



UPPSC COMBINED STATE AGRICULTURAL SERVICES EXAMINATION, 2024 SYLLABUS

SYLLABUS FOR PRELIMINARY EXAMINATION

GENERAL STUDIES

1. General Science (High School Standard).
2. History of India.
3. Indian National Movement.
4. Indian Polity, Economy & Culture.
5. Indian Agriculture, Commerce & Trade.
6. Indian & Uttar Pradesh Geography & Natural Resources.
7. Current National and International Important events.
8. Logic & Reasoning based on General Intelligence.
9. Specific knowledge regarding Education, Culture, Agriculture, Industry Trade, Living & Social Traditions of Uttar Pradesh.
10. Elementary Mathematics up to 8th level:- Arithmetic, Algebra and Geometry.
11. Ecology and Environment.

AGRICULTURE

- Environmental factors of crop distribution and production.
- Climatic elements as factor of crop growth.
- Cropping patterns in different agro-climatic zones of U.P.
- Concepts of multiple, multistory, relay and inter-cropping and their importance in relation to sustainable crop production.
- Package and practices for production of important cereals, pulses, oilseeds, fiber, sugar and cash crops grown during Kharif and Rabi seasons in different regions of U.P.

- Important features, scope and propagation of various types of forestry plants with reference to agro-forestry and social forestry.
- Weeds, their characteristics, dissemination, association with various field crops, their multiplication and control.
- Classification of Indian soils including modern concept.
- Mineral and organic constituents of soils and their role in maintaining soil productivity.
- Problem soils, extent and distribution in India and their reclamation.
- Essential plant nutrients and other beneficial elements in soil and plants, their source, factors affecting their distribution, function and cycling.
- Symbiotic and non-symbiotic nitrogen fixation.
- Principles of soil fertility and its evaluation for judicious fertilizer use.
- Soil conservation, planning on watershed basis.
- Dryland agriculture and its problems.
- Technology for stabilizing agriculture production in rainfed agriculture area of U.P. Necessity and scope of organic farming.
- Irrigation and drainage.
- Farm management and its scope, importance and characteristics.
- Role of cooperatives in agriculture economy.
- Type and system of farming and factors affecting them.
- Agricultural extension, Its importance and role, method of extension programme, communication and adoption of innovations.
- Training programme for extension workers and farmers.
- Extension systems and programmes.
- Training and visits, Krishi Vigyan Kendra (KVK), National Agricultural Technology Project (NATP), Institution Village Linkage Programme (IVLP), Diversified Agricultural Support Project (DASP) and Agricultural Technology Management Agency (ATMA).
- Farm mechanization and its role in agricultural production and rural employment.
- Heredity and variation, Mendel's law of inheritance.
- Application of the principles of plant breeding to the improvement of major field crops.
- Methods of breeding to self and cross-pollinated crops.
- Introduction, selection, hybridization, male sterility and self-incompatibility.
- Seed Technology and its importance.
- Production, processing, storage and testing of seeds.
- Role of national and state seed organization in production, processing and marketing of improved seeds.

- Physiology and its significance in agriculture. Absorption and translocation of water, transpiration and water economy.
- Photosynthesis- modern concepts and factors affecting the process.
- Aerobic and anaerobic respiration.
- Growth and development.
- Plant growth regulators and their mechanism of action and importance in crop production.
- Climatic requirements and cultivation of major fruits, vegetables and ornamental crops, package and practices and scientific basis for the same.
- Principles and method of preservation of fruits and vegetables.
- Floriculture including raising of ornamental plants.
- Diseases and pests of vegetables, fruits, ornamentals, cereals, pulses, oilseeds, fibers, sugar and cash crops of U.P. and their management.
- Integrated management of pests and diseases.
- Food production and consumption trends in India.
- National and international food policies, procurements, distribution, processing and production constraints.

SARKARINAGARI.COM

SYLLABUS FOR MAIN (WRITTEN) EXAMINATION

FIRST PAPER

GENERAL STUDIES

MAXIMUM MARKS-50

Indian Agriculture

- General understanding of Agriculture of India.
- Role of Agriculture in Indian economy.
- Conventional Agriculture, Modern Agriculture and commercialization of agriculture.
- Role of Green revolution, Blue revolution, Yellow revolution and White revolution in India.
- Problems of agriculture and their solution.
- Agricultural produces, its processing and marketing.
- Agro climatic zones of U.P. and India.
- Organic farming, Natural farming and Integrated farming system.
- Role of integrated nutrients management and Integrated pest management.
- Effect of pesticides residues on human and animal health.
- Recent innovations in Indian Agriculture.

