

Syllabus

B. Sc. (Rural Technology)

2023-2024 onwards

Under NEP-2020



July 2025-26

DEPARTMENT OF RURAL TECHNOLOGY AND SOCIAL DEVELOPMENT

GURU GHASIDAS VISHWAVIDYALAYA

(A Central University)

Koni- Bilaspur 495009 Chhattisgarh

Department of Rural Technology & Social Development
Guru Ghasidas Vishwavidyalaya, Koni-Bilaspur (CG)
Semester-wise syllabus for 4 Years UG Program, Session 2023-2024 onwards under NEP-2020
B. Sc. (Rural Technology)

| Semester | Courses | Paper Code | Name of the paper | Level | L+P+T | Credits | Total Credits | Int. Marks | Ext. Marks | Total Marks |
|----------|---------------------|------------|--|-------|-------|---------|---------------|------------|------------|-------------|
| I | Major | RTUATC1 | Emergence of Rural Technology | 2 | 3+0+0 | 3 | 20 | 30 | 70 | 100 |
| | | RTUALC1 | Lab-Emergence of Rural Technology | | 0+0+1 | 1 | | 30 | 70 | 100 |
| | Minor | RTUATG1 | Horticulture and Landscaping | 2 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUALG1 | Lab-Horticulture and Landscaping | | 0+0+1 | 1 | | 30 | 70 | 100 |
| | *Multi-disciplinary | MDCRTT01 | Indigenous Crafts | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | | MDCRTL01 | Lab- Indigenous Crafts | 1 | 0+0+1 | 1 | | 30 | 70 | 100 |
| | AEC | | Language (Hindi/English) | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | SEC | SECRTT01 | Dairy Management and Products | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | | SECRTL01 | Lab- Dairy Management and Products | 1 | 0+0+1 | 1 | | 30 | 70 | 100 |
| | VAC1 | | Environment Education | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | VAC2 | VACRT01 | Historical Perspective of Bhartiya Education | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | | | | | | 20 | Total | 330 | 770 | 1100 |
| II | Major | RTUBTC1 | Poultry Production Technology | 2 | 3+0+0 | 3 | 20 | 30 | 70 | 100 |
| | | RTUBLC1 | Lab- Poultry Production Technology | | 0+0+1 | 1 | | 30 | 70 | 100 |
| | Minor/ VOC | VOCRTT01 | Remote Sensing and GIS Applications | 2 | 1+0+0 | 1 | | 30 | 70 | 100 |
| | | VOCRTL01 | Lab-Remote Sensing and GIS Applications | | 0+0+3 | 3 | | 30 | 70 | 100 |
| | *Multidisiplinary | MDCRTT02 | Indigenous Arts | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | | MDCRTL02 | Lab- Indigenous Arts | 1 | 0+0+1 | 1 | | 30 | 70 | 100 |
| | AEC | | (Hindi/English) | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | SEC | SECRTT02 | Herbal production technology | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | | SECRTL02 | Herbal production technology | 1 | 0+0+1 | 1 | | 30 | 70 | 100 |
| | VAC 1 | | Environment Education | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | VAC 2 | VACRT01 | Historical Perspective of Bhartiya Education | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | | | | | | 20 | Total | 330 | 770 | 1100 |

The student must complete the 4-credit vocational course/Internship during summer term to get UG certificate if he/she wish to exit the program after first 2 semester.

[Handwritten signatures and dates]
 30/6/2025

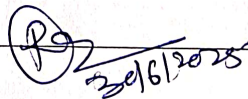
Department of Rural Technology & Social Development
Guru Ghasidas Vishwavidyalaya, Koni-Bilaspur (CG)
Semester-wise syllabus for 4 Years UG Program, Session 2023-2024 onwards under NEP-2020
B. Sc. (Rural Technology)

