

15. Preservation of Fruits and Vegetables (i) General principles and methods of fruit and vegetable preservation (ii) Processing by heat, preservation by antiseptic drying, preservation by fermentation dehydration and packing (iii) Preparation of jelly, Lime squash and Tomato sauce.
16. Rural Finance (i) Cultivator's Finance needs for farmers (ii) Source of credit (iii) Organisation of Rural Cooperative credit and marketing societies.

5.(ब) पशुपालन एवं कुक्कुट पालन के तत्व

5. (B) ELEMENTS OF ANIMAL HUSBANDRY AND POULTRY FARMING] (Ag.-3)

- (A). 1. **Introduction :-** (i) Importance of Live stock in Indian Economy, (ii) Body parts of cow and buffalo and description of important systems, respiratory, digestive, reproductive, secretion of milk.
2. **Improved Cattle Breeds :-** (i) Cow (ii) Buffalo (iii) Goat and (iv) Sheep.
3. **Care and management of Cattle :-** (i) Animal Hygiene (ii) Cattle housing sheds for bullocks, bull, milch cattle etc. (iii) Special attention for rearing of calves, pregnant and milch cattle, working bullocks and bull.
4. **Breeding of Cattle :-** (i) Breeding Line breeding and cross breeding, Mendel's laws of breeding (ii) Artificial insemination in cattle with examples.
- (B) 5. **Dairy Farming:** (i) General idea regarding dairy farming as a business in village and town conditions requirement of land, labour, capital; management techniques.
6. **Milk Production :-** (i) Different methods of milking, (ii) Principles of clean milk production, (iii) Factors affecting quality and quantity of milk.
7. **Composition of milk :** (i) Definition of milk (ii) Milk constituents (iii) Composition of Milk: Factors affecting composition of milk.
8. **Physical properties of milk :** (i) Temperature (ii) Boiling Freezing point (iii) pH (iv) Density (v) Specific gravity use of Lactometer (vi) Gerber's method for fat test.
- (C) 9. **Feed and Feeding :** (i) Principles of Feeding of dairy cattle (ii) Different types of feeds and fodders and their nutritive values - Kharif and Rabi Fodders: Hay and silage crops (iii) Preservation of fodders making of silage, hay silopits hay silopits. (iv) Computation of balanced ration of cows, buffaloes, bullocks, bulls goats and sheep.
10. **Judging of Cattle :** (i) Importance of Judging, (ii) Judging method, Score card method and on the basis of body parts, (iii) Judging the age of cattle by rings on the horn and by the teeth development.
11. **Dairy appliances :** (i) Construction of appliances and their cleanliness (ii) working of cream separator and its parts. Butter churner, Butter worker.
12. **Milk Products :** (i) Preparations of cheese. Cream, Ravri, Dahi, Butter, Ghee, condensed milk. Milk powder and their composition.
13. **Common diseases of Cattle :** (i) Symptoms of sick Animals, (ii) Symptoms of different diseases. Rinderpest Foot and Mouth disease. Blackquater, Haemorrhagic Septicaemia, Anthrax and piroplasmiasis: (iii) their prevention and control measures.
14. **Poultry Farming :** (i) Introductory, (ii) Scope and limitation of Poultry Farming, (iii) important breeds of poultry for eggs, meat (iv) Hatching of eggs and uses of incubator.
15. **Housing and ration for poultry birds :** (i) Poultry sheds, layout model sheds (ii) Ration of poultry bird-chicken, Growers, layers and Broilers.
16. **Diseases of Poultry :** (i) preventive control measures, (ii) Bacillary White diarrhoea, Ranikhet Coccidiosis, Fowl Pox, Fowl cholera, Ecto and endoparasit

6- कृषि AGRICULTURE (Arts and Science Group) (Ag.)

1. **Introduction** (i) Importance and scope of Agriculture in our National Economy and Development. (ii) Measures to be adopted for increasing the yield of crops.
2. **Meteorology** (i) Distribution of crop Zones depending upon the rainfall in M.P. (i.e.) Weather recording-Rainfall, Temperature, Humidity and atmospheric pressure.
3. **Soils** (i) Importance of Soil, Soil texture, soil structure, mineral matter, soil organic matter, soil and organism (ii) Different soil of M.P. and their Characteristics (iii) causes of infertility and ways to improve them.
4. **Tillage** (i) Definition of tillage, tillage operations such as ploughing, harrowing interculture etc. (ii) Tillage implements-Country plough, improved plough, harrows, cultivators, threshers, winnower and seed drills.
5. **Manures and Fertilizers** (i) Major and minor plant nutrients (ii) organic manures F.Y.M. compost, Green manures, Oil cakes (iii) Inorganic Fertilizers - Nitrogenous, phosphatic and Potash Fertilizers.
6. **Weeds and weed Control** (i) Definition of weeds, damage caused by weeds (ii) Weed control methods mechanical Biological and Chemical.
7. **Irrigation and Drainage** (i) Need Objects of irrigation and drainage (ii) Sources of irrigation and drainage.
8. **Cropping Schemes**: Importance and principles of Crop-rotation, mixed cropping, multi cropping, Dry farming.
9. **Crop Production** (i) Classification of crops (ii) Cultivation of following crops with reference to their land preparation, manuring, sowing, seed rate, irrigation, interculture, improved varieties, control of diseases and pests, yield per hectare, Major crops paddy, Wheat, Jowar, ground nut and cotton Minor Crops-Arhar, Moong, Soybean, Linseed and Mustard.
10. **Introduction** (i) meaning and scope of Horticulture (ii) Planting system, pruning, training and intercropping (iii) Elementary idea regarding ornamental plants, annuals, shrubs, trees hedges.
11. **Cultivation of fruit plants** (ii) propagation of plants-cutting, budding, layering gootee, grafting and inarching (iii) Elementary idea regarding ornamental plants, annuals, shrubs, trees hedges.
12. **Cultivation of vegetables** (i) classification of vegetables as per family seasons and uses (ii) cultivation of Potato, Cauliflower, Radish, Onion, Tomato, Brinjal, bhindi and Chillies.
13. **Fruit and vegetable preservation** (i) General principles and methods of fruit and vegetable preservation.
14. **Animal Husbandry** (i) Important breeds of cow and buffaloes (ii) care maintenance and housing of cattle (iii) Principles of feeding and balanced ration of cattle.
15. **Milk and milk testing** (i) composition of milk of cows and buffaloes (ii) Testing of milk by lactometer.
16. **Milk products and Dairy machines** (i) Preparation of Cream, ghee, Butter, Khoya and Dahi (ii) Construction and working of cream separator.
17. **Diseases of Cattle** (i) Signs of sick animal (ii) Common diseases of cattle, their prevention and control.
18. **Poultry Farming** (i) Important Poultry breeds and their characteristics (ii) Warehousing and feeding of Poultry breeds (iii) Hatching of egg by natural and artificial methods (iv) Grading and marketing of eggs (v) Common diseases of poultry, their prevention and control.