

OPSC ASCO Syllabus 2024

Paper I Syllabus

The paper 1 syllabus will consist of questions which will be general in nature and ask from aspirants about their knowledge of General Knowledge.

Unit I - General Agriculture

Topics	Description
General Agriculture: Importance	Importance of agriculture and its impact on society and economy.
Trend in Agriculture and Allied Sectors	Current trends in agricultural practices and related sectors.
Present Day Problems and Remedial Measures	Issues faced by agriculture today and potential solutions.
Government Policies	Policies governing agriculture, their objectives, and implementation strategies.

Unit II - Natural Resources

Topics	Description
Land, Water, Forest, Energy - Their Use, Exploitation, Conservation	Utilization, exploitation, conservation practices, and sustainable use of natural resources.
Plant Ecosystem: Biodiversity and Conservation	Importance of biodiversity in ecosystems and methods for conservation.
Environmental Pollution	Types of pollution, its sources, impacts, and management strategies.
Natural Disasters and Their Management	Various types of natural disasters, their causes, impacts, and management techniques.

Organic Farming and Sustainable Agriculture	Principles and practices of organic and sustainable agriculture, including waste management.
Conservation Agriculture	Techniques and practices in conservation agriculture to improve soil health and productivity.
Agricultural Waste Management	Methods for managing agricultural waste to reduce environmental impact.
Climate Change and Agriculture	Impact of climate change on agriculture and adaptive strategies.

Unit III - Soil Farming Processes

Topics	Description
Soil Physical Properties	Characteristics of soil such as density, porosity, and texture.
Soil Water Retention	Processes affecting soil water retention, movement, and availability.
Soil Reaction-pH	Measurement of soil acidity and alkalinity, factors affecting pH levels.
Soil Organic Matter	Role of organic matter in soil fertility and its influence on soil properties.
Soil Organisms	Macro and microorganisms in soil, their functions, and effects on soil health.
Soil Pollution	Types, sources, behavior of pesticides and inorganic contaminants, and mitigation strategies.
Soil Quality and Health	Methods for assessing and improving soil quality and health.

Unit IV - Weather and Crop Growth

Topics	Description
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Tillage and Tilt	Techniques and concepts in tillage practices to prepare soil for planting.
Modern Concepts of Tillage	Innovations and advancements in tillage methods.
Seed and Sowing	Techniques and considerations for seed selection, preparation, and sowing.
Cropping Systems and Integrated Farming System	Types of cropping systems and their integration for sustainable agriculture.
Crop Nutrition	Essential nutrients for plant growth, their functions, and symptoms of deficiency.
Nutrient Sources	Types of organic manures, fertilizers, biofertilizers, and integrated nutrient management.
Water and Weed Management	Strategies for managing water resources and controlling weeds in different crop types.
Plant Protection	Methods and technologies for protecting crops from pests and diseases.
Harvesting, Storage, and Value Addition	Techniques and practices for harvesting, storing, and adding value to agricultural produce.

Unit V - Economic Importance and Fruit/Plantation Crops

Topics	Description
Production and Protection Technology of Field Crops	Technology and practices for enhancing production and protecting field crops like rice, maize, etc.
Importance and Scope of Fruit and Plantation Crops	Significance, cultivation techniques, and protection methods for fruits and plantation crops.
Nursery Techniques and Management	Methods and management practices for raising plants in nurseries.
Nutrition Garden	Concept and management of nutrition gardens for sustainable food production.

Paper II Syllabus

The paper II of OPSC ASCO exam will comprise of units which will cover topics from subjects such as Agroforestry, Rainwater culture, soil & water conservation and various other subjects which holds an importance in the agriculture domain.

Unit I - Agroforestry

Topics	Description
Agroforestry - Objectives and Potential	Objectives and potential of integrating trees into agricultural systems for enhanced productivity and sustainability.
Agroforestry System - Sub-system and Practice	Various subsystems and practices within agroforestry systems, such as alley cropping, windbreaks, and silvopasture.
Planning for Agroforestry - Constraints, Diagnosis, and Design Methodology	Challenges and methods for diagnosing and designing agroforestry systems, including species selection and layout planning.
Agroforestry for Food, Feed, Fuel, and Nutritional Security	Contributions of agroforestry to food, feed, and fuel production, as well as its role in enhancing soil quality, carbon sequestration, and microclimate improvement.
Soil Improvement - Carbon Sequestration, Microclimate Amelioration, Industrial Requirement	How agroforestry practices contribute to soil improvement, carbon sequestration, and creating favorable microclimates, including meeting industrial needs.

