



## ACF MAINS TEST SCHEDULE

Starts from July 23<sup>rd</sup>.

**OFFLINE | ONLINE PROGRAM**

**For Admission: 9952521550**

**Fee is 20,000**

SUBJECT	NO OF TESTS
GENERAL STUDIES	7
OPTIONAL 1	10
OPTIONAL 2	10
GENERAL ENGLISH	2
MODEL TEST	3
TOTAL	32

**Note:**

- Reference book will be suggested.
- All Test are question cum answer format.
- Test series will focus on coverage of syllabus with improving the Written Skills
- We will take optional only for, Environment, Forestry , Agriculture

**GENERAL STUDIES**

TEST DATE	PORTION
<b>31   07   2023</b>	<b>MODERN INDIA</b>



	<p>Advent of European invasion- Effect of British rule on socio-economic factors - Social reforms and religious movements - India since independence - Characteristics of Indian culture - India - a secular state - Organizations for fine arts, dance, drama, music - Growth of rationalist, Dravidian movement in Tamil Nadu - Political parties and populist schemes - National renaissance - Early uprising against British rule - 1857 Revolt - Indian National Congress - Emergence of national leaders - Growth of militant movements - Different modes of agitations - Era of different Acts &amp; Pacts - World war &amp; final phase struggle - Communalism led to partition - Role of Tamil Nadu in freedom struggle.</p>
06 08 2023	<p><b>SCIENCE AND TECHNOLOGY</b></p> <p>Basic concepts of Science- Natural disasters and safeguard measures - Chemistry of ores and metals - Fertilizers, pesticides, insecticides - Biochemistry and biotechnology - Polymers and plastics - Electrochemistry - Main concepts of life science - Nutrition and dietetics - Respiration - Excretion of metabolic waste - Bio - communication - Govt. policy /organizations on Science and Technology - Role, achievement &amp; impact of Science and Technology - Energy - self-sufficiency - oil exploration - Defence Research Organization - Ocean research and development - Genetics - the science of heredity - Environment, ecology, health and hygiene, Bio - diversity and its conservation - Human diseases, prevention and remedies - Communicable diseases and non - communicable diseases - Alcoholism and Drug abuse - Computer science and advancement - Genetic Engineering - Remote sensing and benefits</p>
13 08 2023	<p><b>INDIAN POLITY</b></p> <p>Constitution of India - Preamble to the constitution - Salient features of constitution - Union, state and territory - Citizenship - rights and duties - Fundamental rights - Directive principles of state policy - Fundamental duties - Human rights charter - Union executive - Union legislature - parliament - State executive - State legislature - assembly - Status of Jammu &amp; Kashmir - Local government - panchayat raj - Indian federalism - center state relations - Judiciary in India - Rule of law /Due process of law - Emergency provisions - Civil services in India - Administrative</p>



	<p>Challenges in a welfare state - Complexities of district administration - Elections - Election Commission Union and State -Official language and Schedule – VIII - Amendments to constitution - Schedules to constitution - Administration of Union and States with special reference to Tamil Nadu.</p> <p>India's foreign policy - Foreign Affairs with special emphasis on India's relations with neighbouring countries and in the region - Security and defence related matters - Nuclear policy, issues and conflicts -The Indian Diaspora and its contribution to India and the world.</p>
20 08 2023	<p>INDIAN GEOGRAPHY</p> <p>Earth and universe - Solar system - Atmosphere, hydrosphere, lithosphere - Monsoon, rainfall, weather and climate - Water resources - rivers in India - Soil, minerals &amp; natural resources - Natural vegetation - Forest &amp; wildlife - Agricultural pattern, livestock &amp; fisheries - Transport including Surface Transport &amp; communication - Social geography – population - density and distribution - Natural calamities - disaster management - Bottom topography of Indian ocean, Arabian Sea and Bay of Bengal - Climate change - impact and consequences - mitigation measures - Pollution Control.</p>
27 08 2023	<p>CURRENT AFFAIRS</p> <p>National symbols - Profile of states - Defence, national security system and terrorism - World organizations and Pacts and Summits - Latest inventions on science &amp; technology - Eminent personalities &amp; places in news - Sports &amp; games - Books &amp; authors - Awards &amp; honours - Cultural panorama - Latest historical events - Policy on environment and ecology - India and its neighbours - Latest terminology - Appointments - who is who? - Latest court verdicts - public opinion - Problems in conduct of public elections - Political parties and political system in India - Public awareness &amp; general administration - Role of voluntary organizations &amp; govt. - Welfare oriented govt. schemes, their utility - New economic policy &amp; govt. sector - Mass media &amp; communication.</p>
03 09 2023	<p>INDIAN ECONOMY</p>



