting	3(2+1)	T/P	30	20	50
STAT-502	Statistical Method for Applied Science						
PGS-503	Intellectual Property and its Management in Agriculture	Common	1(1+0)	T	40+ 10*	00	50
PGS-504	Basic Concepts in Laboratory Techniques	Common	1(0+1)	P	40+ 10*	50	00
AEC-516	Rural Marketing	Minor	2(1+1)	T/P	30	20	50
1. Select any one from STAT-502 and 511. 2. Minor course is taken from allied programme. 3. *Assignment/PPT Presentation/GD							

Semester III

					EVALUATION (MM-100)		
					INTERNAL		EXTERNAL
Course Code	Title of the Course	Type	Credits	T/P	CIE	PRACTICAL	ETE
EXT-506	ICTs for Agricultural Extension and Advisory Services	Major	3(2+1)	T/P	30	20	50
EXT-503	Extension Landscape	Major	2(2+0)	T/P	40+ 10*	00	50
EXT-507	Evaluation and Impact Assessment	Major	3(2+1)	T/P	30	20	50
PGS-501	Technical Writing and Communication Skills	Common	1(0+1)	P	40+ 10*	50	00
PGS-502	Library and Information services	Common	1(0+1)	P	40+ 10*	50	00
PGS-505	Agriculture Research, Research Ethics and Rural Development	Common	1(1+0)	T	40+ 10*	00	50
EXT-508	Managing Extension Organizations	Minor	3(2+1)	T/P	30	20	50
1. Minor course is taken from allied programme. 2. *Assignment/PPT Presentation/GD							

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Semester IV

Course Code	Title of the Course	Type	Credits
EXT-591	Seminar	Compulsory	1(1+0)
EXT-599	Thesis	Compulsory	30(30+0)

Note:

- Total credits to be earned by a student for completion of the PG program: $40 + 30(\text{Thesis}) = 70$

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PG Degree Programme Syllabus as per ICAR
M. Sc. (Ag.) Genetics and Plant Breeding



Department of Genetics and Plant Breeding

Session: 2023-2025

- > **Programme Structure**
- > **Programme Outcomes (POs)**
- > **Course Outcomes (COs)**
- > **Detailed Syllabus (Course Contents)**

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2	Course wise contents and books for references/resources for M. Sc. (Ag.) Genetics and Plant Breeding	

Framework of the courses

The following nomenclature and Credit Hrs. need to be followed while providing the syllabus for all the disciplines.

Courses	Credits
Major courses	20
Minor courses	08
Supporting courses	06
Common courses	05
Seminar	01
Thesis	30
Total	70

M. Sc. (Ag.) Genetics and Plant Breeding Semester wise

Semester-I					EVALUATION (MM-100)		
					INTERNAL		EXTERNAL
Course Code	Title of the Course	Type	Credits	T/P	CIE	PRACTICAL	ETE
GPB 501	Principles of Genetics	Major	3(2+1)	T/P	30	20	50
GPB 505	Principles of Cytogenetics	Major	3(2+1)	T/P	30	20	50
GPB-507	Population Genetics	Minor	2(1+1)	T/P	30	20	50
SST-501	Seed Development Biology						
COMP-501	Computer Application in Agriculture	Supporting	3(2+1)	T/P	30	20	50
Total			11				
1. Select any one from GPB 507 & SST-501. 2. Minor course is taken from allied programme.							

Semester-II

					EVALUATION (MM-100)		
					INTERNAL	EXTERNAL	
Course Code	Title of the Course	Type	Credits	T/P	CIE	PRACTICAL	ETE
GPB-503	Fundamental of Quantitative Genetics	Major	3(2+1)	TZP	30	20	50
GPB-510	Seed Production and Certification	Major	2(1+1)	T/P	30	20	50
GPB -517	Germplasm Characterization and Evaluation						
PP-510	Seed Physiology	Minor	3(2+1)	TZP	30	20.	50
GPB 502	Principles of Plant Breeding	Major	3(2+1)	TZP	30	20	50
STAT-511	Experimental Designs	Supporting	3(2+1)	T/P	30	20	50
STAT-502	Statistical Method for Applied Science						
PGS-503	Intellectual Property and its Management in Agriculture	Common	1(1+0)	T	40 + 10*	00	50
PGS-504	Basic concepts in Laboratory Techniques	Common	1(0+1)	P	40 + 10*	50	00
			Total	16			
1. Select any one from GPB 510 & 517. 2. Select any one from STAT-502 & 511. 3. Minor course is taken from allied programme. 4. *Assignment/PPT Presentation/GD							

