



# CALENDAR

## SHORT TERM TRAINING COURSES

# 2026

I.C.F.R.E.-FOREST RESEARCH INSTITUTE  
DEHRADUN



# Short Term Training Courses at ICFRE-FRI, Dehradun

ICFRE-Forest Research Institute (FRI), Dehradun has its roots in the erstwhile Imperial Forest Research Institute and College established in 1906 to organize and lead forestry research in the country. Its history is synonymous with the evolution and development of scientific forestry not only in India but in the entire Indian subcontinent. The institute also imparted training to forest officers and forest rangers in the country and after independence it was renamed as Forest Research Institute. In 1988, FRI and its research centers were brought under the administrative umbrella of Indian Council of Forestry Research & Education (ICFRE) under the Ministry of Environment, Forests and Climate Change, Government of India.

Training as a part of extension is an important activity of the institute and plays a major role towards capacity building of the stakeholders. The institute organizes Short Term Training Courses (STTC) in different disciplines as per the requirement of the stakeholders with the aim of sharing the research developments in forestry and transferring the latest technical knowhow. In addition to the Short-Term Low-Cost Training Courses, the Institute also organizes low-cost training courses mentioned separately in this brochure.

These trainings are imparted by highly qualified, experienced and skilled professionals and researchers. The Institute has a well-developed infrastructure of laboratories, computer center, library, bambusetum, herbarium, arboreta, nurseries and experimental fields for these trainings. Excellent boarding & lodging facilities are available at the Institute.

## The details of the training are given below:

- 1. Butterfly Monitoring & Butterfly Inclusive Tourism as a Source of Livelihood:** The course will impart training on Importance of butterflies, habits of butterflies, diversity of butterflies in India, Identification of butterflies-Taxonomy & literature, butterflies in National Forest Insect Collection, FRI, Dehradun, Monitoring & Sampling butterflies for research, Butterflies & Climate change, Butterflies, forest types, biodiversity conservation & land use planning, Butterfly inclusive ecotourism models worldwide with livelihood opportunities & Creating butterfly nature trails & gardens.
- 2. Identification of a forest tree pathogen by amplicon sequencing:** Exposure to isolation of pathogen (from soil or diseased specimen), multiplication of the pathogen, DNA isolation, PCR amplification of the desired gene of the pathogen, Sanger sequencing of the pathogen. Exposure to different bioinformatic tools used for handling and curating sequences. Procedure of the submission of gene sequences to Genbank.
- 3. Urban Forestry for Building Climate-Resilient and Sustainable Cities:** This course offers scientific, technical, and policy-oriented insights into integrating urban forestry into climate-resilient, sustainable urban development. It includes theory, best practices, case studies, and best practices for planning, implementation, and monitoring. By the end of the course, participants will be able to:
  - Understand the role of urban forests as climate mitigation and adaptation solutions.
  - Identify suitable species and design principles for resilient urban green infrastructure.
  - Apply scientific knowledge to reduce pollution, sequester carbon, and improve urban microclimate.
  - Integrate urban forestry into municipal planning, policy, and nature-based solutions (NbS).
  - Develop actionable urban greening plans tailored to local environmental challenges.
- 4. Clonal Propagation of Forestry Species:** Clonal propagation of forestry species is a vital approach for multiplying elite genotypes that exhibit superior growth, wood quality, and stress tolerance. It ensures uniformity in plantation stock, enabling predictable performance and enhanced productivity. Techniques such as stem cuttings, air layering, macropropagation, and micropropagation allow rapid multiplication of selected plus trees. Clonal forestry also accelerates genetic gain by directly capturing and deploying desirable traits. This method supports restoration programs, commercial plantations, and climate-resilient forestry initiatives. Moreover, clonal propagation helps conserve rare or threatened genotypes by maintaining their genetic identity. As demand for high-quality planting material increases, clonal

approaches play a crucial role in sustainable forest management.