General Science and Technology

- Basic knowledge of general science, computer and technology. This will cover general understanding of science, computer and technology including matters of everyday observations and study of any scientific discipline in the development of India.

Current Affairs

- Current affairs of national and international importance including games.

Indian History and Polity

- General understanding of political, social and economy of modern Indian history including National Freedom Movement.
- The General knowledge of Indian constitution, political system including Panchayatiraj and public policy.

Geography and Economy of India

- Physical, social and economic geography of India (General understanding of the subject is expected).
- General economic problems of India and their solutions, Basic features of economic policies including budget of India.

द्वितीय प्रश्नपत्र

प्रथम खण्ड

सामान्य हिन्दी

अधिकतम अंक-25

1. अपठित गद्यांश का संक्षेपण, उससे सम्बन्धित प्रश्न, रेखांकित अंशों की व्याख्या एवं उसका उपयुक्त शीर्षक।
2. अनेकार्थी शब्द, विलोम शब्द, पर्यायवाची शब्द, तत्सम एवं तद्भव, क्षेत्रीय, विदेशी (शब्द भण्डार), वर्तनी, अर्थबोध, शब्द-रूप, सन्धि, समास, क्रियायें, हिन्दी वर्णमाला, विराम चिन्ह, शब्द रचना, वाक्य रचना, अर्थ, मुहावरे एवं लोकोत्तियाँ, उत्तर प्रदेश की मुख्य बोलियाँ तथा हिन्दी भाषा के प्रयोग में होने वाली अशुद्धियाँ।
3. वाक्यों का हिन्दी से अंग्रेजी तथा अंग्रेजी से हिन्दी में अनुवाद।

द्वितीय खण्ड

हिन्दी निबन्ध

अधिकतम अंक-25

इसके अन्तर्गत एक खण्ड होगा। इस खण्ड में से एक निबन्ध लिखना होगा। इस निबन्ध की अधिकतम विस्तार सीमा 500 शब्द होगी। निबन्ध हेतु निम्नवत् क्षेत्र होंगे:-

1. साहित्य, संस्कृति।

2. राष्ट्रीय विकास योजनायें/क्रियान्वयन।
3. राष्ट्रीय-अंतर्राष्ट्रीय, सामयिक सामाजिक समस्यायें/निदान।
4. विज्ञान तथा पर्यावरण।
5. प्राकृतिक आपदायें एवं उनके निवारण।
6. कृषि, उद्योग एवं व्यापार।

THIRD PAPER

OPTIONAL SUBJECT

MAXIMUM MARKS-250

1. District Horticulture Officer–Class-2 (Grade-1)–Agriculture and Horticulture

- Agro climatic zones of U.P. and India, meaning and scope of agricultural meteorology, atmospheric weather variables, Global warming, causes of climatic change and its impact on agricultural and horticultural crops. Weather hazards-drought, floods, frost, heat wave and cold wave.
- Integrated farming system– scope, importance, concepts of organic farming. Weeds and their management. Concept of integrated nutrient management, balance of nutrition, precision agriculture. Irrigation and water management.
- Importance of fruits and vegetables in human nutrition. Establishment of nursery of fruits and vegetables. Propagation, methods, lay out of orchards and Plantation. Principles and methods of training, pruning and manuring. Indian perfume industry, Progress in the perfume industry. Cultivation of fruits, vegetables, ornamentals, medicinal and aromatic plants eg. Mango, Guava, Amala, Papaya, Banana, Litchi, Bael, Citrus, Tomato, Brinjal, Okara, Carrot, Chili, Bottle guard, Rose, Marigold, Gladiolus, Aloe vera, Ashwagandha and Safed musali, Biotic and Abiotic factors limiting fruits production.
- Establishment of Kitchen and nutritional garden. Organic farming of fruits and vegetables. Post Harvest Management of Horticultural Produce. Preparation, methods of horticultural products e.g. – Jam, Jelly, Squash, Pickles, tomato sauce, cordial and aromatic produce.

2. Principal– Government Food Science Training Centre/ Food Preservation Officer-Class-2- Food Science

- Principles and methods of preservation of fruits and vegetables.
- Post-harvest management of horticultural crops.
- Methods of preparation of jam, jelly, marmalades, candy, pickles, ketchup, sauce, squashes and cordials.
- Importance of fruits handling, grading packaging and types of storage of fruits and vegetables with merits and demerits.
- Concepts of canning pasteurization, Zero-energy, cool chamber, degreening, maturity indices, pre-cooling, controlled atmospheric storage.
- Spoilage of food-classification of food in relation to spoilage agents.
- Industrial and export potential, Agricultural export zones and industrial support.
- Vitamins present in important fruits and vegetables.
- Food Safety and Standards Act-2006