| | | | | | | | | | | |
|-----|-----------------------------------|----------|--|---|-------|-----------|--------------|------------|------------|-------------|
| III | Major | RTUCTC1 | Sericulture | 3 | 3+0+0 | 3 | 20 | 30 | 70 | 100 |
| | | RTUCLC1 | Lab- Sericulture | | 0+0+1 | 1 | | 30 | 70 | 100 |
| | Major | RTUCTC2 | Rural Energy Resources | 3 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUCLC2 | Lab- Rural Energy Resources | | 0+0+1 | 1 | | 30 | 70 | 100 |
| | Minor/ VOC | VOCRTT02 | Tribal Painting Art | 3 | 1+0+0 | 1 | | 30 | 70 | 100 |
| | | VOCRTL02 | Lab-Tribal Painting Art | | 0+0+3 | 3 | | 30 | 70 | 100 |
| | *Multi- disciplinary Course | MDCRTT03 | Environmental and Occupational Hazards | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | | MDCRTL03 | Lab/FW: Environmental and Occupational Hazards | | 0+0+1 | 1 | | 30 | 70 | 100 |
| | AEC | | (Hindi/English) | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | *SEC | SECRTT03 | Basics of Mushroom Production | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | | SECRTL03 | Basics of Mushroom Production | 1 | 0+0+1 | 1 | | 30 | 70 | 100 |
| | | | | | | 20 | Total | 330 | 770 | 1100 |
| IV | Major | RTUDTC1 | Natural Product Management | 3 | 3+0+0 | 3 | 20 | 30 | 70 | 100 |
| | | RTUDLC1 | Lab- Natural Product Management | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Major | RTUDTC2 | Goat and Pig Production Techniques | 3 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUDLC2 | Lab- Goat and Pig Production Techniques | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Major | RTUDTC3 | Apiculture and Lac culture | 3 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUDLC3 | Lab- Apiculture and Lac culture | | 0+0+1 | 1 | | 30 | 70 | 100 |
| | Minor/ VOC | VOCRTT02 | Tribal Painting Art | 3 | 1+0+0 | 1 | | 30 | 70 | 100 |
| | | VOCRTL02 | Lab-Tribal Painting Art | 3 | 0+0+3 | 3 | | 30 | 70 | 100 |
| | AEC | | (Hindi/English) | 1 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | | | | | | 20 | Total | 330 | 770 | 1100 |

[Handwritten signatures and dates]
 30/6/2025

Department of Rural Technology & Social Development
Guru Ghasidas Vishwavidyalaya, Koni-Bilaspur (CG)
Semester-wise syllabus for 4 Years UG Program, Session 2023-2024 onwards under NEP-2020
B. Sc. (Rural Technology)

| The student must complete the 4 credits vocational course/Internship either after first year or second year during summer term to get UG Diploma if he wishes to exit the program after 4 semesters. | | | | | | | | | | |
|--|------------|-----------|--|---|-------|----|-------|-----|-----|-----|
| V | Major | RTUETC1 | Soil and Nutrient Management | 4 | 3+0+0 | 3 | 21 | 30 | 70 | 100 |
| | | RTUELC1 | Lab- Soil and Nutrient Management | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Major | RTUETC2 | Watershed Management | 4 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUELC2 | Lab- Watershed Management | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Major | RTUETC3 | Organic Farming | 4 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUELC3 | Lab- Organic Farming | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Minor/VOC | *VOCRTT03 | Analytical Hierarchy Process for Rural Planning | 4 | 1+0+0 | 1 | | 30 | 70 | 100 |
| | | VOCRTL03 | Lab- Analytical Hierarchy Process for Rural Planning | | 0+0+3 | 3 | | 30 | 70 | 100 |
| | Internship | RTUINT1 | - | - | | 2 | | 30 | 70 | 100 |
| | | | | | | 21 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | Total | 270 | 630 | 900 |
| VI | Major | RTUFTC1 | Land Surveying, Levelling and Drawing | 4 | 3+0+0 | 3 | 19 | 30 | 70 | 100 |
| | | RTUFLC1 | Lab- Land Surveying, Levelling and Drawing | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Major | RTUFTC2 | Rural Social Structure and Planning | 4 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUFLC2 | Lab- Rural Social Structure and Planning | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Major | RTUFTC3 | Rural Health Care | 4 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUFLC3 | Lab- Rural Health Care | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Minor | RTUFTG1 | Nursery Technology | 4 | 2+0+0 | 2 | | 30 | 70 | 100 |
| | | RTUFLG1 | Lab- Nursery Technology | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | | | | | | 19 | Total | 270 | 630 | 900 |
| The students wish to exit after sixth semester upon securing 120 credits will be awarded UG degree in relevant subject/discipline | | | | | | | | | | |
| *ONLY FOR 2023-24 BATCH | | | | | | | | | | |
| After sixth semester, there will be two streams : (I) UG (Honours with research) and (II) UG (Honours). The students who will secure 75% and above may opt for UG (Honours with research). | | | | | | | | | | |