5. **Skilled development in parataxonomy:** Collection and identification of different plant group, Use of forest flora in plant identification, Botanical Nomenclature and its significance in forestry, Herbarium and Herbarium Techniques, Herbarium and its function; Methodologies for plant herbarium collection, preservation, identification and incorporation of specimens to the herbarium, plant conservatories (Herbarium, Botanical Garden, Pathological and Entomological problems, Physiological stress and soil condition, Health categorization of trees, Risk assessment, Preventive and remedial measures & Field visit.
6. **Plywood Manufacture:** Plywood raw materials both wood and adhesive; Analysis of Phenol and Formalin; Preparation and testing of PF and UF adhesives; Manufacture method of veneer, plywood, block board, flush door, their properties and testing; Plywood Laminates; Laminated Veneer Lumber; Compreg, Impreg and other recent panel products
7. **Wood Testing:** Physical and Mechanical Testing of Wood as per IS 1708, Wood Identification as per IS 4970, Bamboo Testing as per IS 6874:2008, Seasoning and Moisture Movement evaluation as per IS 1141, Wood Coating and Finishing tests as per ASTM 4060 and ASTM 3363, Wood Preservation and Durability Testing as per IS 401, Tests for Plywood as per IS 1734 and Non-destructive testing of wood. The course emphasizes standard-compliant laboratory practice, hands-on operation of testing equipment, and interpretation of results for quality assurance and structural validation of timber and bamboo.
8. **Wood Coatings:** History and evolution of wood coatings, Wood Coatings: Types and Properties, Wood Coatings: Surface Preparation, Substrate Behavior and Applications Methods, Understanding Product Specifications, VOC Regulations and Environmental Concerns, Surface Defects and Prevention, Testing and Quality Control, Handling and Safety Protocols, Wood Coatings: Weathering and Mitigation Practices, Wood Seasoning Technologies, Wood Preservation Technologies, Nanotechnology in Wood Products, Scope and Advancement in Wood Science and Technology, Composite wood technology, Industry-Institute Partnership, Hands-on Practice sessions
9. **Seasoning and Preservation of Wood and Bamboo:** Wood seasoning- Importance of wood seasoning, equilibrium moisture content, moisture contents values and tolerances for end products, stacking of timber in seasoning kilns, drying stresses; seasoning schedules, seasoning kilns (solar, steam-heated, vacuum, dehumidification, microwave vacuum kilns etc.), causes and their removal, Economics of kiln drying. Wood Preservation- Theory and hands on training on following topics: Importance of wood and bamboo preservation, concepts of durability and treatability of wood and bamboo, wood and bamboo preservatives and their types, wood and bamboo treatments methods-pressure and non-pressure methods, methods of determination of penetration and retention of preservatives.
10. **Wood and Bamboo Preservation:** Introduction to Wood and Bamboo Preservation, Biological Decay of Wood by Fungi and Insects, Natural Durability &Treatability, Classification of Wood based on Durability & Treatability, Formulation of wood and bamboo preservatives, Preservative Concentration, Retention, and Penetration, Preparations Before Wood and Bamboo Treatment, Preservatives Types: Oil Borne Type, Organic Solvent Type, &Water Borne Type, Methods of Application of Preservatives, Non-pressure Methods: Brushing, Spraying, Dipping, Diffusion, Hot and cold process, Pressure & Vacuum Methods: Full Cell, Boucherie, Fumigation, Efficacy testing of preservatives in Lab and Field, Suitability of the preservative for end-use application, Fire retardant wood and bamboo preservative, Safe Disposal of Preservatives after Treatment.
11. **Ecosystem Services:** Valuation and Policy Issues: An introduction to different ecosystem services, Analysis of total economic value, Different methods of environmental valuation, Estimation of Green GDP, Valuation of different ecosystem services such as provisioning, supporting, regulating and cultural services and Policy issues related to different ecosystem services

