

UPSC FORESTRY SCHEDULE 2024

S.NO	HOURS	DATE	SYLLABUS
1.	1 hrs	03.10.2024	General about what is forestry, discussion about syllabus and how to cover the syllabus
	2 hrs		1.Silviculture-general General Silvicultural Principles: Ecological and physiological factors influencing vegetation, natural and artificial regeneration of forests; methods of propagation, grafting techniques
2.	2 hrs	04.10.2024 & 05.10.2024	Silviculture-general General silvicultural principles: site factors; nursery and planting techniques nursery beds, poly-bags and maintenance, water budgeting, grading and hardening of seedlings; special approaches; establishment and tending.
	3 hrs		2. Silviculture – Systems: Clear felling, uniform shelter wood selection, coppice and conversion systems, Management of silviculture systems of temperate, subtropical, humid tropical, dry tropical and coastal tropical forests with special reference to plantation silviculture
			Silviculture-systems: choice of species, establishment and management of standards, enrichment methods, technical constraints, intensive mechanized methods, aerial seeding, thinning.
3.	2 hrs	09.10.2024	3. Silviculture - Mangrove and Cold desert: Mangrove: Habitat and characteristics, mangrove, plantation-establishment and rehabilitation of degraded mangrove formations; silvicultural systems for mangrove; protection of habitats against natural disasters. Cold desert- Characteristics, identification and management of species.
	2 hrs		4. Silviculture of trees: Traditional and recent advances in tropical silvicultural research and practices. Silviculture of some of the economically important species in India such as <i>Acacia catechu, Acacia nilotica, Acacia auriculiformis, Albizzia lebbeck, Albizzia procera, Anthocephalus Cadamba, Anogeissus latifolia, Azadirachta indica, Bamboo spp, Butea monosperma, Cassia siamea, Casuarina equisetifolia, Cedrus deodara, Chukrasia tabularis, Dalbergia sisoo, Dipterocarpus spp, Emblica</i>

S.NO	HOURS	DATE	SYLLABUS
			<i>officindils, Eucalyptus spp, Gmelina Arborea, Hardwickia binata, Largerstroemia Lanceolata, Pinus roxburghi, Populus spp, Pterocarpus marsupium, Prosopis juliflora, Santalum album, Semecarpus anacrdium,. Shorea robusta, Salmalia malabaricum, Tectona grandis, Terminalis tomemtosa, Tamarindus indica.</i>
4.	2 hrs	10.10.2024 & 11.10.2024	5. Agroforestry, Social Forestry, Joint Forest Management and Tribology: Agroforestry - Scope and necessity; role in the life of people and domestic animals and in integrated land use, planning especially related to (i) soil and water conservation; (ii) water recharge; (iii) nutrient availability to crops; (iv) nature and eco-system preservation including ecological balances through pest-predator relationships
	3 hrs		5.Agroforestry, Social Forestry, Joint Forest Management and Tribology: (v) Providing opportunities for enhancing biodiversity, medicinal and other flora and fauna. Agro forestry systems under different agroecological zones; selection of species and role of multipurpose trees and NTFPs, techniques, food, fodder and fuel security. Research and Extension needs.
	2 hrs		Agroforestry, Social Forestry, Joint Forest Management and Tribology: Social/Urban Forestry: Objectives, scope and necessity; peoples participation. JFM - Principles, objectives, methodology, scope, benefits and role of NGOs. Tribology: Tribal scene in India; tribes, concept of races, Principles of social grouping, stages of tribal economy, education, cultural tradition, customs, ethos and participation in forestry programmes.
5.	2 hrs	12.10.2024 & 16.10.2024	Forest Soils, soil Conservation and Watershed Management Role of forests in conserving soils. Maintenance and build up of soil organic matter, provision of loppings for green leaf manuring; forest leaf litter and composting; Role of micro-organisms in ameliorating soils; N and C cycles, VAM.

S.NO	HOURS	DATE	SYLLABUS
			Watershed Management - Concepts of watershed; role of mini-forests and forest trees in overall resource management, forest hydrology,
	2hrs		Forest Soils, soil Conservation and Watershed Management: watershed development in respect of torrent control, river channel stabilization, avalanche and landslide controls, rehabilitation of degraded areas; hilly and mountain areas; watershed management and environmental functions of forests; water-harvesting and conservation; ground water recharge and watershed management; role of integrating forest trees, horticultural crops, field crops, grass and fodders.
	2hrs		Environmental Conservation and Biodiversity: Environment : Components and importance, principles of conservation, impact of deforestation; forest fires and various human activities like mining, construction and developmental projects, population growth on environment.
	2hrs		Pollution: Types, Global warming, green house effects, ozone layer depletion, acid rain, impact and control measures, environmental monitoring; concept of sustainable development. Role of trees and forests in environmental conservation; control and prevention of air, water and noise pollution. Environmental policy and legislation in India. Environmental impact Assessment, Economics assessment of watershed development vis-a-vis ecological and environmental protection.
6.	3 hrs	17.10.2024 & 18.10.2024	Tree Improvement and Seed Technology: General concept of tree improvement, methods and techniques, variation and its use, provenance, seed source, exotics; quantitative aspects of forest tree improvement, seed production and seed orchards, progeny tests, use of tree improvement in natural forest and stand improvement, genetic testing programming, selection and breeding for resistance to diseases, insects, and adverse environment; the genetic base, forest genetic resources and gene conservation in situ and ex-situ. Cost benefit ratio, economic evaluation.
7.	3 hrs	19.10.2024	Paper II: Forest Management and Management Systems: Objective and principles; techniques; stand structure and dynamics, sustained yield relation; rotation, normal forest, growing stock; regulation of yield; management of forest plantations, commercial forests, forest cover monitoring. Approaches viz., (i) site-specific planning, (ii) strategic planning, (iii) Approval, sanction and expenditure. (iv) Monitoring (v)