Department of Rural Technology & Social Development
Guru Ghasidas Vishwavidyalaya, Koni-Bilaspur (CG)
Semester-wise syllabus for 4 Years UG Program, Session 2023-2024 onwards under NEP-2020
B. Sc. (Rural Technology)

(I) Course structure for UG (Honors with Research)

| | | | | | | | | | | |
|------|--|---------|--|---|-------|-----------|--------------|------------|------------|------------|
| VII | Major | RTUGTC1 | Introduction to Remote sensing and GIS | 5 | 3+0+0 | 3 | 19 | 30 | 70 | 100 |
| | | RTUGLC1 | Lab- Introduction to Remote sensing and GIS | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Major | RTUGTC2 | Introduction to Medicinal and Aromatic Plants | 5 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUGLC2 | Lab- Introduction to Medicinal and Aromatic Plants | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Major | RTUGTC3 | Food Preservation Technology | 5 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUGLC3 | Lab- Food Preservation Technology | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Minor | RTUGTG1 | Food Preservation Technology | 4 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUGLG1 | Food Preservation Technology | | 0+0+1 | 1 | | 30 | 70 | 100 |
| | | | | | | 19 | Total | 240 | 560 | 800 |
| VIII | Major | RTUHTC1 | Research Methodology and Ethics | 5 | 3+0+0 | 3 | 21 | 30 | 70 | 100 |
| | | RTUHL1 | Lab- Research Methodology and Ethics | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Minor | RTUHTG1 | Herbal Drug Formulation | 5 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUHLG1 | Lab- Herbal Drug Formulation | | 0+0+1 | 1 | | 30 | 70 | 100 |
| | *Research Project/Dissemination | RTUHDC1 | | | | 12 | | *300 | **100 | 400 |
| | • Evaluation of thesis (Internal), ** Viva-voce (External) | | | | | 21 | Total | 420 | 380 | 800 |

(II) Course structure for UG (Honors)

| | | | | | | | | | | |
|-----|-------|---------|---|---|-------|---|----|----|----|-----|
| VII | Major | RTUGTC1 | Introduction to Remote sensing and GIS | 5 | 3+0+0 | 3 | 20 | 30 | 70 | 100 |
| | | RTUGLC1 | Lab- Introduction to Remote sensing and GIS | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Major | RTUGTC2 | Introduction to Medicinal and Aromatic Plants | 5 | 3+0+0 | 3 | | 30 | 70 | 100 |

[Handwritten signatures and date]
 30/6/2025

Department of Rural Technology & Social Development
Guru Ghasidas Vishwavidyalaya, Koni-Bilaspur (CG)
Semester-wise syllabus for 4 Years UG Program, Session 2023-2024 onwards under NEP-2020

B. Sc. (Rural Technology)

| | | | | | | | | | | |
|------|---------|---------|--|---|-------|-----------|--------------|------------|------------|------------|
| | | RTUGLC2 | Lab- Introduction to Medicinal and Aromatic Plants | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Major | RTUGTC3 | Crop Production Technology | 5 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUGLC3 | Lab- Crop Production Technology | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Minor | RTUGTG1 | Introduction to Medicinal and Aromatic Plants | 5 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUGLG1 | Lab- Introduction to Medicinal and Aromatic Plants | | 0+0+1 | 1 | | 30 | 70 | 100 |
| | Seminar | RTUGSA1 | - | - | | 1 | | 30 | 70 | 100 |
| | | | | | | 20 | Total | 270 | 630 | 900 |
| VIII | Major | RTUHTC1 | GIS Application and Scope | 5 | 3+0+0 | 3 | 20 | 30 | 70 | 100 |
| | | RTUHL1 | Lab-GIS Application and Scope | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Major | RTUHTC2 | Introduction to Traditional Systems of Medicine | 5 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUHL2 | Lab- Introduction to Traditional Systems of Medicine | | 0+0+2 | 2 | | 30 | 70 | 100 |
| | Minor | RTUHTG1 | Natural Product and Processing Techniques | 5 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUHLG1 | Lab- Natural Product and Processing Techniques | | 0+0+1 | 1 | | 30 | 70 | 100 |
| | Minor | RTUHTG2 | Fundamentals of Entrepreneurship | 5 | 3+0+0 | 3 | | 30 | 70 | 100 |
| | | RTUHLG2 | Tutorial- Fundamentals of Entrepreneurship | | 0+0+1 | 1 | | 30 | 70 | 100 |
| | Seminar | RTUHSA1 | - | - | | 2 | | 30 | 70 | 100 |
| | | | | | | 20 | Total | 270 | 630 | 900 |