**ICFRE- Forest Research Institute, Dehradun**  
**Calendar of Short Term Training Courses - 2026**

<b>Name of the Course</b>	<b>Name of course Director &amp; Division</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
1. Butterfly Monitoring & Butterfly Inclusive Tourism as a Source of Livelihood	Dr. Arun Pratap Singh, Scientist-G & Head Forest Protection Division Ph.No. 9068049888 E-mail: singhap@icfre.org										05-09		
2. Identification of a forest tree pathogen by amplicon sequencing	Dr. Charisma K., Scientist-B, Forest Pathology Discipline, Forest Protection Division Ph. No.-0135-222-4226 E-mail:fpd_fri@icfre.org									07-11			
3. Urban Forestry for Building Climate-Resilient and Sustainable Cities:	Dr. Hukum Singh, Scientist – D Plant Physiology Discipline Genetics and Tree Improvement Division Phone: +91 9675306791 E-mail:hukum@icfre.org												04-08
4. Clonal Propagation of Forestry Species:	Dr. Shambhavi Yadav, Scientist – C Forest Biotechnology Discipline Genetics and Tree Improvement Division Phone: +91 00000 E-mail: shambhavi@icfre.org	23-27											
5. Skilled development in Parataxonomy	Dr. Anup Chandra, Scientist-G& Head, Forest Botany Division Ph.No.: 0135-222-4491 E-mail : anup@icfre.org												16-20
6. Plywood Manufacture	Smt. Ranjana Yadav, Scientist-E Composite Wood Discipline, Forest Products Division Ph.No.: 0135-222-4451 E-mail :head_fp@icfre.org									21-25			
7. Wood Testing	Sh. Ashwath Hegde, Scientist-B and Sh. Rajesh Bhandari, Scientist-G, Timber Mechanics and Engineering Discipline Forest Products Division Ph.No.: 0135-222-4395 Email : head_fp@icfre.org					04-08							
8. Wood Coatings	Sh. Sachin Gupta, Chief Technical Officer & Sh. Shahid A.M. Scientist-B, Wood Working & Finishing Discipline, Forest Products Division Ph.No.: 0135-222-4443 E-mail : head_fp@icfre.org				20-24								
9. Seasoning and Preservation of Wood and Bamboo	Dr. Shailendra Kumar, Scientist-D, Wood Seasoning Discipline, Forest Products Division Ph.No.: 0135-222-4423 E-mail : head_fp@icfre.org					18-22							
10. Wood and Bamboo Preservation	Sh. Ajmal Samani, Scientist-G and, Sh. Nang Mewada Thamoung, Scientist-B Wood Preservation Discipline, Forest Products Division Ph.No.: 0135-222-4613 E-mail : head_fp@icfre.org										05-09		
11. Ecosystem Services: Valuation and Policy Issues	Head Silviculture & Forest Management Division Ph.No.: 0135-2757579, 0135-222-4322 E-mail : head_silva@icfre.org									21-25			

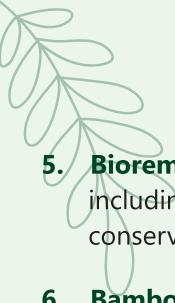
## Short Term Training Courses-2026 at ICFRE-CSFER, Prayagraj (UP)

Name of the Course	Name of course Director & Division	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1.Essentials of clonal forestry	Dr. Sanjay Singh, Scientist-G Ph. No. 9430366286 E-mail: sanjay.drsingh@gmail.com		17-19										
2.Lac cultivation for improving livelihood	Dr. Sanjay Singh Scientist-G Ph. No. 9430366286 E-mail: sanjay.drsingh@gmail.com			21-23									
3.Techniques for nursery and plantation management	Dr. Anita Tomar, Scientist-F Ph. No.: 6386193844 E-mail: anitatomar@icfre.org.								15-17				
4.Cultivation, processing, value addition, marketing & certification of medicinal plants	Dr. Anita Tomar, Scientist-F Ph. No.: 6386193844 E-mail: anitatomar@icfre.org.									13-15			
5.Bioremediation of industrial waste and problematic soil sites:	Dr. Kumud Dubey, Scientist-E Ph. No.: 9415214010 E-mail : dkumud@yahoo.com											17-19	
6.Bamboo Propagation, Management and Utilization:	Sh. Alok Yadav, Scientist-E Ph. No :9411166881 E-mail : yadava@icfre.org											03-05	
7.Agroforestry for sustainable land use and livelihood improvement:	Dr. Anubha Srivastav, Scientist-D Ph. no Ph. No.: 8299103348 E-mail : anubhasri_csfer@icfre.org												01-03
8.Bio-diversity and its conservation	Dr. Kumud Dubey, Scientist-E Ph. No :Ph. No. 94152114010 E-mail:dkumud@yahoo.com	03-05											

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Telephone : 0135 2754444  
E-mail : [dir\\_fri@icfre.org](mailto:dir_fri@icfre.org) website : <http://fri.icfre.gov.in>

## Short Term Trainings to be conducted at ICFRE-Eco-Rehabilitation Centre Prayagraj (UP) Contact No. 0532-2440796

- 1. Essentials of clonal forestry:** Concept of cloning, Conventional and Modern methods of Clonal Propagation Procedures, Clone development, deployment and testing.
- 2. Lac cultivation for improving livelihood:** Overview of technologies for Lac cultivation, relevance in agroforestry plantations, harvesting and processing techniques of lac, value addition & marketing of end products and general management for improvement of livelihood.
- 3. Techniques for nursery and plantation management:** Designing of nursery; Types of containers in nursery; Raising of plants of important species in nurseries; Collection, processing and storage of seed; Macro propagation; Maintenance of plantation; Pre-sowing treatments for enhancing seed germination; Significance of Potting mixture in nurseries.
- 4. Cultivation, processing, value addition, marketing & certification of medicinal plants:** Nursery and plantation techniques of medicinal plants; introduction of good agriculture practices, collection, processing and storage of medicinal Plants. Value addition of different plant parts, marketing & certification of medicinal plants.