S.NO	HOURS	DATE	SYLLABUS
			Reporting and governance. Details of steps involved such as formation of Village Forest Committees, Joint Forest Participatory Management.
	2 hrs	23.10.2024 & 24.10.2024	2.Forest Working Plan: Forest planning, evaluation and monitoring tools and approaches for integrated planning; multipurpose development of forest resources and forest industries development; working plans and working schemes, their role in nature conservation, bio-diversity and other dimensions; preparation and control. Divisional Working Plans, Annual Plan of Operations.
	3 hrs		3.Forest Mensuration and Remote Sensing: Methods of measuring - diameter, girth, height and volume of trees; form-factor; volume estimation of stand, current annual increment; mean annual increment, Sampling methods and sample plots. Yield calculation; yield and stand tables, forest cover monitoring through remote sensing; Geographic Information Systems for management and modelling.
8.	2 hrs		4.Forest Ecology and Ethnobotany: Forest Ecology: Biotic and abiotic components, forest eco-systems; forest community concepts; vegetation concepts, ecological succession and climax, primary productivity, nutrient cycling and water relations; physiology in stress environments (drought, water logging salinity and alkalinity). Forest types in India, identification of species, composition and associations; dendrology, taxonomic classification, principles and establishment of herbaria and arboreta.
	1 hr	25.10.2024	Forest Ecology: Conservation of forest ecosystems. Clonal parks. Role of Ethnobotany in Indian Systems of Medicine; Ayurveda and Unani - Introduction, nomenclature, habitat, distribution and botanical features of medicinal and aromatic plants. Factors affecting action and toxicity of drug plants and their chemical constituents.
	2 hr		Forest Resources and Utilization: Environmentally sound forest harvesting practices; logging and extraction techniques and principles, transportation systems, storage and sale; Non-Timber Forest Products (NTFPs) - definition and scope;

S.NO	HOURS	DATE	SYLLABUS
			gums, resins, oleoresins, fibres, oil seeds nuts, rubber, canes, bamboos, medicinal plants, charcoal, lac and shellac, katha and Bidi leaves, collection; processing and disposal.
9.	2 hrs	26.10.2024	Forest Resources and utilization: Need and importance of wood seasoning and preservation; general principles of seasoning, air and kiln seasoning, solar dehumidification, steam heated and electrical kilns. Composite wood; adhesives-manufacture, properties, uses, plywood manufacture - properties, uses, fibre boards-manufacture properties, uses; particle boards-manufacture; properties, uses. Present status of composite wood industry in India and future expansion plans.
	1 hr		Forest Resources and Utilization: Pulp - paper and rayon; present position of supply of raw material to industry, wood substitution, utilization of plantation wood; problems and possibilities. Anatomical structure of wood, defects and abnormalities of wood, timber identification - general principles.
	2 hrs	06.11.2024	Forest Protection & wildlife Biology: Injuries to forest - abiotic and biotic, destructive agencies, insect-pests and disease, effects of air pollution on forests and forest die back. Susceptibility of forests to damage, nature of damage, cause, prevention, protective measures and benefits due to chemical and biological control. General forest protection against fire, equipment and methods, controlled use of fire, economic and environmental costs; timber salvage operations after natural disasters.
	1 hr		Forest Protection & wildlife Biology: Role of afforestation and forest regeneration in absorption of CO ₂ . Rotational and controlled grazing, different methods of control against grazing and browsing animals; effect of wild animals on forest regeneration, human impacts; encroachment, poaching, grazing, live fencing, theft, shifting cultivation and control.
10.	2 hrs	07.11.2024	Forest Economics and Legislation:

S.NO	HOURS	DATE	SYLLABUS
		& 08.11.2024	Forest economics: Fundamental principles, cost-benefit analyses; estimation of demand and supply; analysis of trends in the national and international market and changes in production and consumption patterns; assessment and projection of market structures; role of private sector and co-operatives; role of corporate financing. Socio-economic analysis of forest productivity and attitudes; valuation of forest goods and service.
	2 hrs.		Forest economics and legislation: Legislation - History of forest development; Indian Forest Policy of 1894, 1952 and 1990. National Forest Policy, 1988 of People's involvement, Joint Forest Management, Involvement of women; Forestry policies and issues related to land use, timber and non-timber products, sustainable forest management; industrialisation policies; institutional and structural changes.
	2 hrs		Forest economics and legislation: Legislation- Decentralization and Forestry Public Administration. Forest laws, necessity; general principles, Indian Forest Act 1927; Forest Conservation Act, 1980; Wildlife Protection Act 1972 and their amendments; Application of Indian Penal Code to Forestry. Scope and objectives of Forest Inventory.