Semester-III

					EVALUATION (MM-100)		
					INTERNAL	EXTERNAL	
Course Code	Title of the Course	Type	Credits	TZP	CIE	PRACTICAL	ETE
GPB-506	Molecular Breeding and Bioinformatics	Major	3(2+1)	TZP	30	20	50
GPB-508	Mutagenesis and Mutation Breeding	Major	3(2+1)	T/P	30	20	50
GPB-509	Hybrid Breeding						
PGS-501	Technical writing and communication skills	Common	1(0+1)	P	40+10*	50	00
PGS-502	Library and Information Service	Common	1(0+1)	P	40+10*	50	00
PGS-505	Agriculture Research, Research Ethics and Rural Development	Common	1(1+0)	T	40+10*	00	50
SST-503	Seed Production Principles and Techniques in Field Crops	Minor	3(2+1)	T/P	30	20	50
			Total	12			

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Prof. Rajendra Singh (Rajju Bhaiya) University, Prayagraj

1. Select any one from GPB 508 & 509.
2. Minor course is taken from allied programme.
3. *Assignment/PPT Presentation/GD

Semester IV

Course Code	Title of the Course	Type	Credits
GPB-591	Seminar (Course Seminar)	Compulsory	1(0+1)
GPB-599	Thesis	Compulsory	30(0+30)

Thesis Guideline

1st Sem. Supervisor/ Advisor, Topic/Research Proposal Allotted

2nd & 3rd Sem. Synopsis presentation, Research field allotment, experimentation data collection etc.

4th Sem. Master Seminar, Data Analysis, Thesis writing, Pre-submission and Thesis Evaluation Seminar

Criteria for Thesis Evaluation

1. Synopsis: There will be a research advisory committee also called (SAC) student advisory committee, at institutions level
2. Synopsis presentation will be conducted in presence of SAC members sixty percent of members will form the quorum SAC members.
3. The research advisor of Student shall be convenor of this committee. This committee will have following responsibilities:
 - i) To review, the research title and finalize the topic of research.
 - ii) To guide the student to build up the study design and research methodology of research
 - iii) To periodically review and guide in the progress of research work of the students
4. There will be pre- submission presentation by the student before SAC at institution level
5. After incorporation of suggestion final thesis will be submitted to the university for evaluation
6. Pannel of external & internal examiner will be appointed by the university.
7. The place of final presentation viva voice examination will be decided by the university.

Note:

- Total credits to be earned by a student for completion of the PG program: 40+30(Thesis) =70

PG Degree Programme Syllabus as per ICAR

M. Sc. (Ag.) Horticulture



Department of Horticulture

Session: 2023-2024

1. Framework of the M.Sc. (Ag.) Horticulture course on the basis of credits requirements as per ICAR

The following nomenclature and Minimum Credit Hrs. need to be followed while providing the syllabus for Master Programme in Horticulture:

Courses	Master's Programme (Credits hrs.)
Major courses	20
Minor courses	08
Supporting courses	06
Common courses	05
Seminar	01
Thesis	30
Total	70

- ❖ Major courses: From the Discipline in which a student takes admission.
- ◁ Minor courses: From the subjects closely related to a student's major subject.
- ❖ Supporting courses: The subject not related to the major subject. It could be any subject considered relevant for student's research work (such as Statistical Methods, Design of Experiments, etc.) or necessary for building his/ her overall competence.
- ❖ Common Courses: The following above mention common courses (one credit each) will be offered to all students undergoing Master's degree programme:

2. Evaluation of course work and comprehensive examination

For M.Sc., multiple levels of evaluation (First Test, Midterm and Final semester) is desirable. However, it has been felt that the comprehensive examination is redundant for M.Sc. students. The evaluation pattern shall be as follows:

Evaluation Pattern (MM-100)		
Internal		External
Midterm/Test	Practical	Theory
30	20	50

Revised *LDK*
(Common)

