

Program Scheme
Bachelor of Science (Hons.)
Agriculture

DOC201906170045

Semester I- VIII
(2019- 2023)



RNB GLOBAL UNIVERSITY
RNB Global City, Ganganagar Road,
Bikaner, Rajasthan 334601

Document Release Notice

Detailed Program Scheme for all Semesters

Release: Version 1.0

| | |
|---------------------------------|--|
| Name of Program | Bachelor of Science (Hons.) Agriculture |
| Abbreviated Program Name | B.Sc. (Hons.) Agri. |
| Updated on | June'19 |
| Approved By | BOS |

OVERVIEW

RNB Global University follows Semester System along with Choice Based Credit System as per latest guidelines of University Grants Commission (UGC). Accordingly, each academic year is divided into two semesters, **Odd (July-December)** and **Even (January-June)**. Also, the university follows a system of continuous evaluation along with regular updating in course curricula and teaching pedagogy. Kindly be noted that Lab Includes: Laboratory work / Field Work/Industry Visits/Practical/Hands on Experience.

Course Scheme

| | |
|--------------------------------|---|
| Name of Program | Bachelor of Science (Hons.) Agriculture |
| Duration of Program | 4 years |
| Number of Semester | 8 |
| Total Credit of Program | 221 |

DETAILED CREDIT STRUCTURE

| | | |
|----------------------|---------------|-------------|
| Year 1 | Semester I | 26 credits |
| | Semester II | 29 credits |
| Year 2 | Semester III | 31 credits |
| | Semester IV | 29 credits |
| Year 3 | Semester V | 34 credits |
| | Semester VI | 22 credits |
| Year 4 | Semester-VII | 28 credits |
| | Semester-VIII | 22 credits |
| Total Credits | | 221 Credits |

SEMESTER WISE COURSE DETAILS

Semester -I

| S.No. | Course Code | Course Name | L | T | P | Credits |
|--------------|--------------------|--|-----------|----------|----------|----------------|
| 1. | 20000100 | Principles of Agronomy and Meteorology | 2 | 1 | 0 | 3 |
| 2. | 20000200 | Principles of Agronomy and Meteorology Lab | 0 | 0 | 2 | 1 |
| 3. | 20000300 | Introduction to Soil Science | 2 | 0 | 0 | 2 |
| 4. | 20000400 | Introduction to Soil Science Lab | 0 | 0 | 2 | 1 |
| 5. | 20000500 | Elementary Genetics | 2 | 0 | 0 | 2 |
| 6. | 20000600 | Elementary Genetics Lab | 0 | 0 | 2 | 1 |
| 7. | 20000700 | Statistical Methods | 2 | 1 | 0 | 3 |
| 8. | 20000800 | Introduction to Horticulture | 2 | 0 | 0 | 2 |
| 9. | 20000900 | Introduction to Horticulture Lab | 0 | 0 | 2 | 1 |
| 10. | 20001000 | Principles of Agricultural Economics | 2 | 0 | 0 | 2 |
| 11. | 99002200 | Business Communication | 3 | 1 | 0 | 4 |
| 12. | 20001100 | Ability and Skill Enhancement - I | 2 | 0 | 0 | 2 |
| 13. | 99002800 | Workshops & Seminars | - | - | - | 1 |
| 14. | 99002700 | Human Values & Social Service/NCC/NSS | - | - | - | 1 |
| | | Total | 17 | 3 | 8 | 26 |