	Nature of Indian economy - Five - year plan models - an assessment -Land reforms & agriculture - Application of science in agriculture - Industrial growth - Capital formation and investment - Role of public sector & disinvestment - Development of infrastructure - National income - Public finance & fiscal policy - Price policy & public distribution – Consumerism & Consumer protection - Banking, money & monetary policy - Role of Foreign Direct Investment -WTO – Liberalization, globalization & privatization - Rural welfare oriented programmes - HRD - sustainable economic growth - Economic trend in Tamil Nadu -Energy Different sources and development - Finance Commission - Planning Commission -National Development Council - Poverty Alleviation Programmes - Impact of global economy on India.
10 09 2023	General English – Full portion Test 1
17 09 2023	General English – Full portion Test 2
24 09 2023	General English – Full Portion Test 3

## ENVIRONMENTAL SCIENCE

DATE	SYLLABUS
31 07 2023	<b>UNIT – I: SCOPE AND IMPORTANCE OF ENVIRONMENTAL SCIENCE</b> Definition; multidisciplinary nature of environmental science, scope and importance; global environmental problems; components of environment: biotic, abiotic. Atmosphere. Lithosphere: case study on major geological formations in Tamil Nadu; Hydrosphere case study on major river systems in Tamil Nadu.
07 08 2023	<b>UNIT- II: ECOLOGICAL CONCEPTS</b> Ecosystem definition; structure and function; energy flow, food chain and food web; ecological pyramids, biogeochemical cycles (Carbon, Nitrogen and Phosphorus); Hydrological cycle; ecosystem types: ponds, ocean, river, cropland, wetland, desert, forests and grassland; ecological succession; primary, secondary and tertiary producers. Examples of plant and animal adaptations for arid (desert and semi-desert) and humid (rain forest) biomes.
14 08 2023	<b>UNIT – III: ENVIRONMENTAL RESOURCES</b> Non-renewable resources - Mineral use and exploitation; fossil fuels. Renewable resources: water – surface and ground water, supply, demand,





	dams-benefits and problems; soil and land resources – Structure, formation, erosion, conservation of soil, agricultural practices, land use, land degradation, desertification; Fisheries – inland and marine fisheries, aquaculture, overharvesting. Forest resources – Timber, medicinal plants, fuel-wood, deforestation, forest management. Management of renewable and non-renewable resources; sustainable use.
21 08 2023	<b>UNIT- IV: BIODIVERSITY AND CONSERVATION</b> Biodiversity - Definition; Introduction to genetic, species and ecosystem diversity; biogeographical classification of India: Forest types of Tamil Nadu: tropical dry evergreen, thorny scrub, wet evergreen forests, grasslands, sholas, dry and mixed deciduous forests, mangroves. Coral reefs. Agro-biodiversity, land races and genetic resources. Valuation of biodiversity; Consumptive, productive, cultural value. Threats to biodiversity: habitat loss, poaching, over-utilisation, invasive species. Endemic and threatened species of Tamil Nadu. In situ conservation: Mudumalai, Anamalai and Kalakad-Mundanthurai Tiger Reserves, Gulf of Mannar Marine Reserve, Pulicat and Pt. Calimere Wildlife Sanctuaries; sacred groves. Ex-situ conservation: Vandalur Zoological Park and Madras Crocodile Bank. Red data book, National Biodiversity Act, Wildlife Protection Act (1972), Tamil Nadu Forest Conservation Act.
28 08 2023	<b>UNIT- V: HUMAN POPULATION AND ENVIRONMENT</b> Population growth and regulation: Age pyramids, Malthusian theory, global trends of population growth, variation among nations and zero population growth. Environmental health, Nutrition and health. Communicable diseases such as typhoid, cholera, tuberculosis, hepatitis, influenza, HIV-social issues. Non-communicable diseases such as heart disease, diabetes, asthma. Epidemics. Environmental risk factors. Human displacement and rehabilitation, tribal population and welfare schemes, women and child welfare; Human rights, Intellectual Property Rights.
04 09 2023	<b>UNIT- VI: NATURAL CATASTROPHIES AND DISASTER MANAGEMENT</b> Causes and effects of natural catastrophies – Earthquakes, floods, cyclones, hurricanes, storms, landslides, drought, famine, tsunami; pre-disaster and post - disaster management, risk assessment, early warning systems and forecasting. Role of administrators, scientists, planners, volunteers.
11 09 2023	<b>UNIT- VII: ENVIRONMENTAL POLLUTION</b>



