

UKSSSC AAO

(Assistant Agriculture Officer)

Syllabus



UNIT-I

(Agronomy)



Definition and scope of Agronomy.. Classification of field Crops, general principles of Crop production: Climate, soil, soil preparation, seed and sowing, tillage, water management, nutrient management, plant protection management, harvesting, threshing and storage, mixed and inter-cropping, manure and fertilizers, cultivation of common crops- Cereal Crops: Paddy, maize, Wheat, Barley, Oat sorghum, Pearl millets and Finger millets: oilseed Crops: Rapeseed and mustard Linseed, Sunflower; Pulse crops: Chick pea, field pea, Lentil, Rajmah, Fodder Crops: Oat, Berseem, Lucerne; Cash Crops: Potato, sugarcane, recommended varieties, seed rate, time and method of sowing, irrigation, manure and fertilizer, weed controls, insect-pests and diseases, harvesting, processing and yield. water requirement of crops, measurement of water discharge, prevention of loss of water, different methods of irrigation - flooding, basin method, border /strip method, sprinkler and drip irrigation. Disadvantage of excess moisture.



UNIT-II

(Horticulture)



Study of cultivation practices of major horticultural crops: Vegetable crops- Potato, Brinjal, chillies, tomato, Cauliflower, broccoli, Onion, Okra, Radish, Carrot and Pea, Cucurbits, Sweet Potato, Fruit crops- Mango, Banana, Citrus, Papaya, Guava, Grapes, Litchi, Apple, Pear, Peach, Apricot, Almond, Kiwi, Strawberry, Raspberry. Plantation Crops- Cashew nut, Tea, Coffee. Flower crops- Gladiolus, Chrysanthemum, Marigold, Rose, Lilies, Tulip, MAPRauvolfia, Isabgol, Aloe-vera, Senna, Lemon grass, Vetiver grass and Citronella. Plant Growth regulators, pollination, propagation and rootstock management. Hi-tech Horticulture. Pre & Post harvest management factors affecting horticultural crops & their produce. Nursery management. Value addition of horticultural crops.



UNIT-III

(Soil Science and Agricultural Chemistry)



Soils- Origin and Classification loam, silt, clay, sandy loam, physical and chemical properties of soil. Soil profile, Composition, Health Improvement and Microorganisms. Nitrogen, Carbon, Phosphorus Cycles. Soil pH and EC. Essential nutrients- nitrogen, phosphorus and potassium, organic and inorganic fertilizer, their effects on soil and application methods. Farm Yard Manure, composts and green manures. Problematic soils and their management. Soil formation on the basis of structure and texture. Soil erosions. Integrated plant nutrient management.

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UNIT-IV

(Plant Protection)



Insect Anatomy: Morphology, Digestive, Excretory, Reproduction, Circulatory, Respiratory and Nervous systems, General introduction to Phylum Arthropoda, class Insecta, Storage grain pests and their management. Bee keeping. Sericulture. Classification of plant diseases according to cause and occurrence. Plant Pathogens: Viruses, Bacteria and Fungi (Albugo, Erysiphe, Ustilago, Claviceps and Puccinia). Diagnostic characters of the following genera: Phytophthora, Peronospora, Sclerospora, Ustilago, Sphacelotheca, Tolyperosporium, Melampsora, Alternaria, Cercospora, Fusarium, Helminthosporium, Pyricularia, Rhizoctonia and Colletotrichum, Xanthomonas, Pseudomonas, Synchytrium etc. Introduction of pesticides, their formation, formulation and application. Integrated Pest & disease Management. Principles of plant disease management.