Unit II - Rainfed Agriculture and Watershed Management

Topics	Description
Rainfed Agriculture - Problems and Prospects	Challenges and opportunities in rainfed agriculture, focusing on sustainable practices and productivity enhancement.
Rainfall Analysis - Drought Classification, Causes, and Impacts	Understanding droughts, their classifications, causes, impacts, and strategies for mitigation and management.

Crops and Cropping Systems, Soil Moisture and Rainwater Conservation	Systems for conserving soil moisture and rainwater, both in situ and ex situ, including water harvesting and recycling techniques.
Dryland Horticulture - Watershed Planning and Management	Planning and managing watersheds based on land capability and hydrological data, emphasizing integrated watershed management and crop planning.
Integrated Watershed Management - Components and Execution	Principles and components of integrated watershed management, covering agricultural and horticultural practices, forestry, fishery, and animal husbandry.
Participatory Watershed Management - Role of Associations and Formulation of Project Proposals	Involving stakeholders through watershed associations and groups in project formulation and cost-benefit analysis for effective watershed management.

Unit III - Soil and Water Conservation

Topics	Description
Soil and Water Conservation - Issues and Importance	Importance of soil and water conservation, agents of erosion, and strategies for mitigation.
Causes and Agents of Soil Erosion - Water Erosion and Gully Classification	Understanding the hydrologic cycle, forms of water erosion, classification of gullies, and erosion control principles.
Techniques of Erosion Control - Contouring, Strip Cropping, Waterways	Principles and techniques like contouring, strip cropping, contour bunds, and grassed waterways for effective erosion control.
Water Harvesting - Principles, Importance, and Techniques	Methods of water harvesting, including short-term and long-term techniques like farm ponds, reservoirs, tanks, and subsurface dykes.
Wind Erosion Control - Principles and Measures	Mechanisms of wind erosion, types of soil movement, and strategies for wind erosion control.

Unit IV - Wasteland Development and Bioremediation

Topics	Description
Wasteland - Causes, Distribution, and Sustainable Development	Causes and distribution of wasteland, government policies, and sustainable development approaches.
Optimal Land Use Options - Reclamation of Various Soils and Spoils	Techniques for reclaiming saline, sodic, acidic, waterlogged, eroded, compacted, flooded, and polluted soils and mine spoils.
Desertification - Impact, Causes, Prevention, and Control Measures	Understanding desertification, its impact, causes, and preventive measures.
Bio-remediation of Soils - Multipurpose Tree Species	Using multipurpose tree species for bio-remediation of soils contaminated with various pollutants.

Unit V - Protected Cultivation and Precision Farming

Topics	Description
Protected Cultivation - Importance, Techniques, and Management	Significance of protected cultivation under controlled conditions, methods, canopy management, irrigation, and fertigation techniques.
Production of Quality Planting Materials and Off-season Production	Techniques for producing high-quality planting materials and cultivating high-value crops in greenhouses during off-seasons.
Precision Farming - Components and Applications	Components of precision farming, including remote sensing, GIS, DGPS, VRA, and their applications in agriculture for enhanced productivity and resource management.
Remote Sensing and GIS in Diagnosis and Management of Problem Soils	Applications of remote sensing and GIS in diagnosing and managing problem soils, land capability, and suitability classifications.

OPSC ASCO Exam Pattern 2024

The OPSC ASCO Exam will comprise of two papers: paper 1 & paper 2. Both the papers will consist of 100 questions. Each question will carry 1 mark. And the exam will be for a total of 100 marks. In total, the exam has 200 questions and a maximum of 200 marks. Moreover, the candidates will get 90 minutes to complete each paper.

Papers	Number of Questions	Marks	Duration
Paper I	100	100	90 minutes (1 hour 30 minutes)
Paper II	100	100	90 minutes (1 hour 30 minutes)
Total	200	200	180 minutes (3 hours)