



B.Sc. (HONS.) AGRICULTURE

PROGRAM SCHEME

School of Agriculture,

ITM University, Gwalior, Madhya Pradesh 474001

Thematic Distribution (Year-wise)

I Year: Basic and Fundamental Courses (Traditional)

Semester I

| SN | Course Code | Title of the Course | TEACHING SCHEME | | | CREDITS | CONTACTS HRS/WK |
|---------------|----------------|--|---------------------|---|---|---------|-----------------|
| | | | L | T | P | | |
| 1 | HORT-111 | Fundamentals of Horticulture | 1 | 0 | 1 | 2 | 3 |
| 2 | BIOCHEM-BT-111 | Fundamentals of Plant Biochemistry and Biotechnology | 2 | 0 | 1 | 3 | 4 |
| 3 | SS-111 | Fundamentals of Soil Science | 2 | 0 | 1 | 3 | 4 |
| 4 | AGRON -111 | Fundamentals of Agronomy | 3 | 0 | 1 | 4 | 5 |
| 5 | AGRON-113 | Introduction to Forestry | 1 | 0 | 1 | 2 | 3 |
| 6 | AEXT-111 | Rural Sociology and Educational Psychology | 2 | 0 | 0 | 2 | 2 |
| 7 | ENGL 111 | Comprehension and Communication Skills in English | 1 | 0 | 1 | 2 | 3 |
| 8 | AGRON -112 | Agriculture Heritage* | 1 | 0 | 0 | 1 | 1 |
| 9a | CP-111 | Introductory Biology* | 1 | 0 | 1 | 2 | 3 |
| 9b | STAT-111 | Elementary Mathematics* | 2 | 0 | 0 | 2 | 2 |
| 10 | AEXT 112 | Human Values and Ethics** | 1 | 0 | 0 | 1 | 1 |
| 11 | GSDS-111 | Socialism in India : Yesterday, Today and Tomorrow | 1 | 0 | 0 | 1 | 1 |
| 12a | NSS-111 | National Service Scheme** | 0 | 0 | 2 | 2 | 4 |
| 12b | PED-111 | Physical Education and Yoga Practices** | 0 | 0 | 2 | 2 | 4 |
| 12c | BNCC01GE03 | National Cadet Corps I** | 1 | 0 | 1 | 2 | 3 |
| Total Credits | | | 19 (13+6)+03**+03** | | | | |

Note: *R: Remedial course; **NC: Non-gradual courses, respectively.
¹From CP-111 and STAT-111, students of Biology Group have to take STAT-111, whereas students from Mathematics Group have to take CP-111, while students who had both biology and math in 12 class have to opt any one of their choice
²From NSS-111/ PED-111 BNCC01GE03, students have to select any one of their choice.

Semester II

| SN | Course Code | Title of the Course | TEACHING SCHEME | | | CREDITS | CONTACTS HRS/WK |
|---------------|-------------|--|-----------------|---|---|---------|-----------------|
| | | | L | T | P | | |
| 1 | GPB-121 | Fundamentals of Genetics | 2 | 0 | 1 | 3 | 4 |
| 2 | MICROB-121 | Agricultural Microbiology | 1 | 0 | 1 | 2 | 3 |
| 3 | AENG-121 | Soil and Water Conservation Engineering | 1 | 0 | 1 | 2 | 3 |
| 4 | CP-121 | Fundamentals of Crop Physiology | 1 | 0 | 1 | 2 | 3 |
| 5 | AE-121 | Fundamentals of Agricultural Economics | 2 | 0 | 0 | 2 | 2 |
| 6 | PP-121 | Fundamentals of Plant Pathology | 3 | 0 | 1 | 4 | 5 |
| 7 | ENT-121 | Fundamentals of Entomology | 3 | 0 | 1 | 4 | 5 |
| 8 | AEXT-121 | Fundamentals of Agricultural Extension Education | 2 | 0 | 1 | 3 | 4 |
| 9 | AEXT-122 | Communication Skills and Personality Development | 1 | 0 | 1 | 2 | 3 |
| 10 | BNCC02GE03 | National Cadet Corps II* | 0 | 0 | 2 | 2 | 4 |
| Total Credits | | 24(16+8) , Note: *denoting Open Elective Course | | | | | |

II Year: Principles (Technology)