Semester -II

| S. No. | Course Code | Course Name | L | T | P | Credits |
|--------|-------------|---|-----------|----------|----------|-----------|
| 1. | 20001200 | Plant Biochemistry | 2 | 0 | 0 | 2 |
| 2. | 20001300 | Plant Biochemistry Lab | 0 | 0 | 2 | 1 |
| 3. | 20001400 | Microbiology | 2 | 0 | 0 | 2 |
| 4. | 20001500 | Microbiology Lab | 0 | 0 | 2 | 1 |
| 5. | 20001600 | Introduction to Entomology and Nematology | 2 | 1 | 0 | 3 |
| 6. | 20001700 | Introduction to Entomology and Nematology Lab | 0 | 0 | 2 | 1 |
| 7. | 20001800 | Irrigation & Water Management | 2 | 1 | 0 | 3 |
| 8. | 20001900 | Rural Sociology and Educational Psychology | 2 | 1 | 0 | 3 |
| 9. | 20002000 | Natural Resources and Farm Management | 2 | 0 | 0 | 2 |
| 10. | 20002100 | Fundamentals of Plant Breeding | 2 | 0 | 0 | 2 |
| 11. | 20002200 | Fundamentals of Plant Breeding Lab | 0 | 0 | 2 | 1 |
| 12. | 99001900 | Environmental Studies | 3 | 1 | 0 | 4 |
| 13. | 20002300 | Ability and Skill Enhancement - II | 2 | 0 | 0 | 2 |
| 14. | 99002800 | Workshops & Seminars | - | - | - | 1 |
| 15. | 99002700 | Human Values & Social Service/NCC/NSS | - | - | - | 1 |
| | | Total | 19 | 4 | 8 | 29 |

Semester - III

| S.No. | Course Code | Course Name | L | T | P | Credits |
|-------|-------------|---|-----------|----------|-----------|-----------|
| 1. | 20012200 | Crop Production Technology - I (Kharif Crops) | 1 | 0 | 0 | 1 |
| 2. | 20012300 | Crop Production Technology - I Lab(Kharif Crops) | 0 | 0 | 2 | 1 |
| 3. | 20012400 | Soil & water Conservation Engineering | 2 | 0 | 0 | 2 |
| 4. | 20012500 | Soil & water Conservation Engineering Lab | 0 | 0 | 2 | 1 |
| 5. | 20012600 | Agricultural Finance and Cooperation | 2 | 0 | 0 | 2 |
| 6. | 20012700 | Agricultural Finance and Cooperation Lab | 0 | 0 | 2 | 1 |
| 7. | 20012800 | Agri- Informatics | 1 | 0 | 0 | 1 |
| 8. | 20012900 | Agri- Informatics Lab | 0 | 0 | 2 | 1 |
| 9. | 20013000 | Farm Machinery and Power | 1 | 0 | 0 | 1 |
| 10. | 20013100 | Farm Machinery and Power lab | 0 | 0 | 2 | 1 |
| 11. | 20013200 | Production Technology for Vegetables and Spices | 1 | 0 | 0 | 1 |
| 12. | 20013300 | Production Technology for Vegetables and Spices Lab | 0 | 0 | 2 | 1 |
| 13. | 20013400 | Fundamentals of Crop Physiology | 2 | 0 | 0 | 2 |
| 14. | 20013500 | Fundamentals of Crop Physiology Lab | 0 | 0 | 2 | 1 |
| 15. | 20013600 | Fundamentals of Plant Pathology | 3 | 0 | 0 | 3 |
| 16. | 20013700 | Fundamentals of Plant Pathology Lab | 0 | 0 | 2 | 1 |
| 17. | 20013800 | Livestock and Poultry Management | 3 | 0 | 0 | 3 |
| 18. | 20013900 | Livestock and Poultry Management Lab | 0 | 0 | 2 | 1 |
| 19. | 20014000 | Agriculture Heritage & Human Values & Ethics | 0 | 0 | 0 | 2 |
| 20. | 20014100 | Ability and Skill Enhancement -III | 2 | 0 | 0 | 2 |
| 21. | 99002800 | Workshops & Seminars | - | - | - | 1 |
| 22. | 99002700 | Human Values & Social Service/NCC/NSS | - | - | - | 1 |
| | | Total | 18 | 0 | 18 | 31 |

