



Minutes of Meetings (MoM) of Board of Studies (BoS)

The scheduled meeting of member of Board of Studies (BoS) of Department Forestry, Wildlife and Environmental Sciences, School of Studies of Natural Resources, Guru Ghasidas Vishwavidyalaya, Bilaspur was held on dated 23.12.2021 at 11:30 am in smart class to design and discuss the B. Sc. (Forestry) 4 Years (8 semester) scheme and syllabi.

The following members were present in the meeting:

1. Prof. A.K. Singh (External Expert Member BoS, Dept. of Genetics and Plant Breeding, College of Agriculture, Pant Nagar)
2. Prof. S S Singh (Member BoS, Dept. Forestry, Wildlife and Environmental Sciences)
3. Dr. Dr. S.C. Tiwari (HOD, Associate Prof., Dept. Forestry, Wildlife and Environmental Sciences, Chairman, BOS)
4. Dr. K.K. Chandra (Member BoS, Associate Professor, Dept. Forestry, Wildlife and Environmental Sciences)
5. Dr. Gunjan Patil (Member, Assistant Professor, Dept. Forestry, Wildlife and Environmental Sciences)

Following points were discussed during the meeting

1. Revised LOCF ordinance of B. Sc. (Forestry) Four Years (8 Semester) degree program.
2. LOCF/ECS scheme is implemented in any of the program of B. Sc. (Forestry) Four Years (8 Semester) degree program.
3. The BoS has approved the CBCS Course curriculum and ordinance of B. Sc. (Forestry) Four Years (8 Semester) degree program with effect from academic session 2021-22.

List of New Course(s) Introduced

Sr. No.	Course Code	Name of the Course
1.	FOUATA1	Ability Enhancement Course
2.	FOUATL1	Skill Enhancement Course
3.	FOUATS2	Physical Education
4.	FOUBTA2	Ability Enhancement Course
5.	FOUBTL2	Skill Enhancement Course
6.	FOUBTS4	Physical Education
7.	FOUCTG3	Non timber Forest Products and Ethnoforestry
8.	FOUCTA3	Ability Enhancement Course
9.	FOUDTG4	Sericulture
10.	FOUDTA4	Ability Enhancement Course



-
- | | |
|--------------|----------------------------------|
| 11. FOUETT11 | Watershed and its Management |
| 12. FOUFTD2 | Urban Forestry |
| 13. FOUFTD2 | Land Degradation and Restoration |
| 14. FOUFTA5 | Ability Enhancement Course |
| 15. | Online MOOC Course |
| 16. FOUGSS2 | Seminar |
| 17. FOUHDF1 | Dissertation |

विभागाध्यक्ष
Head

यानिकी, वन्यजीव एवं पर्यावरण विभाग
Department of Forestry, Wildlife and Environmental Science
गुरु घासीदास विश्वविद्यालय, बिलासपुर (छ.ग.)
Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)

Signature & Seal of HoD

गुरु घासीदास विश्वविद्यालय
(केन्द्रीय विश्वविद्यालय अधिनियम 2009 क्र. 25 के अंतर्गत स्थापित केन्द्रीय विश्वविद्यालय)
कोनी, बिलासपुर - 495009 (छ.ग.)



Guru Ghasidas Vishwavidyalaya
(A Central University Established by the Central Universities Act 2009 No. 25 of 2009)
Koni, Bilaspur - 495009 (C.G.)

**LEARNING OUTCOME BASED CURRICULUM FRAMEWORK
(LOCF)**

FOR

B.Sc. FORESTRY

(w.e.f. Academic session:2021-22)



“SCHOOL OF NATURAL RESOURCES”

DEPARTMENT OF FORESTRY, WILDLIFE & ENVIRONMENTAL SCIENCES

GURU GHASIDAS VISHWAVIDYALAYA

(A Central University established by the Central University Act.2009 No. 25 of 2009)