	Definition of pollution and pollutants; types of pollution - Air, water, soil, noise, thermal, nuclear; causes of pollution, effects of pollution and control measures; liquid and solid waste management, nuclear holocausts. Case studies: leather industry, fly ash, thermal stations, nuclear power plants.
18 09 2023	<b>UNIT- VIII: ENVIRONMENTAL MANAGEMENT AND LEGISLATION</b> Environmental Impact Assessment (EIA): Objectives, Principles of Process, screening of projects, methodologies, checklist and documentation, prediction methodologies, public participation, limitation of EIA; Environmental Protection Acts in India: air, water. Lake and River action programmes; coastal zone management; pollution control boards, Management plans using Geographic Information System (GIS) and Remote Sensing (RS)tools
25 09 2023	<b>UNIT - IX: ENVIRONMENTAL ORGANISATIONS AND AGENCIES</b> International Organisations: United Nations Environment Programme (UNEP), International Union for Conservation of Nature and Natural Resources (IUCN), International Panel on Climate Change (IPCC), International Panel on Oceans (IPO), EarthSummit, Convention on Biological Diversity (CBD), World Wide Fund for Nature (WWF), Man and Biosphere Programme (MAB), India: Ministry of Environment, Forests and Climate Change (MoEFCC), Ministry of Earth Sciences (MoES), NGO's.
30 10 2023	<b>UNIT- X: GLOBAL CLIMATE CHANGE</b> Introduction to climate change, past climatic fluctuations. Current climate and weather –Wind, monsoon, cyclones. Global ocean circulation. Global warming and greenhouses gases – Carbon dioxide, methane, nitrous oxide, ozone. Sources of green house gases – Fossil fuel use, vehicle emissions, industry; agricultural practices, deforestation. Role of UNFCCC (United Nation Framework Convention on Climate Change) in monitoring green house gas emissions. International treaties: Kyoto protocol, Paris agreement. Acid rain, source, impacts and management. Ozone layer depletion: causes, impacts and remediation.

## AGRICULTURE

DATE	SYLLABUS
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28 07 2023	<b>UNIT- I: IMPORTANCE OF AGRICULTURE</b> Importance of Agriculture in Indian Economy and its sectoral relationship - Agricultural Development through five-year plans in India and Tamil Nadu - Growth pattern of crops in India and Tamil Nadu in terms of area, production and productivity - Government Agricultural Policies - Agricultural development through NITI AYOOG – import and export – role of NSC, FCI and PDS.
04 08 2023	<b>UNIT - II: FUNDAMENTALS OF CROP PRODUCTION</b> Factors of Production - Agricultural seasons of India and Tamil Nadu - Cropping patterns in India and Tamil Nadu - package of practices of different crops - AgroClimatic zones of India and Tamil Nadu and their features - Weather and Climate - Weather forecasting - Climate change and its impact – Minimal tillage practices – Stress mitigating technologies including microorganisms – Nanoparticles and their applications.
11 08 2023	<b>UNIT - III: NATURAL RESOURCE MANAGEMENT</b> Soil - Soil structure - Factors influencing soil structure - Physical and Chemical properties - Effect of nutrient availability and plant growth - Problem soils and their management - Soil survey - its objectives and scope - Soil fertility and productivity - Dry farming - Rainfed agriculture - Conservation of soil and water - Watershed and waste land development. Land use pattern and planning - Size and distribution of holdings - types and systems of farming - Water resources development and management - Command area development - Ground water Development and Conjunctive use - Water use efficiency - Quality of irrigation water - Its effect in soil and crops - Management of poor quality water for crop growth.
18 08 2023	<b>UNIT - IV: CROP MANAGEMENT &amp; ALLIED AGRICULTURAL ACTIVITIES</b> Cropping systems and integrated farming - Recycling of agricultural waste - Organic manures, green manures, bio fertilizers - Balanced usage - integrated nutrient management - Physiological disorders in crop plants and their management- Irrigation management of different crops Mushroom cultivation, bee keeping, silkworm rearing etc., Energy in Agricultural production - Sources - Solar, wind, animal, biomass and biogas - Mechanization in agriculture - Tractors & tillers - Agricultural