3. For U.P. Agriculture Services Group ‘B’ and various branches of Senior Technical Assistant:–

(1) (i) Agronomy Branch: Agronomy

- Meaning and scope of agricultural meteorology, components of Atmospheric weather, Global warming. Causes of climate change and its impact on agriculture, weather hazards-drought, floods, frost, heat wave and cold wave. Agro climatic Zones of U.P. and India.
- Scientific principles of crop production, crop response and production functions, concept of soil-plant relations, concept of plant growth and development. Modern concept of tillage, concept of Integrated nutrient management, Precision agriculture-concepts and techniques.
- Sustainable agriculture- problems and its impact on agriculture, Conservation agriculture, strategies in agriculture, resource use efficiency and optimization of technologies.
- Farming system- scope, importance, concept, principles and components of farming system. Cropping system and cropping pattern, multiple cropping, inter cropping. Integrated farming system, organic farming-concept, importance and relevance in present context.
- Weeds their characteristics, weed biology, dissemination, association with field crops, multiplication, weed control and management, crop-weed

competition, Integrated weed management. Herbicide classification, formulation, methods of application.

- Dry land agriculture and Rainfed agriculture- Characteristics, problems and prospects of rainfed agriculture in India. Concept, objectives, principles and components of watershed management.
- Irrigation and water management, criteria for scheduling irrigation, methods of irrigation, drainage, runoff, Losses of water during irrigation, water use efficiency.
- Criteria of nutrients essentiality and their function, deficiency and forms of nutrient in soil. Soil productivity and fertility- Definition, importance and factors affecting it.
- Acidic, calcareous and salt affected soils: their characteristics, nutrient availabilities and reclamation.
- Manures and fertilizers : types, methods of application, nutrient use efficiency, Factors affecting Nutrient use efficiency, concept of integrated nutrient management, Balance nutrition. Bio-fertilizers, vermicompost and green-manure. Importance and methods of preparation.
- Package of practices for production of cereals, millets, pulses, oil seeds, fiber, forage, sugar & cash crops grown in Kharif, Rabi & Zaid in U.P. and India.

1(ii) Botany Branch:– Agriculture Botany/Genetics and Plant Breeding

- Historical perspective of Genetics and Plant Breeding. Mendal's law of inheritance, multiple alleles, gene interaction and multiple factor hypothesis. Linkage, crossing-over and gene mapping. Cell cycle and cell division- mitosis and meiosis.
- Chromosome: Structure, functions and special types. Structural and numerical changes in chromosomes and their applications.
- Nature, structure and replication of genetic material. Protein synthesis and gene regulation in Prokaryotes and Eukaryotes. Genetic code and mutation.
- Mode of reproduction, Centre of origin and conservation of germplasm. Variability: Causes, types and importance. Heritability and genetic advance.
- Methods of breeding for self- and cross-pollinated crops. Heterosis and its genetic bases. Male sterility- types and commercial exploitation. Breeding for biotic and abiotic stresses resistance.
- Biotechnology and its relevance in agriculture. Tissue culture and its types. DNA markers-RFLP, RAPD, AFLP, SSR and SNP's. Marker assisted selection and development of transgenic crops.

- Principles of quality seed production, classes of seeds, Seed test, seed certification and seed act. Quality seed production technology of Cereals, Pulses and Oilseeds. Variety release and DUS test.

1(iii) Plant Protection Branch : Plant Protection

- History and importance of Plant Protection in India.
- Set up of Plant Protection organization in U.P.
- Principles of Pest management viz, Legal, Cultural, Physical, Mechanical, Biological and Chemical. Integrated Pest Management.
- Plant Protection equipments, their use and maintenance.
- Storage pest of cereals and pulses.
- Integrated Pest Management in major crops: cereals (Paddy, Wheat, Barley and Maize) Millets (Sorghum and Bajara), oil seed (Mustard, Sesame and Sunflower), Pulses (Pigeon Pea, Pea, Chickpea, lentil, Urd and Moong, Sugarcane and Cotton.
- General principles of plant protection and its importance in agriculture.
- Causes of plant infection and method of their isolation.
- Chemical management and disease Resistance. Seed Treatment, Spraying and dusting. Mode of action of different group of biofungicides and antibodies.
- Symptoms, etiology, transmission and management of important diseases of cereals, legumes, oilseed, fruits and vegetables crops in references to U.P.
- Harmful plant nematodes and their management.
- Non insect-pest and their management.
- Important insect-pests and diseases of fruits and vegetables and their management.