Semester - IV

| S.No | Course Code | Course Name | L | T | P | Credits |
|------|-------------|---|-----------|----------|-----------|-----------|
| 1. | 20014200 | Crop Production Technology –II (Rabi Crops) | 1 | 0 | 0 | 1 |
| 2. | 20014300 | Crop Production Technology –II (Rabi Crops) Lab | 0 | 0 | 2 | 1 |
| 3. | 20014400 | Production Technology for Ornamental Crops, MAP and Landscaping | 1 | 0 | 0 | 1 |
| 4. | 20014500 | Production Technology for Ornamental Crops, MAP and Landscaping Lab | 0 | 0 | 2 | 1 |
| 5. | 20014600 | Renewable Energy and Green Technology | 1 | 0 | 0 | 1 |
| 6. | 20014700 | Renewable Energy and Green Technology Lab | 0 | 0 | 2 | 1 |
| 7. | 20014800 | Problematic Soils and their Management | 2 | 0 | 0 | 2 |
| 8. | 20014900 | Production Technology for Fruit and Plantation Crops | 2 | 0 | 0 | 1 |
| 9. | 20015000 | Production Technology for Fruit and Plantation Crops Lab | 0 | 0 | 2 | 1 |
| 10. | 20015100 | Principles of Seed Technology | 1 | 0 | 0 | 1 |
| 11. | 20015200 | Principles of Seed Technology lab | 0 | 0 | 4 | 2 |
| 12. | 20015300 | Plant Biotechnology | 2 | 0 | 0 | 2 |
| 13. | 20015400 | Plant Biotechnology Lab | 0 | 0 | 2 | 1 |
| 14. | 20015500 | Agricultural Marketing Trade & Prices | 2 | 0 | 0 | 2 |
| 15. | 20015600 | Agricultural Marketing Trade & Prices Lab | 0 | 0 | 2 | 1 |
| 16. | 20015700 | Fundamentals of Agriculture Extension Education | 2 | 0 | 0 | 2 |
| 17. | 20015800 | Fundamentals of Agriculture Extension Education Lab | 0 | 0 | 2 | 1 |
| 18. | - | Elective-I | 2 | 0 | 0 | 2 |
| 19. | - | Elective Lab-I | 0 | 0 | 2 | 1 |
| 20. | 20015900 | Ability and Skill Enhancement IV | 2 | 0 | 0 | 2 |
| 21. | 99002800 | Workshops & Seminars | - | - | - | 1 |
| 22. | 99002700 | Human Values & Social Service/NCC/NSS | - | - | - | 1 |
| | | Total | 19 | 0 | 18 | 29 |

Electives

| Elective | Course Code | Course Name |
|-------------------|-------------|------------------------------------|
| Elective I | 20016000 | Agribusiness Management |
| | 20016100 | Agribusiness Management Lab |
| | 20016200 | Agrochemicals |
| | 20016300 | Agrochemicals Lab |
| | 20016400 | Commercial Plant Breeding |
| | 20016500 | Commercial Plant Breeding Lab |
| | 20016600 | Landscaping |
| | 20016700 | Landscaping Lab |

Semester - V

| S. No. | Course Code | Course Name | L | T | P | Credits |
|--------------|-------------|---|-----------|----------|-----------|-----------|
| 1. | 20016800 | Principles of Integrated Pest and Disease Management | 2 | 0 | 0 | 2 |
| 2. | 20016900 | Principles of Integrated Pest and Disease Management Lab | 0 | 0 | 2 | 1 |
| 3. | 20017000 | Manures, Fertilizers and Soil Fertility Management | 2 | 0 | 0 | 2 |
| 4. | 20017100 | Manures, Fertilizers and Soil Fertility Management lab | 0 | 0 | 2 | 1 |
| 5. | 20017200 | Pests of Crops and Stored Grain and their Management | 2 | 0 | 0 | 2 |
| 6. | 20017300 | Pests of Crops and Stored Grain and their Management Lab | 0 | 0 | 2 | 1 |
| 7. | 20017400 | Diseases of Field and Horticultural Crops and their Management -I | 2 | 0 | 0 | 2 |
| 8. | 20017500 | Diseases of Field and Horticultural Crops and their Management -I Lab | 0 | 0 | 2 | 1 |
| 9. | 20017600 | Crop Improvement-I (<i>Kharif Crops</i>) | 1 | 0 | 0 | 1 |
| 10. | 20017700 | Crop Improvement-I Lab (<i>Kharif Crops</i>) | 0 | 0 | 2 | 1 |
| 11. | 20017800 | Food Safety & standards | 2 | 0 | 0 | 2 |
| 12. | 20017900 | Food Safety & standards Lab | 0 | 0 | 2 | 1 |
| 13. | 20018000 | Bio pesticides & Bio fertilizers | 2 | 0 | 0 | 2 |
| 14. | 20018100 | Bio pesticides & Bio fertilizers | 0 | 0 | 2 | 1 |
| 15. | 20018200 | Practical Crop Production – I (<i>Kharif crops</i>) | 0 | 0 | 4 | 2 |
| 16. | 20018300 | Intellectual Property Rights | 1 | 0 | 0 | 1 |
| 17. | - | Elective -II | 2 | 0 | 0 | 2 |
| 18. | - | Elective - II Lab | 0 | 0 | 2 | 1 |
| 19. | 20018400 | Ability and Skill Enhancement -V | 2 | 0 | 0 | 2 |
| 20. | 20018500 | Summer Internship and Report | 0 | 0 | 8 | 4 |
| 21. | 99002800 | Workshops & Seminars | - | - | - | 1 |
| 22. | 99002700 | Human Values & Social Service/NCC/NSS | - | - | - | 1 |
| Total | | | 18 | 0 | 28 | 34 |