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5. **Bioremediation of industrial waste and problematic soil sites:** Selection of Species; Sustainable reclamation including field study of affected sites; Plantation techniques with Microbial and Bio-solid treatments; moisture conservation techniques.
  6. **Bamboo Propagation, Management and Utilization:** Botany and taxonomy of Bamboo, its utilization and resource distribution; Propagation and silvicultural management of bamboos, Bamboo cultivation and Conservation of bamboo genetic resources; Techniques in bamboo management; Techniques in bamboo management; Marketing and Trade of bamboo; Bamboo based entrepreneurship.
  7. **Agroforestry for sustainable land use and livelihood improvement:** Tree crop combinations; site suitability of trees; procurement of quality planting material and other technical knowhow and marketing of end (timber & non timber) forest produces.
  8. **Bio-diversity and its conservations:** Biodiversity, types of biodiversity, threats to biodiversity, microbial biodiversity, invasive species and its threat, biodiversity conservation

## NOMINATIONS

Nomination letters for the courses to be conducted at F.R.I., Dehradun may be addressed to the Course Director of the concerned training and a copy may be sent to :

Head, Extension Division

I.C.F.R.E.-Forest Research Institute, P.O. New Forest, Dehradun – 248006 (Uttarakhand)

Phone: 0135 – 2758606

E-mail: [headext@icfre.org](mailto:headext@icfre.org)      Website: <https://fri.icfre.gov.in/>

The requisite course fees (through demand draft drawn in favour of the **Director, I.C.F.R.E.-Forest Research Institute, Dehradun, and payable at Dehradun**) should reach on the above address at least 30 days before the commencement of the respective courses.

**Participants are advised to commence their journey for the training only after getting confirmation about the course programme from the concerned Course Director at the telephone numbers.**

## COURSE FEES

### Offline Mode

The course fees for STTC (including boarding & lodging charges) per participant for five days is as follows:

- Rs. 11,000 for Indian Nationals
- Rs. 22,000 for SAARC countries
- Rs.40,000 for other foreign nationals.
- Course fee for "Low-Cost Short Term training courses only for farmers, artisans, etc. is Rs. 4500/- per candidate/ course of three days.
- Course fee for "Low-Cost Short Term training courses only for farmers, artisans, etc. is Rs. 7,500 per candidate/ course of five days.
- Institutional charges @20% on course fees will be charged extra for each course.
- The minimum number of participants for each course must be 10 (Ten).

### Online Mode

- The course fees for STTC per participants for five days course is as follows:
  - Rs. 6,000/- for Indian Nationals
  - Rs. 12,000/- for SAARC countries
  - Rs. 20,000/- for other foreign nationals.
- Course fee for "Low-Cost Short Term training only for farmers, artisans etc.
- Rs. 5,000/- per participant for three days.
- Minimum number of participants for each course must be 10 (Ten).



# Low-Cost Short Term Training Courses for Field Staff, Farmers, and Artisans

The following Low-Cost Short Term training courses for non-gazetted staff, farmers, artisans, craftsman, gardeners etc, shall be conducted at FRI, Dehradun during 2025. These courses are designed as per the requirements of the sponsoring agencies.

## 1. Vesicular Arbuscular Mycorrhiza (VAM) mass production

**Course content** : Growth promoting microorganisms, Vesicular Arbuscular Mycorrhiza (VAM), Soil mixture preparation, Mycorrhizal culture inoculation, age selection of planting material, Ideal application of mycorrhizal inoculums, ex vitro mycorrhizal inoculation, Mycorrhiza and microbial products – an overview on market, products and legislation, Innovative mycorrhiza production/products, Field visit.

**Tentative date** : 28-30th December, 2026

**Course Coordinator:** Dr. Vipin Parkash, Scientist- F, Forest Pathology Discipline, Forest Protection Division and Dr. Pooja Sharma, Scientist-C as Co-course Coordinator

**Phone Number** : 0135-222-4314

## 2. Mass multiplication of Biocontrol agent Trichoderma

**Course Content** : Benefits of using Trichoderma, Mechanism of action, Media preparation, isolation, culture maintenance and preservation, Spawn preparation, Different agroforestry substrates for mass production, Hands-on guidance on implementing Trichoderma, effective application methods, Field visit.