	implements and Machineries and their usage - livestock and poultry rearing
25 08 2023	<b>UNIT -V: CROP IMPROVEMENT</b> Principles of breeding - Breeding methods in self , cross and vegetatively propogated crops - Modern tools in crop improvement – Heterosis breeding and Hybrid seed production technologies - Latest varieties of major crops in Tamil Nadu - Breeding for Climate resilience varieties – Variety release procedures - Application of bio technology in Agriculture - Tissue culture & its significance - Transgenic Plants. Plant Genetic Resources: Collection conservation and exchange-Crop varietal protection-PPV& FR authority and its role.
01 09 2023	<b>UNIT- VI: SEED SCIENCE AND TECHNOLOGY</b> Seeds - Importance of quality seeds in Agriculture – Nucleus, Breeder, foundation, certified and labelled seeds - Seed certification techniques and processing in Tamil Nadu - Seed testing – Seed testing laboratories-ISTA standards for seed testing - seed village concept Seed Act - Seed coating and priming technologies - Seed enhancement technologies.
08 09 2023	<b>UNIT – VII: CROP PROTECTION PRINCIPLES AND PRACTICES</b> Importance of pest, disease, nematodes and weed management in agriculture – categories of pests, diseases, nematodes and weeds - pest and disease surveillane and forecasting weather on pest and disease incidence - Symptoms of damages and control measures of pest, disease and nematodes of major crops in Tamil Nadu - Integrated pest, disease and nematode management in crop production - Pesticides and their use in IPM – mode of action - Pattern - plant protection equipments and their use - Plant quarantine. Storage pests, disease and nematodes and their management. Importance of biological control in pest, disease and nematode management. Weeds - Major weeds and their control.
15 09 2023	<b>UNIT – VIII: FARM BUSINESS AND FINANCE MANAGEMENT</b> Farm business management - Principles of farm business management – Types and systems of farms-Classical Production Functions - Cost concepts - Management of resources - Farm Planning and budgeting - Investment analysis – Risk and uncertainties in Agriculture - Agricultural credit system in India - Multi credit delivery system - Role of nationalized banks, NABARD and Regional Rural Banks - Lead Bank Scheme - Service





	area approach - Scale of finance-Credit Worthiness-3 Rs,5Cs and 7Ps of credit- Crop Insurance - Kisan Credit Cards (KCC) - Agricultural Insurance Company.
22 09 2023	<b>UNIT - IX: AGRICULTURAL MARKETING AND MARKET INTELLIGENCE</b> Marketing - Agricultural marketing - Market structure - Marketing Efficiency - Price Spread- Market Integration-Market Risk-Speculation and hedging - Market Institutions- Warehouses and rural godowns - Agmark-Cooperatives - Commodity Boards - Agri business management - Principles of Management-Entrepreneurship Development - Forms of Business organizations - Agricultural Price Policy - CACP-MSP - FRP- Procurement Price-Policies for agricultural development - Economic liberalization - WTO and its impact on agricultural export - Importance of Agriculture in Indian economy - Land size and distribution of holdings and land use pattern in Tamil Nadu - Agriculture under Five year Plans (FYPs) - Food Security - Public Distribution Systems (PDS) - Buffer Stock.
29 09 2023	<b>UNIT - X: AGRICULTURAL EXTENSION: PRINCIPLES AND METHODS</b> Extension methods for transfer of technology - AV aids-Communication models - Use of ICT in transfer of technology-Diffusion and adoption- Pre and post-independence rural development initiatives: key features, strength and weakness of individual programmes - Programme planning and evaluation methods- Rural sociology - key features of Indian rural system-value system-social change- rural migration. Role of women in Agriculture.