BILASPUR-495009, CHHATTISGARH

SS Singh
23.12.2021

ds
23/12/2021



Course Structure and Credit Distribution

B.Sc. Forestry (4 -Year / 8- Semester) LOCF based Program

Semester	Course Opted	Course Code	Name of the course	Credit	Hour / week	Marks
I	Core-01	FOUATT1	Principles and Practice of Silviculture	3	3	100
	Core-01 Practical	FOUALT1		2	3	100
	Core-02	FOUAPT2	Fundamentals of Soil Science	3	3	100
	Core-02 Practical	FOUALT2		2	3	100
	Generic Elective (GE)-01	FOUATG1	Basic Mathematics	4	4	100
	Seminar/ Tutorial	FOUASS1		1	1	100
	Ability Enhancement Course (AEC-01)	FOUATA1	Drawn from the University Pool	2	...	100
	Skill Enhancement Course (SEC-01)	FOUATL1	Drawn From the University pool	2	..	100
	Extracurricular Activity-(ECA-01) *Additional Credit Course (Non-Mandatory)	FOUATS1	ECA-Extra-curricular activity (Field visit/ NSS/NCC/ Swachhta/ Plantation Activities)	2		100
	Physical Education	FOUATS2	Non Credit	---	2	100
TOTAL				19	19	1000
II	Core -03	FOUBTT3	Forest Mensuration	3	3	100
	Core -03 Practical	FOUBLT3		2	3	100
	Core -04	FOUBTT4	Cytogenetics and Plant Breeding	3	3	100

Coaly

23/12/2021

Migal - 23/12/2021



	Core -04 Practical	FOUBLT4		2	3	100
	Generic Elective (GE)- 02	FOUBTG2	Forest Botany and Dendrology	3	3	100
	Generic Elective (GE)- 02 Practical	FOUBLG2		2	3	100
	Ability Enhancement Compulsory (AEC-02)	FOUBTA2	Drawn from the university pool	2	2	100
	Skill Enhancement Course(SEC- 02)	FOUBTL2	Drawn From the University pool	2	..	100
	Extracurricular Activity- (ECA-02) *Additional Credit Course (Non Mandatory)	FOUBTS3	ECA-Extracurricular activity(Field visit/ NSS/ Swachhta/ vocational Training/ Plantation activities)	2	..	100
	Physical Education	FOUBTS4	Non Credit	----	2	100
	TOTAL			19	22	900
Semester	Course Opted	Course Code	Name of the course	Credit	Hour / week	Marks
III	Core -05	FOUCTT5	Forest Ecology and Biodiversity Conservation	3	3	100
	Core -05 Practical	FOUCLT5		2	3	100
	Core -06	FOUCTT6	Fundamentals of Wildlife and its Management	3	3	100
	Core -06 Practical	FOUCLT6		2	3	100
	Core -07	FOUCTT7	Forest Management	3	3	100
	Core -07 Practical	FOUCLT7		2	3	100
	Generic Elective- (GE)-03	FOUCTG3	Non Timber Forest Products and Ethnoforestry	3	3	100
	Generic Elective (GE- 3) Practical	FOUCLG3		2	3	100

Coaly

d

*M Singh
23.12.2019*



	Core -13	FOUETT13	Forest Tree Seed Technology	3	3	100
	Core -13 Practical	FOUELT13		2	3	100
	Discipline Specific Elective DSE-1	FOUETDI	Meteorology and Crop Production	3	3	100
	Practical	FOUELD1		2	3	100
			Basic Concept of Horticultural and Landscaping			
	TOTAL			20	24	800
VI	Core -14	FOUFTT14	Forest Pathology and Entomology	3	3	100
	Core -14 Practical	FOUFLT14		2	3	100
	Core -15	FOUFTT15	Agroforestry and Tree Outside Forests	3	3	100
	Core -15 Practical	FOUFLT15		2	3	100
	Core -16	FOUFTT16	Forest Economics	3	3	100
	Core -16 Practical	FOUELT16		2	3	100
	Discipline Specific Elective- (DSE-2)	FOUFTD2	Urban Forestry	3	3	100
	Practical	FOUFLD2		2	3	100
			Land Degradation and Restoration			
	Ability Enhancement Course (AEC-05)	FOUFTA5	Drawn from the University Pool	2	...	100
	MOOC Course (01)		Online MOOC Course	2
	TOTAL			24	24	900
VII	Core -17	FOUGTT17	Biostatistics	3	3	100
	Core -17 Practical	FOUGLT17		2	3	100

Coalg *23/12/2021* *23-12-2021*



	Core -18	FOUGTT18	Forest Policy, Legislation and Environmental Act	3	3	100
	Core -18 Practical	FOUGLT18		2	3	100
	Core -19	FOUGTT19	World Forestry Systems and Climate Change Mitigation	3	3	100
	Core -19 Practical	FOUGLT19		2	3	100
	Discipline Specific Elective- (DSE-3)	FOUGTD3	Forestry Extension	3	3	100
	Practical	FOUGLD3		2	3	100
			Entrepreneurship Development			
	Seminar	FOUGSS2	Seminar	2	2	100
	TOTAL			22	26	900
VIII	INTR -1	FOUHEF1	Socio- economic Survey-Village attachment (Report Writing, Presentation, Viva-Voce)			200
	INTR - 2	FOUHEF2	Forest operation Work Experience (Report Writing, Presentation, Viva-Voce)			200
	INTR - 3	FOUHEF3	Forest Institute and Industrial visit (Report Writing, Presentation, Viva-Voce)			200
	Dissertation	FOUHDF1	Report Evaluation, Presentation, Viva-Voce			100
	The nature of the course in VIII Semester is field based. Socio- economic survey will be performed by the students in an assigned village. For exposure of forest operational work students will be attached with State Forest Department. Institute/ industrial training will be accomplished by the students through visits of nearby forest based Industries / Institutions.					
	TOTAL			22 (6 credits for each Training and 4 credits for Dissertation segment)	48 Hours/ week for each Training segment separately	700
GRAND TOTAL				170		7000