Electives

| Elective | Course Code | Course Name |
|--------------------|-------------|--|
| Elective II | 20018600 | Geoinformatics and Nano-technology and Precision Farming |
| | 20018700 | Geoinformatics and Nano-technology and Precision Farming Lab |

| | | |
|--|----------|--|
| | 20018800 | Farming System & Sustainable Agriculture |
| | 20018900 | Weed Management |
| | 20019000 | Weed Management Lab |
| | 20019100 | Micro propagation Technologies |
| | 20019200 | Micro propagation Technologies Lab |

Semester- VI

| S. No. | Course Code | Course Name | L | T | P | Credits |
|--------|-------------|---|-----------|----------|-----------|-----------|
| 1. | 20019300 | Rainfed Agriculture & Watershed Management | 1 | 0 | 0 | 1 |
| 2. | 20019400 | Rainfed Agriculture & Watershed Management lab | 0 | 0 | 2 | 1 |
| 3. | 20019500 | Protected Cultivation and Secondary Agriculture | 1 | 0 | 0 | 1 |
| 4. | 20019600 | Protected Cultivation and Secondary Agriculture lab | 0 | 0 | 2 | 1 |
| 5. | 20019700 | Diseases of Field and Horticultural Crops and their Management-II | 2 | 0 | 0 | 2 |
| 6. | 20019800 | Diseases of Field and Horticultural Crops and their Management-II Lab | 0 | 0 | 2 | 1 |
| 7. | 20019900 | Post-harvest Management and Value Addition of Fruits and Vegetables | 1 | 0 | 0 | 1 |
| 8. | 20020000 | Post-harvest Management and Value Addition of Fruits and Vegetables lab | 0 | 0 | 2 | 1 |
| 9. | 20020100 | Management of Beneficial Insects | 1 | 0 | 0 | 1 |
| 10. | 20020200 | Management of Beneficial Insects lab | 0 | 0 | 2 | 1 |
| 11. | 20020300 | Crop Improvement-II (Rabi crops) | 1 | 0 | 0 | 1 |
| 12. | 20020400 | Crop Improvement-II (Rabi crops) Lab | 0 | 0 | 2 | 1 |
| 13. | 20020500 | Practical Crop Production –II (Rabi crops) | 0 | 0 | 4 | 2 |
| 14. | 20020600 | Principles of Organic Farming | 1 | 0 | 0 | 1 |
| 15. | 20020700 | Principles of Organic Farming lab | 0 | 0 | 2 | 1 |
| 16. | 20020800 | Farm Management, Production & Resource Economics | 1 | 0 | 0 | 1 |
| 17. | 20020900 | Farm Management, Production & Resource Economics Lab | 0 | 0 | 2 | 1 |
| 18. | 20021000 | Principles of Food Science and Nutrition | 2 | 0 | 0 | 2 |
| 19. | - | Elective III | 2 | 0 | 0 | 2 |
| 20. | - | Elective III Lab | 0 | 0 | 2 | 1 |
| 21. | 20021100 | Ability and Skill Enhancement VI | 2 | 0 | 0 | 2 |
| 22. | 99002800 | Workshops & Seminars | - | - | - | 1 |
| 23. | 99002700 | Human Values & Social Service/NCC/NSS | - | - | - | 1 |
| | | Total | 15 | 0 | 22 | 28 |

| Elective | Course Code | Course Name |
|---------------------|-------------|---|
| Elective III | 20021200 | Hi-tech. Horticulture |
| | 20021300 | Hi-tech. Horticulture Lab |
| | 20021400 | Protected Cultivation |
| | 20021500 | Protected Cultivation Lab |
| | 20021600 | System Simulation and Agro-advisory |
| | 20021700 | System Simulation and Agro-advisory Lab |
| | 20021800 | Agricultural Journalism |
| | 20021900 | Agricultural Journalism Lab |