UNIT-V

(Crop Improvement)



Mendel's Laws of heredity, Chromosomal theory of inheritance, meiosis and mitosis, Linkage and crossing over types, mechanism and significance, Nucleic acid as genetic material - structure, replication, genetic code and translation, Mutation spontaneous and Seaya. Drosophila 2 induced, Sex chromosomes and its determination in man and drosophila, sex linked characters. Chemistry of Carbohydrates- Glucose, fructose, Galactose, Sucrose, Lactose, Maltose, Starch, Cellulose. Ammino acids, Lipids and fatty acids. Vitamin A, D, E, K, Thiamine, Riboflavin and Nicotinic acid, growth substances, photoperiodism and vernalization, Mode of reproduction in crop plants in relation to breeding techniques. Genetic consequences of self and cross pollinated crops. Plant Introduction and exploration, Breeding self pollinated crops, population's improvement, Mass selection, recurrent selection. Breeding cross pollinated crops mass selection, pedigree, bulk and back cross methods; Polyploidy. Micro propagation.



UNIT-VI

(Animal Science)



Study of major breeds of cow, buffalo, goat, sheep, poultry and Pig; Physiology and anatomy of cow and buffalo; characteristics of good milch cow and buffalo, bulls and bullocks. Principles of feeding of various classes of livestock and poultry. Clean milk production and maintenance of hygiene. Common medicines and vaccines used in treatment/prevention and control of animal diseases. Operation flood, Milk and Milk products, Identification of Adulterated milk. Composition of milk and colostrum. Physio-chemical properties of cow and buffalo's milk. Factors affecting quantity & quality of milk. Milk constituents lactose, fat, protein, enzymes and vitamins, preservatives and adulterants. Classification of common feeds and fodders, low-cost balanced feeds. Evaluation of energy and protein value of feed. Processing methods of animal feed stuffs. Processing of milk for filtration, clarification, bactofugation, standardization, homogenization, cream separation-centrifugation. Value addition of milk products- paneer, chhena, ghee, khoa, dahi, cream, butter, ice-cream, condensed milk, milk powder, cheese.

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UNIT-VII

(Agricultural Engineering)



Type of iron and steel, wood, plastic and tin used in agricultural implements and their forms & properties. Study of different types of ploughs- indigenous, chisel, rotary and disc plough, Ssvalle Fpane their management & cost, selection of prime movers, water lifting devices; discharge, command area, cost of different system; soil preparation, methods of ploughing, need for tillage, kinds of tillage, mechanical Power transmission through belts, pulleys and gears, EC engine and its components. Classification of tractors, Elementary knowledge about main components of tractor and their functions such as steering, clutches, transmission gears, differential and final drive.



UNIT-VIII

(Agri. Extension & Economics)



Introductory agricultural economics-meaning and scope, Production meaning, factors of production such as land, labour, capital and management, properties of factor of production; law of returns; intensive and extensive agriculture, law of demand, relative prices and standard of living. Cooperation meaning, principles of cooperation, land development banks. Agriculture-place in Five Year Plans; Extension Education, Extension Teaching and Learning. Extension and Rural Development Programmes: Including. Training and Visit system, National Demonstration, IRDP, Training and visit system, panchayati raj, Community development programme (CDP), ATMA, FSBE,ATIC, ITK, KVK, PM kisan samman nidhi and PM kisan samridhhi Kendra.



UNIT-IX

(Agricultural Statistics)



Mean as measures of central tendency-Mean, Median, Mode, Geometric Mean, Harmonic Mean, Weighted Range, Quartile Deviation, Variance, Standard Deviation and Coefficient of variation.



UNIT-X

(Uttarakhand Agriculture)



Physiographic zones of UK, their attributes, major produces and livestock. Soil type, land use, forest cover, water regime, irrigation status. Drought, floods rainfed areas and Watershed Layau management. Fisheries. Agricultural marketing and extension education. Uttarakhand rural development programmes and schemes. Water harvesting techniques. Disaster management. Hill employment and skill development training programs like- Integrated Plant Nutrient Management (IPNM), Protected cultivation, Plant tissue culture, Micro propagation, Mushroom cultivation etc.

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Exam Pattern

Particulars	Details
 Exam Type	Objective MCQs
 Total Marks	100
 Duration	2 Hours
 Mode	Offline (OMR) or Online
 Options per Question	4
 Negative Marking	1/4 mark for wrong answer
 Unattempted	No negative marking
 Qualifying Marks	45% (Gen/OBC), 35% (SC/ST)