Gatij

23/11/2021

23-12-2021



PAPER 4. NON WOOD FOREST PRODUCTS AND **ETHNOFORESTRY**

(GE-03)

CR: 3+2

100-1
Forest and tribes- their relationship, Major tribes in India and Chhattisgarh. Forest ecosystem and cottage industries. Role of tribes in forest protection, development and conservation. Tribal welfare and social forestry, Tribal and co-operative movements. History of tribal welfare and administration, forest & tribes, Seed and biofuels, Herbal medicines in ethno-medical practices, Edible wild fruits, Wild mushrooms, Natural dyes, Economic uses of grasses. Gums and resins, important gum yielding plants. Resins and Oleoresins, their formation in plants and its uses, Sericulture and lac culture Tendu leaves— sources, collection and processing. Dependency of forest dwellers on NTFP in economy Scenario of NTFP obtained from forests of Chhattisgarh (Central India). Ethnoforestry & sustainable management.

40-1
PRACTICAL

Morphological description and identification of various medicinal plants. Collection of medicinal plants and plants part from natural habitats. Survey and study of nursery techniques of medicinal

SS Singh
23.12.2021

Catig

d
23/12/2021

plants. . Visit to Herbal Gardens and herbaria to study medicinal plants.. Visit to nearby MPCA/ nursery/ ayurvedic pharmacies. Study the tribal races of India. Study the important medicinal plant used by traditional healers. Visit to nearby forests to study important NTFP yielding plants. Study of canes and bamboos and their sources. Study of gums and resins and their Visit of sericulture and lac cultivation farms. Tendupatta area and interaction with forest dwellers to study the economy of rural people.

Suggested Readings:

Ashok Ranjan Basu & S. Nijhavan (1985) Tribal Development Administration in India. Mittal publications.

C.M. Cottan (1996) Ethno botany: Principles & Applications. Jhon Wiley and sons Ltd.

Dwivedi, A.P. (1993) Forests - the non-wood resources. International Book Distributor, Dehradun. 352 p.

Mehta T (2012) A handbook of forest utilization. Today and Tomorrow publishers.

R.K. Sinha (1996) Ethnobotany: the renaissance of Traditional Herbal Medicines. Inashree publishers.

Taank P (2010) Forest product and their utilization. Today and Tomorrow publishers.

V.P. Agrawal (2002) Forest in India. Oxford and IBH publishers.

Vinod M. Mhaiske, Vinayak K Patila and Satish S Narkhede (2016). Forest Tribology and Anthropology. Scientific Publishers, Delhi.



PAPER 4: SERICULTURE (GE-04)

New

CR: 3+2

Introduction, scope and principle of Sericulture. Mulberry and non-mulberry sericulture in India; Silk production in India and other countries and their export and import. Insect and non-insect fauna producing silk; types of silk produced in India; host plants of mulberry and non-mulberry silkworms; mulberry cultivars – tropical and temperate regions, irrigated and rainfed conditions. Characteristic features of the order Lepidoptera; Classification of sericigenous insects. Classification of silkworms based on moultnism, voltinism and geographical distribution; popular silkworm breeds and hybrids of Chhattisgarh, their economic traits. Silkworm morphology, Silkworm rearing methods, Silkworm pest and diseases. Preparation of nursery beds, Selection of materials for cuttings, selection of cutting planting. Selection and grading of sampling. Different propagation methods of silk plant host-grafting and layering. Planting System and Intercultural Operations: - pit and row system, mulching, irrigation. Characteristics of sericulture industry: Land and agro based part of industry. Silk reeling as a cottage industry; Handloom and power loom activities. Textile fibers: Natural and Synthetic fibers: Advantage of silk fiber over other fibers. Sericulture organizations in India and Chhattisgarh; role of State Sericulture department, Central Silk Board. Prospects and problems of Sericulture industry.