DEPARTMENT OF HORTICULTURE
PROGRAMME STRUCTURE M.Sc. (Ag.)
Horticulture

Semester wise allocation of courses with credit load

Semester I

Course Code	Course Title		Credits	T/P	EVALUATION (MM=100)		
					Internal		External
					CIE	Practical	ETE
HORT-511	PROPAGATION AND NURSERY MANAEMENT OF FRUIT CROPS	Major	2(1+1)	T	30	20	50
HORT-514	ORNAMENTAL GARDENING AND LAND SCAPING	Minor	3(2+1)	T	30	20	50
HORT-513	TROPICAL AND MINOR FRUIT PRODUCTION	Major	3(2+1)	T	30	20	50
COMP-501	COMPUTERS FUNDAMENTALS AND PROGRAMING	Major	3(2+1)	T	30	20	50
Total			11				

Semester-II

Course Code	Course Title		Credits	T/P	EVALUATION (MM=100)		
					Internal		External
					CIE	Practical	ETE
HORT-521	SUB-TROPICAL AND TEMPERATE FRUIT PRODUCTION	Major	3(2+1)	T	30	20	50
HORT-522	PRODUCTION OF WARM SEASON VEGETABLE CROPS	Major	3(2+1)	T	30	20	50
HORT-523	PROTECTED CULTIVATION OF HORTICULTURAL CROPS	Minor	2(1+1)	T	30	20	50
STAT-511	EXPERIMENTAL DESIGNS / STATISTICAL METHODS FOR APPLIED SCIENCE	Supporting	3(2+1)	T	30	20	50
Common 3	INTELLECTUAL PORPPTY AND ITS MANAGEMENT IN AGRICULTURE	Common	1(1+0)	T	40+10*	00	50
Common 4	BASIC CONCEPTS IN LABORATORY TECHNIQUES	Common	1(0+1)	P	40+10*	50	00
Total			13				

Semester-III

Course Code	Course Title		Credits	T/P	EVALUATION (MM=100)		
					Internal		External
					CIE	Practical	ETE
HORT-515	CORMMERCIAL PRODUCTION OF CUT AND LOOSE FLOWERS	Major	3	T	30	20	50
HORT-518	BREEDING OF HORTICULTRUAL CROPS	Minor	3	T	30	20	50
HORT-516	POST HARVEST MANAGEMENT AND PRESERVATION OF FRUIT AND VEGETABLES	Major	3	T	30	20	50
HORT-512	PRODUCTION OF COOL SEASON VEGETABLE CROPS	Supporting	3	T	30	20	50
Common 1	TECHNICAL WRITING AND COMMUNICATION SKILLS	Common	1(0+1)	P	40+10*	50	00
Common 2	LIBRARY AND INFORMATION SERVICES	Common	1(0+1)	P	40+10*	50	00
Common 5	AGRICULTURAL RESEARCH, RESEARCH ETHICS AND RURAL DEVELOPMENT PROGRAMMES	Common	1(1+0)	T	40+10*	00	50
• Total			15				

Semester-IV

COURSE CODE	COURSE TITLE	TYPE	Credits	T/P	Internal	External
HORT-591	SEMINAR	Compulsory	1(0+1)	P	100	-
HORT-599	THESIS	Compulsory	30	P		100
Total			31			

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Thesis Guidelines:

1 st Semester Supervisor/ Advisor, Topic/Research Proposal Allotment

2nd & 3rd Sem. Synopsis presentation, Research field allotment, experimentation data collection etc. 4th

Sem. Master Seminar, Data Analysis, Thesis writing, Pre-submission, and Thesis Evaluation.

Criteria for thesis Evaluation

1. Synopsis: There will be a research advisory committee also called (SAC) student advisory committee, at institutions level.
2. Synopsis presentation will be conducted in presence of sixty percent of member will form the quorum SAC members.
3. The research advisor of Student shall be convenor of this committee. This committee will have following responsibilities:
 - i) To review the research title and finalize the topic of research
 - ii) To guide the student to build up the study design and research methodology
 - iii) To periodically review and guide in the progress of research work of the students
4. There will be pre- submission examiner by the student before SAC at institution level.
5. After incorporating the suggestion final thesis will be submitted to the university for evaluation.
6. Pannal of external & internal examiner will be appointed by the university.
7. 7. The place of final presentation viva voice examination will be decided by the university.

