CURRICULUM FOR POULTRY SCIENCE IN UNDER GRADUATE DEGREE PROGRAMME **CBCS SYLLABUS SCHEDULE 2016 – 2017**

Semes ter	Course category	Title of the Paper	No. of Credits	HPW	Max. Marks			Total
					I.A	End Exam	Total	Marks
FIRST Y	'EAR							
I	Paper-I (Theory)	Introduction to Poultry Science	3	3	20	40	60	100
	Paper-I (Practical)		2	2	-	40	40	
II	Paper-II (Theory)	Poultry Housing and Management	3	3	20	40	60	100
	Paper-II (Practical)		2	2	-	40	40	
SECON	D YEAR	TO THE REAL PROPERTY.	The State of the S		4.74	6 Works	Maria de la compansión de	2.50000
III	Paper-III (Theory)	Poultry Nutrition and Physiology	3	3	20	40	60	100
	Paper-III (Practical)		2	2	-	40	40	
IV	Paper-IV (Theory)	Poultry Diseases and	3	3	20	40	60	100
	Paper-IV (Practical)	Control	2	2	-	40	40	
THIRD '	YEAR			A 45.75	75	1215	11/1/20	
V	GE-1 (Theory)	Backyard Poultry	4	4	20	60	80	120
	GE-1 (Practical)		2	2	-	40	40	
	Paper-V (Theory)	Poultry Immunology and Vaccination	3	3	10	40	50	80
	Paper-V (Practical)		1	1	-	30	30	
	Paper-VI (Theory)	Poultry Products and Technology	3	3	10	40	50	
	Paper-VI (Practical)		1	1	-	30	30	
VI	GE-2 (Theory) GE-2	Principles in Egg Marketing Poultry Entrepreneurship	4	4	20	60	80	120
	(Practical) Paper-VII		2	2	-	40	40	
	(Theory) Paper-VII		3	3	10	30	30	
	(Practical) Paper-VIII	Poultry Waste Management	3	3	10	40	50	80
	(Theory) Paper-VIII		1	1	-	30	30	
	(Practical) SEC	Project Work	2	2	-	40	40	40
		nary of Credits	50	50				100

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I - SEMESTER

Paper – I (Theory)

INTRODUCTION TO POULTRY SCIENCE

Max. Marks: 60

UNIT-I: Indian Poultry Industry

- Definition of Poultry, History of poultry market capitalization, size of the industry, total contribution to the Indian economy, sales employment opportunities.
- 1.2 Present status and future prospects.
- 1.3 Principles of domestication behavioural factors favouring domestication.
- 1.4 Adaptations of poultry in different regions like deserts and high altitudes.

UNIT-II: Scientific Poultry Keeping

- 2.1 Modern breeds of chicken-varieties used for modern Breeding.
- 2.2 Present day egg production lines.
- 2.3 Present_day meat production lines.
- 2.4 The mini-Breeds dwarfism in mini-leg horns.

UNIT-III: Structure Of The Chicken

- 3.1 Surface of the chicken.
- 3.2 Skeleton and Muscles.
- 3.3 Respiratory, digestive, urinary, circulatory systems of the chicken.
- 3.4 Nervous system, hormone producing glands, reproductive system of chicken.

UNIT-IV: Formation of Egg and its Development

- 4.1 Ovary-ovulation, parts of oviduct.
- 4.2 Shape and size of the egg and composition of the egg.
- 4.3 Fertilization: Pre-ovipositional embryonic development, Post ovipositional egg holding period.
- 4.4 Development of the extra embryonic membranes, daily changes during embryonic growth from 1 to 21 days.

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Max. Marks: 40

- 1. Study of external anatomy- parts of body
- 2. Study of characters of egg type breeds of fowl.
- 3. Study of characters of meat type breeds of fowl
- 4. Study of breeds of ducks, turkey and quail.
- 5. Study of commercial poultry stocks.
- 6. Sketching of important poultry pockets in India (showing breeding farms, hatcheries, etc. in the map of India).
- 7. Exercise on the inheritance of morphological traits.
- 8. Identification of sex, feather sexing and colour sexing method.
- 9. Vent sexing.
- 10. Identification of birds-wing bands (sketch of wing band), application of wing bands, wing badges and leg bands.
- 11. Drawing of egg production curves based on data.
- 12. Record keeping of egg weight at various ages.
- 13. Calculation of feed efficiency per Kg. in terms of eggs and feed requirements per dozen eggs.
- 14. Drawing of a sketch of various types of cross breeding and strain crossing.
- 15. Marking eggs for pedigree hatching and hatching of pedigree chicks.
- 16. Calculation of hatchability of fertile and total eggs set basis.
- 17. Culling non-layers.
- 18. Calculation of hen-housed and hen-day egg production.
- 19. Judging bird for egg production-comb size and colour, bones, distance body conformation and body capacity.
- 20. Filling pedigree records –sire family and dam family for hatching, egg production, body weight and egg weight.
- 21. Study and sketching of various types of Trap nests.
- 22. Trap nesting and study of defects in trap nests.
- 23. Identification of pedigree in cage birds.
- 24. Study of male and female reproductive organs.
- 25. Artificial insemination in fowl.
- 26.Preparation of male for semen collection -collecting funnels -training of males, preparation pfr A.I. Kit, semen evaluation.