Semester – VII

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

Rural Agricultural Work Experience (RAWE)

Rural Agricultural Work Experience (RAWE) is included in the programme, where students will be exposed to rural (Village) environment for strengthening practical training 4-5 students in a group will be associated to farmers, Agro-industrial units and Agricultural Research Centre for this purpose for a period of 3-4 months. They will be constantly supervised and evaluated by the faculty and a detailed report of the survey and works of the students for the same period has to be submitted by him/her. For RAWE student can choose any one area as mentioned below:

Total Credits = 28

| Activities | No. of weeks | Credit Hours |
|---|--------------|--------------|
| Rural Agricultural Work Experience and Agro-industrial Attachment (RAWE & AIA) | | 14 |
| READY-Component-I | | |
| RAWE- 411 (Rural Agricultural Work Experience) | | |
| 1. General orientation & On campus training by different faculties | 1 | |
| 2. (a) Village attachment training programme | 8 | |
| i. Orientation and Survey of Village | | |

| | | |
|--|---|---|
| ii. Agronomical Interventions | | |
| iii. Plant Protection Interventions | | |
| iv. Soil Improvement Interventions (Soil sampling and testing) | | |
| v. Fruit and Vegetable production interventions | | |
| vi. Food Processing and Storage interventions | | |
| vii. Animal Production Interventions | | |
| viii. Extension and Transfer of Technology activities | | |
| (b) Attachment in University/College/KVK/research Station | 5 | |
| READY- Component -II | | |
| AIA- 412 (Agro Industrial Attachment) | | |
| <ul style="list-style-type: none"> Students shall be placed in Agro-and Cottage industries and Commodities Boards for 03 weeks. Industries include Seed/Sapling production, Pesticides-insecticides, Post-harvest-processing-value addition, Agri-finance institutions, etc. | 3 | 4 |
| Plant Clinic <ul style="list-style-type: none"> Seed/Sampling production, Pesticide/insecticide, post-harvest industries, processing- value addition, Agri -finance institutions etc. | 2 | 2 |
| Activities and Tasks during Agro-Industrial Attachment Programme | | |
| i. Acquaintance with industry and staff | | |
| ii. Study of structure, functioning, objective and mandates of the industry | | |
| iii. Study of various processing units and hands-on trainings under supervision of industry staff | | |
| iv. Ethics of industry | | |
| v. Employment generated by the industry | | |
| vi. Contribution of the industry promoting environment | | |

| | | |
|--|--|-----------|
| vii. Learning business network including outlets of the industry | | |
| viii. Skill development in all crucial tasks of the industry | | |
| ix. Documentation of the activities and task performed by the students | | |
| x. Performance evaluation, appraisal and ranking of students | | |
| Summer Internship /Agro Industry/Rural Development Program & Report | | 6 |
| Workshops & Seminars | | 1 |
| Human Values & Social Service/NCC/NSS | | 1 |
| Total | | 28 |

READY- Component -II

Case Study of Agro Industry Attachment

1. Topic/ title of case study.
2. Student name/ ID No.
3. Name of Instructor/Supervisor/Designation.
4. Department/Section
5. Detail of Agro Industry Promoter/Place/Address of Industry
6. Relevance of case study
7. Objective of case study
8. Functioning of Agro Industry/Structure of Industry/type of technology used/type of machinery used
9. Case study out put
10. Future prospects of case study & suggestions
11. Recommendations for beneficiaries/farmers about case study
12. References/Appendices.