1(iv) Chemistry Branch:- Soil Science and Agricultural Chemistry

- Soil Genesis, Classification and Survey-Soil Profile and horizons. Factors and processes of soil formation. Soil forming rocks and minerals. Weathering of rocks. Salient features of soil Taxonomy. Diagnostic horizons, types of soil temperature and moisture regimes. Description of various orders in soil taxonomy. Soils of India-their characteristics and distribution. Soil survey-Definition, objectives, types and land use capability classification.
- Physical, Chemical and Biological properties of soils. Mineral and organic constituents for soil and their role in maintaining soil productivity. Essential plant nutrients- macro, micro and other beneficial elements in soils. Function

and deficiency symptoms of essential nutrients. Sources and forms of nutrient availability. Principles of soil fertility and Integrated Nutrient Management (INM). Losses of nitrogen, fixation of phosphorus and potassium in soils. Chemistry of acid, salt affected and submerged soils and their reclamation methods.

- Soil Microbiology- Symbiotic and non-symbiotic nitrogen fixation. Microbial transformations of nutrients and biodegradation of soil organic matter. Bio[1]fertilizers and its application in crop production.
- Soil testing-objectives and concepts. Methods of soil sample collection for analysis. Common soil testing methods used in soil testing laboratories. Critical limits of nutrients in soil. Status of nutrients in Indian soils. Soil health card and its significance in increasing crop productivity.
- Soil, water and air pollution problems associated with agricultures. Nature and sources of pollutants, their effect on crops and soils. soil as sink for waste disposal. Pesticides- their classification, behavior in soils, effect on soil micro organisms. Toxic elements- their sources, behavior in soils, effect on human health. Pollution of water resources due to leaching of nutrients and pesticides. Green house gasses- carbon dioxide, methane and nitrous oxide. Amelioration of contaminated soil and water resources.
- Soil erosion- definition, processes, types and factors affecting it. Soil and water conservation measure; agronomical, engineering and forestry. Wind erosion control measures-ground surface and forestry (wind breaks ad shelter belts). Soil conservation practices to support afforestation of problem sites[1]ravines and gilled lands, waterlogged areas, salt affected soils, steep hill slops, landslides and slips, stream bank control, sand dune fixing and other wastelands.
- Watershed management- concept, principles, objectives, steps and components. Schemes related to watershed management and concept of bio industrial watershed management.

2. Agriculture Development Branch:– Agriculture Development

- Importance of Agro meteorology, Global warming Causes of climate change and its impact on agriculture weather hazards- drought, flood & frost, Agro climatic zones of U.P. & India.
- Integrated farming system- scope, importance, concept of cropping system and cropping pattern, multiple cropping, intercropping and organic farming, production of vermicompost, bio-fertilizer, soil-testing & soil health card.
- Problems of Sustainable agriculture & its impact on agriculture, concept of integrated nutrient management (INM), Integrated pest management (IPM),

Integrated weed management (IWM), concept, objective & steps of implementation of watershed management.

- Role of Animal husbandry & dairy development in rural economy, mushroom cultivation, Bee-keeping, Different Agricultural revolutions in India. Types of seeds, Seed Production, Farming of Medicinal and aromatic plant, Poultry farming, pig farming, fisheries, Nursery management, custom hiring services, food preservation, role of agro-forestry in mitigation of climate change.
- Agricultural Extension efforts in pre independence and post-independence era. Role of KVK, Information technology and communication in agriculture. Rural development programs- Training to Rural Youth for self employment (TRYSEM), Jawahar Rojgar Yojana (JRY), Agriculture Technology Management Agency (ATMA), Integrated Rural Development Program (IRDP), Intensive Agriculture Area Program (IAAP), National Mission for sustainable agriculture (NMSA), On Farm Water Management (OFWM), Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), Per Drop More Crop (PDMC), Pradhan Mantri Fasal Bima Yojana (PMFBY), Pradhan Mantri Kisan Samman Nidhi (PMKSN), National Agriculture Market (e-NAM), Farmers Producer Organization (FPO), Non Government Organization (NGO), Self Help Group (SHG), Kisan Credit Card (KCC), Rashtriya Krishi Vikas Yojna (RKVY).
- Package and Practices.
 - Cereals- Rice, wheat, Maize and Barley.
 - Millets- Jowar, Bajra, Ragi, Sanva, Kangni, Kodo and Kutki.
 - Pulses- Arhar, Gram, Lentil, Field pea, Urd and Moong.
 - Oil seeds- Mustard & Rai, Linseed, Til, Soyabean and Sunflower.
 - Cash crops- Sugarcane and Potato.
 - Vegetable- Tomato, Brinjal, Chilli, Okra, Cauliflower and Cabbage.
 - Fruits- Mango, Guava, Aonla, Banana and Papaya.
 - Flowers- Gladiolus, Marigold and Rose.