Semester III

| SN | Course Code | Title of the Course | TEACHING SCHEME | | | CREDITS | CONTACTS HRS/WK |
|---------------|----------------|--|-----------------|---|---|---------|-----------------|
| | | | L | T | P | | |
| 1 | AGRON- 211 | Crop Production Technology - I (Kharif crops) | 1 | 0 | 1 | 2 | 3 |
| 2 | GPB- 211 | Fundamentals of Plant Breeding | 2 | 0 | 1 | 3 | 4 |
| 3 | AE-211 | Agricultural Finance and Co-operation | 2 | 0 | 1 | 3 | 4 |
| 4 | STAT-212 | Agri Informatics | 1 | 0 | 1 | 2 | 3 |
| 5 | AENG-211 | Farm Machinery and Power | 1 | 0 | 1 | 2 | 3 |
| 6 | HORT- 211 | Production Technology for Vegetables and Spices | 1 | 0 | 1 | 2 | 3 |
| 7 | STAT-211 | Statistical Methods | 1 | 0 | 1 | 2 | 3 |
| 8 | CP-211 | Environmental Studies and Disaster Management | 2 | 0 | 1 | 3 | 4 |
| 9 | AHS- 211 | Live-stock and Poultry Management | 3 | 0 | 1 | 4 | 5 |
| 10 | BNCC03GE02 | National Cadet Corps III* | 1 | 0 | 1 | 2 | 3 |
| 11 | BNCCCAMP0-GE05 | NATIONAL CADET CORPS CAMP –I* | 2 | 0 | 3 | 5 | 8 |
| Total Credits | | 23(14+9)/ 23(14+9) +2(1+1)/ 23(14+9) +5 (2+3), Note: *E: Elective Course | | | | | |

Semester IV

| SN | Course Code | Title of the Course | TEACHING SCHEME | | | CREDITS | CONTACTS HRS/WK |
|--|----------------|---|-----------------|---|---|---------|-----------------|
| | | | L | T | P | | |
| 1 | AGRON- 221 | Crop Production Technology - II (Rabi crops) | 1 | 0 | 1 | 2 | 3 |
| 2 | AENG-221 | Renewable Energy and Green Technology | 1 | 0 | 1 | 2 | 3 |
| 3 | HORT- 221 | Production Technology for Ornamental Crops, MAP and Landscaping | 1 | 0 | 1 | 2 | 3 |
| 4 | SS- 221 | Problematic Soils and their Management | 2 | 0 | 0 | 2 | 2 |
| 5 | HORT-221 | Production Technology for Fruit and Plantation Crops | 1 | 0 | 1 | 2 | 3 |
| 6 | GPB- 221 | Principles of Seed Technology | 1 | | 2 | 3 | 5 |
| 7 | AGRON- 222 | Farming System & Sustainable Agriculture | 1 | 0 | 0 | 1 | 1 |
| 8 | AE- 221 | Agricultural Marketing, Trade and Prices | 2 | 0 | 1 | 3 | 4 |
| 9 | AGRON-223 | Introductory Agro-meteorology & Climate Change | 1 | 0 | 1 | 2 | 3 |
| 10 | EDUT - 200 | Education Tour ** | 0 | 0 | 2 | 2 | 4 |
| 11a | ELCT– FST-221 | Processing Technology of Cereals | 2 | 0 | 1 | 3 | 4 |
| 11b | ELCT– GPB-221 | Micro propagation Technologies * | 1 | 0 | 2 | 3 | 5 |
| 11c | ELCT-HORT-221 | Hi-tech. Horticulture * | 2 | 0 | 1 | 3 | 4 |
| 11d | ELCT-AE-221 | Agribusiness Management * | 2 | 0 | 1 | 3 | 4 |
| 11e | ELCT–AGRON-221 | Weed Management * | 2 | 0 | 1 | 3 | 4 |
| 12 | BNCC04GE03 | National Cadet Corps IV* | 2 | 0 | 1 | 3 | 4 |
| Total Credits | | 19(11+8) + 3* +2** | | | | | |
| Note: * E: Elective Courses, ** NC: Nongradial Course ¹ From Sr. No. 11a to 11e , students have to opt any one of their choice | | | | | | | |

III Year: Production System (For improving Talent))