## FORESTRY

DATE	SYLLABUS
26 07 2023	<b>UNIT- I: SILVICULTURE</b> Forests - definition. Extent of forests in India and other countries. Forest types of India and Tamil Nadu - revised classification - pure and mixed stands - even and uneven aged stands. Role of forests. Factors of locality - climatic - edaphic - topographic - biotic - interaction of forest with the environment. Silviculture - objectives - scope - general principles. Regeneration - natural and artificial. Nursery techniques - containerised seedling production - techniques and methods. Vegetative and clonal



	<p>propagation techniques and methods - macro and micro propagation techniques. Plantation forestry - reforestation and afforestation - maintenance of plantations - enrichment planting. Tending operations - weeding, cleaning, thinning, pruning, after care techniques; cultural operations - soil working. Silvicultural systems - clear felling, shelter wood, selection and coppice systems - improvement felling. Silviculture techniques for some important species - Tropical Species - Acacia spp (indigenous and exotics), Albizia lebbeck, Albizia falcataria, Ailanthus excelsa, Azadirachta indica, Bambusa bambos, B. balcooa, B. vulgaris, Casuarina equisetifolia, C.junghuhniana, Ceiba pentandra, Dalbergia latifolia, D. sissoo, Dendrocalamus strictus, Eucalyptus spp (E. tereticornis, E.camaldulensis, E. grandis, E. globulus), Grevillea robusta, Hardwickia binata, Leucaena leucocephala, Melia dubia, Pongamia pinnata, Populus deltoides, Prosopis juliflora, Pterocarpus santalinus, Santalum album, Syzygium cuminii, Shorea robusta, Tectona grandis, Terminalia spp.(T.chebula, T.bellerica, T.paniculata, T.tomentosa), Tamarindus indica. Temperate Species - Alnus nepalensis, Cedrus deodara, Pinus roxburghii, P. wallichiana, P. patula.</p>
02 08 2023	<p><b>UNIT - II: FOREST MENSURATION AND MANAGEMENT</b></p> <p>Forest Mensuration - Definition and objectives. Measurement of diameter, girth, height, crown and volume of trees - methods and principles - tree stem form - form factor. Volume estimation of stand - age - basal area determinations Stem and Stump Analysis. Forest inventory - sampling techniques and methods - measurement of crops - sample plots. Yield calculation - CAI and MAI - volume, yield and stand tables preparation. Forest management - objectives and principles. Forest organisation. Sustainable Forest Management (SFM) - criteria and indicators of SFM - sustained yield - concept and management - arguments for and against sustained yield - Forest Certification - Standards, Procedures and agencies. Rotation - normal forest - increment - growth stock determination. Yield regulation - principles and concepts - Von Montel's formula and its modifications - yield regulation in regular and irregular forests. Working plan - objectives and scope - constitution of working plan division. Enumeration and sampling. Regeneration survey - Plantation journal - divisional working plans - annual plan of operations. Joint forest</p>