PRACTICAL

Sericulture World maps and Silk Road, Sericulture map of India and Chhattisgarh, Study of life cycle of silkworm: Morphology of egg, larva, pupa and adult. Cocoon characters of popular uni-, bi- and multivoltine races, Identification of different diseased silkworms based on external symptoms. Identification and uses of two sericulture rearing appliances. Calculate the brushing capacity in accordance to leaf estimation/acre. Morphological study of few important cultivars in Chhattisgarh. Preparation of grafting (bud or shoot grafting) or layering (simple layering) drawing and labelling. Identification of different types of weeds, fertilizers, calculation of dosages. Preparation Compost.

Suggested Readings:

Byong Ho Kim (1989). Filature water engineering, Seoul national university press, Republic of Korea.

SS Singh
23.12.2024

Anty

dh
23/12/2024



PAPER 1. WATERSHED AND ITS MANAGEMENT (Core-11) CR: 3+2 New

Watershed - introduction and characteristics. Problems and prospects, investigation, topographical survey, soil characteristics, vegetative cover, present land use practices and socio-economic factors. Watershed management - concept, objectives, factors affecting, watershed planning based on land capability classes, hydrologic data for watershed planning, watershed codification, delineation and prioritization of watersheds – sediment yield index. Water budgeting in a watershed. Rainwater conservation technologies, inter-terrace and inter-bund land management. Integrated watershed management - concept, components, arable lands and non-arable lands. Effect of land management on watershed hydrology. Participatory watershed management, Application of Remote Sensing, GIS & Isolope technology in survey and problem identification for planning and management of watershed.

PRACTICAL

Exercises on delineation of watersheds using topo-sheets. Surveying and preparation of watershed map. Quantitative analysis of watershed characteristics and parameters. Watershed investigations for planning and development. Analysis of hydrologic data for planning watershed management. Water budgeting of watersheds. Prioritization of watersheds based on sediment yield index. Study of functional requirement of watershed development structures. Study of watershed management technologies. Practice on software for analysis of hydrologic parameters of watershed. Study of role of various functionaries in watershed development programmes. Techno-economic viability analysis of watershed projects. Visit to watershed development project areas.

Suggested Readings:

S. K. Datta (1985). Soil Conservation and Land Management. International Book Distributors, Dehradun

SS Singh
23.12.2024

Coaly

dh
23/12/2024



PAPER 4. Urban Forestry (DSE-2A)

New

CR.3+2

Introduction, objective and scope of urban forestry, History of Urban Forestry/Distribution and Ownership of the Urban Forest Functions and Values of the Urban Forest Urban Forest Environment Tree Hazard Assessment and Management Street, roads and parks tree inventories and Valuation The Urban Wildland Interface, Species selection for Street Tree and Park Management: Planting, Tree Maintenance, Removals Urban Forestry Ordinances, biomass estimation for carbon stock assessment and mitigation of carbon footprint calculation.

PRACTICAL

Identification of various types of forest tree species found in urban environment. Tree hazards assessment through different methods. Species selection for plantation and establishment of nursery. Biomass estimation for carbon stock in different species.

Suggested Readings:

Malcom Fisher (1999). Urban forestry: planning and management. Syrawood publication house.
V.K. Prabhakar (2000). Forestry and forest resources. Anmol Publication, New Delhi.
S S Negi (1989). Urban and recreational forestry. International book distributors, Dehradun.
S S Negi (2003). Manual of forestry. Bishen singh, Mahendra pal singh, Dehradun.

PAPER 4. LAND DEGRADATION AND RESTORATION (DSE- 2B) CR: 3+2

New

Type, factors and processes of soil/land degradation and its impact on soil productivity, including soil fauna, biodegradation and environment. Land restoration and conservation techniques- erosion

Cooby

23/12/2021

SS Negi
23.12.2021

control reclamation of salt-affected soils; mine land reclamation, afforestation, organic products. Extent, diagnosis and mapping of land degradation by conventional and modern RS-GIS tools; monitoring land degradation by fast assessment, modern tools, land use policy, incentives and participatory approach for reversing land degradation; global issues for twenty first century.

PRACTICAL

Assessment land degraded areas, Determination of soil-moisture characteristics curve and computation of pore-size distribution. Determination of hydraulic conductivity under saturated and unsaturated conditions. Soil temperature measurements by different methods, Estimation of water balance components in bare and cropped fields.

Suggested Readings:

T.D. Biswas and G. Narayanasamy (1996). Soil Management in Relation to Land Degradation and Environment. Bull. Indian Soc. Soil Sci.17, New Delhi.
J.W. Doran and A.J. Jones (1996). Methods of Assessing Soil Quality. Soil Science Society of America, Madison.
D.J. Greenland and I. Szaboles (1994). Soil Resilience and Sustainable Land Use. CABI.
J. Sehgal J and I.P. Abrol (1994). Soil Degradation in India - Status and Impact. Oxford & IBH.