Note:

- Total credits to be earned by a student for completion of the PG program:40+30 (Thesis) =70

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Dr. Vishwanath
Convenor

PG Degree Programme Syllabus as per ICAR

M. Sc. (Ag.) Soil Science



Department of Soil Science

Session: 2023-2025

- > **Programme Structure**
- > **Programme Outcomes (POs)**
- > **Course Outcomes (COs)**
- > **Detailed Syllabus (Course Contents)**

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1	Framework of the courses	
2	Course wise contents and books for references/resources for M. Sc. (Ag.) Soil Science [^] -	

Framework of the courses

The following nomenclature and Credit Hrs. need to be followed while providing the syllabus for all the disciplines

Courses \	Credits
Major courses	20
Minor courses	08
Supporting courses	06
Common courses	05
Seminar	01
Thesis	30
Total	70

M. Sc. (Ag.) Soil Science Semester wise

Semester I

					EVALUATION (MM-100)		
					INTERNAL		EXTERNAL
Course Code	Title of the Course	Type	Credits	T/P	CIE	PRACTICAL	ETE
SOIL -504	Soil Mineralogy, Genesis and Classification	Major	3(2+1)	T/P	30	20	50
SOIL-510	Analytical Technique-and Instrumental Methods in Soil and Plant Analysis	Major	2(0+2)	P	40+10*	50	00
SOIL- 509	Soil, Water and Air Pollution	Major	3(2+1)	T/P	30	20	50
COMP-501	Computer Application in Agriculture	Supporting	3(2+1)	T/P	30	20	50

1. Minor course is taken from allied programme.

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Semester II

					EVALUATION (MM-100)		
					INTERNAL	EXTERNAL	
Course Code	Title of the Course	Type	Credits	T/P	CIE	PRACTICAL	ETE
SOIL -501	Soil Physics	Major	3(2+1)	T/P	30	20	50
SOIL -502	Soil Fertility & Fertilizer Use	Major	3(2+1)	T/P	30	20	50
STAT-511	Experimental Designs	Supporting	3(2+1)	T/P	30	20	50
STAT-502	Statistical Method for Applied Science						
PGS-503	Intellectual Property and its Management in Agriculture	Common	1(1+0)	T	40+ 10*	00	50
PGS-504	Basic Concepts in Laboratory Techniques	Common	1(0+1)	P	40+ 10*	50	00
PP-501	Principles of Plant Physiology-1: Plant Water Relations and Mineral Nutrition	Minor	3(2+1)	T/P	30	20	50
HORT-521	Subtropical and Temperate Fruit Production						
AGM-502	Fundamentals of Agricultural Meteorology	Minor	2(1+1)	T/P	30	20	50
AEC-502	Agricultural Production Economics						

1. Select any one from STAT-511 & 502.
2. Select any one from PP-501 & HORT-521.
3. Select any one from AGM-502 & AEC-502.
4. Minor course is taken from allied programme.
5. *Assignment/PPT Presentation/GD

Semester III

					EVALUATION (MM-100)		
					INTERNAL	EXTERNAL	
Course Code	Title of the Course'	Type	Credits	T/P	CIE	PRACTICAL	ETE
SOIL-503	Soil Chemistry	Major	3(2+1)	T/P	30	20	50
SOIL -506	Soil Biology & Biochemistry	Major	3(2+1)	T/P	30	20	50
SOIL -505	Soil Erosion and Conservation						
PGS-505	Agriculture Research, Research Ethics and Rural Development	Common	1(1+0)	T	40+10*	00	50
PGS-501	Technical Writing and Communication Skills	Common	1(0+1)	P	40+10*	50	00
PGS-502	Library and Information services	Common	1(0+1)	P	40+10*	50	00
HORT-514	Landscaping & Ornamental Garding	Minor	3(2+1)	T/P	30	20	50
PL PATH-510	Ecology of Soil Borne Plant Pathogens						

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| 1. Select any one from HORT-514 & PL PATH-510. |
| 2. Minor course is taken from allied programme. |
| 3. *Assignment/PPT Presentation/GD |

Semester IV

Course Code	Title of the Course	Type	Credits
SOIL-591	Seminar	Compulsory	1(0+1)
SOIL-599	Thesis	Compulsory	30(0+30)

Thesis Guide line

1st Sem. Supervisor/ Advisor, Topic/Research Proposal Allotted

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4th Sem. Master Seminar, Data Analysis, Thesis writing, Pre-submission and Thesis Evaluation Seminar

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 - iii) To periodically review and guide in the progress of research work of the students
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Note:

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40+30(Thesis) =70

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16/02/2024
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