	<p>management. Aerial photography and remote sensing - methods and techniques - GIS for forest management and modelling.</p>
09 08 2023	<p><b>UNIT- III: FOREST UTILISATION AND WOOD TECHNOLOGY</b></p> <p>Logging - extraction of timber - felling rules and methods - conversion methods - conversion season. Implements used - cross cutting system - sawing - different types - extraction methods. Grading of timbers. Transportation of timbers - major and minor transportation methods Storage and sales of logs - sales depot - management of depots. Recent trends in logging - Ergonomics and RIL. Forest products - Timber - timber, fuel, pulp, paper, rayon and match. Wood Composites - plywood, particle board, fiber boards, MDF, hardboard, insulation boards - production technology. Non-timber forest products (NTFP) - collection - processing and storage of NTFP - fibres and flosses - bamboos and canes - katha and bidi leaves - essential oils and oil seeds - gums and resins - tans and dyes - drugs - insecticides - lac and shellac - tassar silk - role of tribal co-operative societies. Wood Science - Macroscopic character of wood - three dimensional structures - structure of heartwood and sapwood - hard wood and soft wood. Composition and structure of wood - chemical components and cell wall structure and formation. Anatomical structures of heartwood and softwood - reaction wood - wood and water relations. Properties of wood - physical properties - specific gravity, density of wood - mechanical properties - gross features of wood. Defects in wood - natural defects. Seasoning of wood - principles and objectives of seasoning - seasoning methods - air and kiln seasoning - seasoning defects. Wood preservation - principles and methods - wood preservatives - definition - kinds of preservatives - method of preservative application - pressure and non- pressure processes - classification of wood based on seasoning behaviour.</p>
16 08 2023	<p><b>UNIT- IV: FOREST SURVEYING AND ENGINEERING</b></p> <p>Surveying - principles of surveying - errors in surveying - scope of surveying in forestry. Scales - linear measurement. Different methods of surveying - chain, prismatic, compass, plain table and topographic survey. Area calculation - instruments and principles - maps and map reading. Principles of forest engineering - levelling instruments - building materials and construction. Forest roads - objectives - principles and types of forest roads.</p>



	Causeways and culverts. Bridges - construction of bridges - construction of timber, RCC, steel and suspension bridges - cable roadways and winches.
23 08 2023	<b>UNIT- V: FOREST SOILS AND SOIL CONSERVATION AND WATERSHED MANAGEMENT</b> Forest soils - Classification - Factors affecting soil formation - podzolisation and laterization. Physical, chemical and biological properties of forest soils. Problem soils - classification of waste lands - extent of waste lands in India - reclamation of alkaline, saline, water logged and other waste lands - sand dune stabilisation - wind breaks and shelter belts. Soil conservation - definition - objectives - problems - programmes and achievements. Erosion - types and causes - wind, water - management of eroded region. Role of micro organisms in soil amelioration - Use of bio-inoculants Azospirillum, Azotobacter, Phosphobacteria, Rhizobium, VAM, Frankia, and Vermicompost. Soil and water conservation measures. Watershed management - concept and methods - forest treatments - stream flow - water harvesting and conservation - ground water recharge - impact on water yield and quality.
30 08 2023	<b>UNIT- VI: FOREST ECONOMICS, POLICIES AND LEGISLATIONS</b> Fundamental principles of forest economics - cost benefit analysis - NPV, IRR analysis - demand and supply estimation. Socio-economic analysis of forest productivity - attitudes and analysis of trends in national and international markets - assessment of market structure. Forest valuation - direct and indirect valuation -stumpage valuing, price size gradients - devastation value - risk management. Project formulation - project monitoring - evaluation - elements of time series analysis and forecasting - role of corporate financing. Forest policies - Necessity - Formulation of National Forest Policy. History of forest development in India - Indian Forest Policy of 1894, 1952 and 1988. NCA report on forestry - role of ICAR and ICFRE in forest research and education. National Mission on Wasteland Development. Forest Organizations and Institutes - National - FRI, IGNFA, FSI, WII, IIFM, IWST, IFGTB, SACON etc. - International - ICRAF, ITTO. Forest laws - necessity - general principles - Indian Forest Act 1927, Forest Conservation Act 1980, Wildlife Protection Act, 1972, Tamil Nadu Forest Act, 1882, Tamil Nadu Timber Transit Rules, 1968, Tamil Nadu Hill Act, 1985 - application of IPC to forests. Recent Policies and Acts - Tribal Bill, 2007,