Semester V

| SN | Course Code | Title of the Course | TEACHING SCHEME | | | CREDITS | CONTACTS HRS/WK |
|---|---------------|---|--------------------------------------|---|---|---------|-----------------|
| | | | L | T | P | | |
| 1 | AGRON- 312 | Practical Crop Production-I (Kharif Crops) | 0 | 0 | 2 | 2 | 4 |
| 2 | PP- 312 | Principles of Integrated Pest and Disease Management | 2 | 0 | 1 | 3 | 4 |
| 3 | SS- 311 | Manures, Fertilizers and Soil Fertility Management | 2 | 0 | 1 | 3 | 4 |
| 4 | ENT-311 | Pests of Crops and Stored Grain and their Management | 2 | 0 | 1 | 3 | 4 |
| 5 | PP- 311 | Diseases of Field and Horticultural Crops and their Management -I | 2 | 0 | 1 | 3 | 4 |
| 6 | GPB- 311 | Crop Improvement-I (Kharif Crops) | 1 | 0 | 1 | 2 | 3 |
| 7 | AEXT- 311 | Entrepreneurship Development and Business Communication | 1 | 0 | 1 | 2 | 3 |
| 8 | AGRON- 311 | Geoinformatics and Nano-technology and Precision Farming | 1 | 0 | 1 | 2 | 3 |
| 9 | GPB- 312 | Intellectual Property Rights | 1 | 0 | 0 | 1 | 1 |
| 10a | ELCT-FST-311 | Processing Technology of Fruits and Vegetables | 2 | 0 | 1 | 3 | 4 |
| 10b | ELCT-GPB-311 | Commercial Plant Breeding | 1 | 0 | 2 | 3 | 5 |
| 10c | ELCT-HORT-311 | Landscaping | 2 | 0 | 1 | 3 | 4 |
| 10d | ELCT-AE-311 | Agricultural Journalism | 2 | 0 | 1 | 3 | 4 |
| 10e | ELCT-ENT-311 | Biopesticides & Biofertilizers | 2 | 0 | 1 | 3 | 4 |
| 10f | ELCT-AENG-311 | Artificial Intelligence | 3 | 0 | 0 | 3 | 3 |
| 11 | BNCC05GE02 | National Cadet Corps V | 2 | 0 | 3 | 5 | 8 |
| Total Credits | | | 21(12+09) + 3*/21(12+09) + 5* | | | | |
| Note: * E: Elective Courses, ¹ From Sr. No. 10a to 10f , students have to opt any one of their choice | | | | | | | |

Semester VI

| SN | Course Code | Title of the Course | TEACHING SCHEME | | | CREDITS | CONTACTS HRS/WK |
|--|-------------------|---|--------------------------|---|---|---------|-----------------|
| | | | L | T | P | | |
| 1 | AGRON-323 | Practical Crop Production-II (Rabi Crops) | 0 | 0 | 2 | 2 | 4 |
| 2 | AGRON-321 | Rainfed Agriculture and Watershed Management | 1 | 0 | 1 | 2 | 3 |
| 3 | AENG-321 | Protected Cultivation and Secondary Agriculture | 1 | 0 | 1 | 2 | 3 |
| 4 | PP-321 | Diseases of Field and Horticultural Crops and their Management - II | 2 | 0 | 1 | 3 | 4 |
| 5 | HORT-321 | Post-harvest Management and Value Addition of Fruits and Vegetables | 1 | 0 | 1 | 2 | 3 |
| 6 | ENT-321 | Management of Beneficial insects | 1 | 0 | 1 | 2 | 3 |
| 7 | GPB- 321 | Crop Improvement-II (Rabi Crops) | 1 | 0 | 1 | 2 | 3 |
| 8 | AGRON-322 | Principles of Organic Farming | 1 | 0 | 1 | 2 | 3 |
| 9 | AE-321 | Farm Management, Production and Resource Economics | 1 | 0 | 1 | 2 | 3 |
| 10 | FST- 321 | Principles of Food Science and Nutrition | 2 | 0 | 0 | 2 | 2 |
| 11a | ELCT-FST- 321 | Food Safety and Standards | 2 | 0 | 1 | 3 | 4 |
| 11b | ELCT- GPB- 321 | Molecular Biology | 2 | 0 | 1 | 3 | 4 |
| 11c | ELCT-HORT- 321 | Protected Cultivation | 2 | 0 | 1 | 3 | 4 |
| 11d | ELCT-AEXT- 321 | System Simulation and Agro- advisory | 2 | 0 | 1 | 3 | 4 |
| 11e | ELCT-ENT- 321 | Agrochemicals | 2 | 0 | 1 | 3 | 4 |
| 11f | ELCT-AENG- 321 | Information Technology for Land and Water Management | 2 | 0 | 1 | 3 | 4 |
| 12 | BNCC06GE03 | National Cadet Corps VI | 2 | 0 | 1 | 3 | 4 |
| Total Credits | | | 21 (11 + 10) + 3* | | | | |
| Note: * E: Elective Courses, ¹ From Sr. No. 11a to 11f, students have to opt any one of their choice | | | | | | | |