 30/6/2025

Program Outcomes (POs) of Undergraduate Program

POs of B. Sc. Rural Technology

PO1. Knowledge and Awareness: Adequate information on basics and advance fields of the core and applied subjects will be provided to enhance knowledge and awareness so that a professionalism may be developed among students.

PO2. Problem solving and Critical Thinking: To enable the students to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

PO3. Effective Communication and Social Interactions: Speak, read, write and listen clearly individually and through electronic media in English, Hindi and/ or in any one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology. Realize and respect of views of others, mediate disagreements and cooperate to reach conclusions in group settings.

PO4. Effective Citizenship and Ethics: To groom the students in such a way that they perform empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering. Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

PO5. Environmental awareness and Sustainability: Understand the issues of environmental contexts and sustainable development.

PO6. Skill Development and Employability: To generate special skill through vocational training, workshops, field visits, entrepreneurial and career development courses so that students may generate employability for themselves and others.



PO7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context of socio-technological, socio-economic and socio-cultural improvements.

Program Specific Outcomes

PSOs of B. Sc. Rural Technology

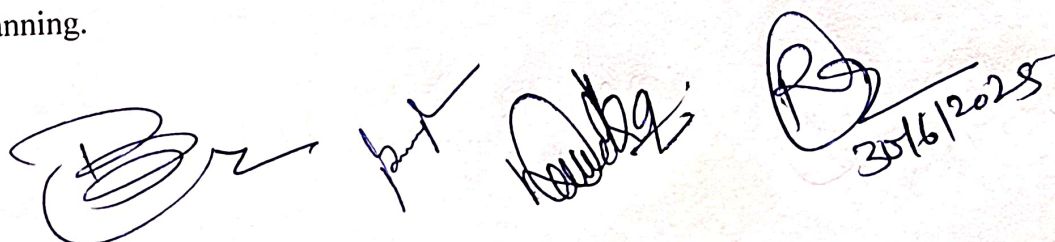
PSO1. Understand nature and basic concept and applied aspects of Organic Manure Production Techniques, Elementary Biology, Soil and Fertilizers, Horticulture and Landscaping, and Organic Farming, Microbial Technology, Dairy Management and Products, Plant Propagation and Nursery Management, Herbal Production Techniques, Sericulture, Basics of Mushroom Production, Aquaculture, Integrated Pest Management, Indigenous Art and Crafts,

PSO2. Understand nature and basic concept and applied aspects of Rural Social Structure and Planning, Poultry Production Techniques, Plant Morphology and Reproduction, Economic Botany, Rural Entrepreneurship and Management, Goat and Pig Production Techniques, Lac and Honey Production, Remote Sensing and GIS, Medicinal Plants, and Natural Products Management, Food preservations.

PSO3. Analyze the relationships among animals, plants, microbes and use of Engineering and Computer Sciences for socio-economic development in rural areas.

PSO4. Perform procedures as per laboratory standards in the areas of Organic Farming, Dairy, Mushroom, Poultry, and Herbal Production, Sericulture, Aquaculture, Art and Crafts, Plant Propagation and Nursery Management, Remote Sensing and GIS.

PSO5. Understand the applications of biological and computer sciences in Apiculture, Aquaculture, Agriculture, Medicine, Remote Sensing and GIS, Rural Engineering and Rural Planning.



Four handwritten signatures are present. The fourth signature is followed by a date stamp: 30/6/2025.