Semester VIII

READY- Component III (Experiential Learning Programme)

Modules for Skill Development and Entrepreneurship

A student has to register 22 credits opting for two modules of (0+10) credits each (total 22 credits) from the package of modules.

| Course Code | Title of the module | Department | Credits |
|-------------|---|---|---------|
| 20022000 | Production Technology for Bioagents & Biofertilizer | Soil Science & Agricultural Chemistry & Plant pathology | 0+10 |
| 20022100 | Seed Production, Processing and Technology | Seed Science & Technology | 0+10 |
| 20022200 | Mushroom Cultivation Technology | Plant Pathology | 0+10 |
| 20022300 | Commercial Beekeeping | Entomology | 0+10 |
| 20022400 | Commercial Horticulture | Horticulture | 0+10 |
| 20022500 | Agriculture Waste Management | Agronomy | 0+10 |
| 20022600 | Organic Crop Production Technology | Agronomy | 0+10 |
| 20022700 | Value addition in Milk | Animal Husbandry | 0+10 |
| 20022800 | Micro Propagation | Horticulture | 0+10 |
| 20022900 | Poultry Production Technology | Animal Husbandry | 0+10 |
| 99002800 | Workshops & Seminars | | 1 |
| 99002700 | Human Values & Social Service/NCC/NSS | | 1 |

Project Preparation Modules for Experiential Learning/Hands of Training

1. Project Title.
2. Student name/ ID No.
3. Department/Section
4. Name of Guide/Instructor/Supervisor/Designation/Department
5. Justification/Relevance of Project
6. Project Activities/Methodologies
7. Project of Output/results
8. Summary & Conclusion
9. Future prospects of case study & suggestions
10. References
11. Appendices.

EVALUATION SCHEME- THEORY

The evaluation of the theory paper of B.Sc. (Agriculture) would be based on Internal and External Assessments. Internal Assessment would consist of 50% of the marks (50 marks) and external assessment (in form of End Term Exam) would consist of remaining 50% marks (50 marks). Detailed scheme of Internal and External Assessments as follows:

Internal Assessment- Semester I

The distribution of Internal Assessment Marks is as follows:

| Type | Details | Marks |
|--|---------------------------|--------------|
| Mid Term | One Mid-term Sessional | 25 |
| Marks obtained in various Tests, Assignments, Presentations, Quiz, Tutorials, etc. | Average of marks obtained | 20 |
| Attendance | 75% + : 5 marks | 5 |
| TOTAL | 50 | |

Internal Assessment- Semester II- VIII

The distribution of Internal Assessment Marks is as follows:

| Type | Details | Marks |
|--|---|--------------|
| Mid Term | Two Mid-term Sessional of 15 marks each (15+15) | 30 |
| Marks obtained in various Tests, Assignments, Presentations, Quiz, Tutorials, etc. | Average of marks obtained | 15 |
| Attendance | 75%+ : 5 marks | 5 |
| TOTAL | 50 | |

External Assessment- Semester I- VIII

| Type | Marks |
|--------|-------|
| Theory | 50 |

EVALUATION SCHEME -PRACTICAL

The evaluation of the practical paper of B.Sc. program would be based on Internal and External Assessments. Internal Assessment would consist of 50% of the marks (50 marks) and external assessment (in form of End Term Exam) would consist of remaining 50% marks (50 marks). Detailed scheme of Internal and External Assessment is as follows:

Internal Assessment- Semester I- VIII

| Type | Details | Marks |
|---|---------------------------|-------|
| Marks obtained in various manuals, practical file, participation, any model prepared, output of practical | Average of marks obtained | 45 |
| Attendance | 75%+ : 5 marks | 5 |
| TOTAL | 50 | |

External Assessment- Semester I- VIII

| Type | Marks |
|-----------|-------|
| Practical | 50 |

EVALUATION SCHEME- WORKSHOPS & SEMINARS AND HUMAN VALUES & SOCIAL SERVICE/NCC/NSS

1. The evaluation of Workshops & Seminar and Human Values & Social Service/NCC/NSS will be completed from Semester I – Semester VI. It will be evaluated internally by the various Forums & Schools Concerned. The credit for this will be given at the end of each Semester.
2. The students have to join club/clubs/Forums with the active participation in different activities of club. The students would be continuously assessed from

Semester-I to Semester-IV and credits and marks would be given after the end of each Semester.

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