**IV Year: Skill and Entrepreneurship Development
(For federating Trading)**

Semester VII

**Rural Agricultural Work Experience and Agro-industrial
Attachment (RAW & AIA)**

| Sr.NO. | ACTIVITIES | NO. OF WEEKS | CREDIT HOURS |
|--------------------------------------|--|--------------|--------------|
| 1 | General orientation & On campus training by different faculties | 1 | 14 |
| 2 | Village attachment | 8 | |
| | Unit attachment in Univ. / College. KVK/ Research Station Attachment | 5 | |
| 3 | Plant Clinic | 2 | 02 |
| | Agro-Industrial Attachment | 3 | 04 |
| 4 | Project Report Preparation, Presentation and Evaluation | 1 | - |
| Total weeks for RAW & AIA | | 20 | 20 |

Semester VIII

Experiential Learning Programme (ELP)/ Hands On Training (HOT)

| Sr. No | Title of the module | Code | Credits |
|---------------|--|----------------|----------|
| 1 | Agribusiness and Industrial Management | ELP- ABM-401 | 10(0+10) |
| 2 | Industrial Training on Product Development and Marketing | ELP- ABM-402 | 10(0+10) |
| 3 | Agriculture Heritage and Agritourism | ELP- ABM-403 | 10(0+10) |
| 4 | Agriculture Waste Management | ELP-AGRON- 401 | 10(0+10) |
| 5 | Organic Production Technology | ELP- AGRON-402 | 10(0+10) |
| 6 | Commercial Crop Production Technology (Agronomical Crops) | ELP-AGRON- 403 | 10(0+10) |
| 7 | Commercial Beekeeping | ELP-ENT-401 | 10(0+10) |
| 8 | Production Technology for Bioagentsand Biofertilizer | ELP-ENT-402 | 10(0+10) |
| 9 | Storage Entomology | ELP-ENT-403 | 10(0+10) |
| 10 | Seed Production and Technology | ELP-GPB-401 | 10(0+10) |
| 11 | Seed Testing and Quality Assessment | ELP-GPB-402 | 10(0+10) |
| 12 | Commercial Horticulture (Vegetable and Spices Crop Production) | ELP-HORT-401 | 10(0+10) |
| 13 | Floriculture and Landscaping | ELP- HORT-402 | 10(0+10) |
| 14 | Processing of Fruits and Vegetables for Value addition | ELP- HORT-403 | 10(0+10) |
| 15 | Commercial Nursery Establishment and Mass Multiplication of HorticulturalCrops | ELP-HORT-404 | 10(0+10) |
| 16 | Protected cultivation of High Value Horticulture Crops | ELP-HORT-405 | 10(0+10) |
| 17 | Organic Vegetable Production | ELP-HORT-406 | 10(0+10) |
| 18 | Hydroponics | ELP-HORT-407 | 10(0+10) |
| 19 | Processing, Preservation and Value Addition in Ornamental, Medicinal and Aromatic plants | ELP-HORT-408 | 10(0+10) |
| 20 | Mushroom Cultivation Technology | ELP-PP-401 | 10(0+10) |
| 21 | Plant Health Diagnosis and Management | ELP-PP-402 | 10(0+10) |
| 22 | Seed Pathology | ELP-PP-403 | 10(0+10) |
| 23 | Soil, Plant, Water and Seed Testing | ELP-SS-401 | 10(0+10) |
| 24 | Agriculture Kiosk and Rural Development | ELP-AEXT-401 | 10(0+10) |
| 25 | Introduction Indigenous Technical Knowledge (ITK) | ELP-AEXT-402 | 10(0+10) |
| 26 | Multimedia and Graphic Designing & Production of Information Materials | ELP-JMC-401 | 10(0+10) |
| 27 | Poultry Production Technology | ELP-AHS-401 | 10(0+10) |
| 28 | Agri-based Software Design | ELP-AENG-401 | 10(0+10) |
| 29 | Integrated Fish Farming | ELP-FSC-401 | 10(0+10) |
| 30 | Agri Warehouse Management | ELP-AE-401 | 10(0+10) |
| 31 | Rural Haat and Market Analysis | ELP-AE-402 | 10(0+10) |
| 32 | Product Development and Packaging Technology | ELP-FST-401 | 10(0+10) |
| Total Credits | 20(0+20) (students have to opt any two given ELP module) | | |