**Tentative date** : 14-16th October, 2026

**Course coordinator:** Dr. Shailesh Pandey, Scientist- E, Forest Pathology Discipline, Forest Protection Division

**Phone Number** : 0135-222-4313

## 3. Urban Tree Risk Management/Hazardous Avenue Trees

**Course content** : Pathological and Entomological problems, Physiological stress and soil condition, Health categorization of trees, Risk assessment, Preventive and remedial measures, Field visit.

**Tentative date** : 19-21th August, 2026

**Course Coordinator:** Dr. Shailesh Pandey, Scientist- E, Forest Pathology Discipline, Forest Protection Division

**Phone Number** : 0135-222-4313

## 4. Edible/Medicinal Mushroom Cultivation

**Course content** : Benefits of mushroom consumption, Wild edible and poisonous mushrooms, Important commercially cultivated mushrooms in India and world, Different substrates for spawn (Edible/Medicinal), Media preparation, Sterilization, isolation, culture maintenance and preservation, sub-culturing, Mushroom cultivation : an agribusiness activity, status: world, national and state scenario, opportunities and constraints, Oyster and Ganoderma cultivation and medicinal uses, Hands on Spawn preparation, substrate treatment, bag preparation, spawn mixing, harvesting, utilization, Ophiocordyceps sinensis, its medicinal uses and importance, Mushroom spawn: quality attributes, storage and transport, Mushroom processing and preservation (drying/ dehydration, pickling and canning), Acquaintance with mushroom contaminants, Field/Museum visit.

**Tentative date** : 30th November-02 December, 2026

**Course Coordinator:** Dr. Shailesh Pandey, Scientist- E Forest Pathology Discipline, Forest Protection Division and Dr. Manoj Kumar, STO as Co-course Coordinator,

**Phone Number** : 0135-222-4313

## 5. Nature-Based Enterprises : Skills Development in Essential Oils and Natural Dyes

**Course Content** : Overview of essential oils and natural dyes, National and international market potential of essential oils and natural dyes, Techniques for extraction of essential oils from aromatic plants, Physicochemical assessment of essential oils for quality control, Value addition of essential oils, Industrial application of essential oils, Techniques for extraction of natural dyes from plant biomass. Techniques for dyeing of silk, wool and cotton fabrics with natural with natural dyes, & Testing methods to assess color fastness and durability of natural dyes.

**Tentative date** : 20-24 July, 2026

**Course Director** : Dr. S.S. Bisht, Head, Chemistry & Bioprospecting Division, ICFRE-FRI

**Ph.No.** : 0135-222-4207

**6. Agroforestry** : The training may focus on Agroforestry land use: Systems and Practices in India and the World, Agroforestry- a potential way to increase the green cover of the country, Legal framework for promoting agroforestry: Agroforestry policy and schemes, Marketing framework and strategies of wood under Agroforestry, Successful Models of Commercial Agroforestry and their economics, Field visit regarding Agroforestry, Ecosystem services provided by agroforestry systems, Role of Quality Planting Material in agroforestry, Agroforestry and farmers livelihood : issues and solutions, Role of agroforestry in food/nutritional security and resilience against climate change and Pest and disease management in Agroforestry systems.

**Tentative Dates** : 2nd to 4th December, 2026.

**Course Director** : Head Silviculture & Forest Management Division, ICFRE- Forest Research Institute

**Tel. No.** : 0135-2757579, 0135-222-4322

**Email** : head\_silva@icfre.org

**7. Extension of Forestry outside Forests** : Concept of forestry extension, potential of forestry extension for livelihood generation and ecological security, scope of forestry extension, choice of species under forestry extension programme, Land Management through extension forestry, Urban forestry-green space development etc.

**Tentative Dates** : 6 to 8 October, 2026.

**Course Director** : Dr. Charan Singh and Shri Lokinder Sharma, Scientists, Extension Division, ICFRE- Forest Research Institute, Dehradun

**Tel. No.** : 0135-2224355, 0135-222-4243

**Email** : headext@icfre.org



Short Term Training programme on Wood Coating



Short Term Training programme on Wood and Bamboo Preservation



Training programme on Hill Agroforestry at KVK-Dhanouri



Training programme at VVK-HNBGU



Training programme on Bamboo and Ringal based handicrafts at Umedpur



Short Term Training programme on Plywood Manufacture

## Published by

The Director,

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