	Biodiversity Bill, 2002, National Agroforestry Policy 2014. ITTO, GATT and its relevance to timber export - Rio summit and Kyoto Protocol and its relevanceto timber export.
06 09 2023	<b>UNIT- VII: FOREST BIOLOGY AND BOTANY</b> Forest ecology - definition - biotic and abiotic components - forest ecosystem - forest community - concepts - succession - primary productivity - nutrient cycling. Composition of forest types in India - classification of India's forests - species composition - association and diversity. Restoration ecology - global warming - green house effects - ozone layer depletion - acid rain - role of trees in environmental conservation. Biodiversity - Definition, origin, types - factors endangering biodiversity - biodiversity hotspots - endemism - Red Data Book. Biodiversity assessments - principles and methods. Forms of trees - structure and function - physiology and reproduction of trees - water relation - physiology in stress environments (drought, water logging, alkalinity and salinity). Seed and its importance. Characters of good quality seeds. Seed dormancy - types and causes - dormancy breaking. Seed collection- physiological maturity - Seed extraction - seed processing. Seed grading and upgrading of seed lots. Seed treatments - principles and methods - seedpelleting. Seed sampling - procedure. Seed testing - purity analysis - moisture estimation - seed germination test - quick viability test. Seed storage - orthodox and recalcitrant seeds -causes of deterioration - seed storage containers. Seed certification procedure - Seed Act and Rules - Quality control and legislation. Forest Botany - Importance of botany - taxonomic classification of plant species - identification of species - composition and association. Dendrology - principles and establishment of herbaria and arboreta. Tree Improvement - Forest Genetics and Tree Breeding - Definition and concepts - Steps in treeimprovement - Variation and selection - Progeny Evaluation Test (PET) - Candidate Tree, Plus Tree, Elite trees - use of provenances and seed sources - heritability and genetic gains - hybrids in tree improvement - heterosis exploitation. Seed production Area and seed orchards - types and establishment. In situ and ex situ gene conservation. Exotics - role of exotic forest trees in India - application of biotechnological methods in forestry.
13 09 2023	<b>UNIT -VIII: WILDLIFE BIOLOGY AND MANAGEMENT</b>



	<p>Wildlife and wild animals - food chain - prey and predator relationship. Introduction to wildlife management. Ecology and biology of wildlife - principles and techniques of management - Man and Biosphere (MAB) programme - wildlife habitats. Census - methods and application - land tenure system. Major wildlife species in India and their broad study. Wildlife conservation - policies and legal measures - sanctuaries - national parks - biosphere reserves. Ornithology - bird habitats - bird species of India - avian extinction - causes and management. Role of NGOs and others in avian fauna conservation - beneficial and harmful roles of birds. Herpatology - definition and uses. Man and animal interaction - Impact and management. Ecotourism and Recreation Forestry. Management of captive wildlife - captive breeding - diseases of wildlife and their management.</p>
20 09 2023	<p><b>UNIT- IX: FOREST PROTECTION</b></p> <p>Role of forest protection in Indian forestry. Injuries caused by various agencies - by human beings, plants, animals, insects, birds, adverse climatic factors. Forest fire - beneficial and adverse causes - fire protection methods and rehabilitation. Pests and diseases of economic trees - control measures for pests and diseases for major tree species - biological, chemical and integrated pest and disease management methods. Termites - types and their management. Alien or invasive weeds and their management - forest encroachments and grazing.</p>
27 09 2023	<p><b>UNIT - X: AGROFORESTRY AND SOCIAL FORESTRY</b></p> <p>Agroforestry - definition, concept and objectives. Classification of agroforestry systems - primary systems and subsystems - inheritance effects. Tree-crop interactions - above and below ground - competition for space, water, light and nutrients. Microclimatic modifications - nutrient cycling and soil fertility improvement - Allelopathy and allelochemicals. - Ecological aspects of agroforestry - benefits and limitations of agroforestry. Agroforestry practices for different agroclimatic zones of Tamil Nadu. Agroforestry practices for wasteland reclamation. Social forestry - objectives and scope and necessity - its components and implementation in local and national levels - social attitudes and community participation. JFM - principles, objectives and methodology - choice of species for agro forestry and social forestry. Urban Forestry - definition and scope - benefits - choice of tree species - planting techniques and management.</p>



## MODEL TESTS

Date	Subject
02   10   2023	General Studies & English
03   10   2023	Optional 1
04   10   2023	Optional 2
06   10   2023	General Studies & English
07   10   2023	Optional 1
08   10   2023	Optional 2

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