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II - SEMESTER

Paper – II (Theory) POULTRY NUTRITION AND PHYSIOLOGY

Max. Marks: 60

UNIT-I: DIGESTIVE PHYSIOLOGY

- 1.1 Biology of fowl, digestive physiology -digestion, absorption.
- 1.2 Utilization of feed nutrients carbohydrates, proteins, Fat vitamins and trace elements.
- 1.3 Factors affecting digestibility and feed efficiency.
- 1.4 Carbohydrate ,protein, fat, mineral metabolism.

UNIT-II: NUTRITIONAL REQUIREMENTS

- 2.1 Importance of nutrition in poultry production-classification of food stuffs and their categorization in to energy feeds, protein feeds, minerals and vitamins.
- 2.2 Feed additives. Agro -industrial by-products and non-conventional feeds.
- 2.3 Nutrient requirements of different types of poultry-chick grower, layer and broiler, ducks, turkeys and quails.
- 2.4 Selection of feed, and BIS feeding standards for poultry. various categories of poultry feed.

UNIT-III: FEEDING OF POULTRY

- 3.1 Feeding methods of poultry.
- 3.2 Feeding schedules for various types of poultry.
- 3.3 Common nutritional deficiencies in poultry rations.
- 3.4 Common toxic principles in poultry feeds and method of detoxification.

UNIT-IV: STORAGE OF FEED

- 4.1Usage of non -conventional poultry feed ingredients.
- 4.2 Principles of storage of feeds and maintenance of stores.
- 4.3 Nutritional factors effecting fertility.
- 4.4 Role of hormones and effects of light on growth and reproduction.

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Mas. Marks: 40

- 1. Identification of various poultry ingredients and their classification
- 2. Familiarization with feed additives, agro-industrial by -products and micro nutrients.
- 3. Identification of common feed adulterants.
- 4. Sampling and labelling of poultry feeds.
- 5. Acquaintance with various laboratory equipment and apparatus.
- 6. Preparation of various laboratory reagents and standard solutions used in feed analysis
- 7. Determination of moisture/ dry matter.
- 8. Determination of proteins.
- 9. Determination of crude fibre.
- 10. Determination of ash.
- 11. Preparation of analytical report.
- 12. Mixing of chick starter, grower, layer and broiler ration.
- 13. Use of feed concentrates foe preparation of carious mashes.
- 14. Calculation of feed requirements of chicks, growers, layers and broilers according to age.
- 15. Calculation of feed efficiency for meat production.
- 16. Calculation of feed efficiency for meat production.
- 17. Calculation of deed requirements for production of one kg. egg mass and dozens of eggs.
- 18. Preparation of mineral mixture.
- 19. Physical evaluation of grains and other feed components.
- 20. Identification and application of insecticides, fumigants and rodenticides in feed go down.
- 21. Sketching of digestive tract of fowl, endocrine organs, respiratory organs, circulatory system, renal organs, nervous system.

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III - SEMESTER Paper - III (Theory) POULTRY HOUSING AND MANAGEMENT

Max. Marks: 60

UNIT-I: Poultry Housing

- 1.1 Importance and principles of poultry housing. Materials and method for poultry housing environment and poultry housing management. Housing for chicks, growers, layers and broilers.
- 1.2 Factors effecting heat loss and heat production in fowl. Methods of heat loss. Housing considerations in summer, winter and rainy season.
- 1.3 Methods of housing-Housing of chicks in floor and cages. Housing growers in cages and floor. Housing of layers on floor and cages. Slatted floor.
- 1.4 Floor space requirement for chicks, growers, layers, and broilers. Feeders and waterers space requirements for chicks, growers, layers, and broilers.

UNIT-II: Poultry Equipment

- 2.1 Equipment -brooder house equipment -floor brooders, battery brooder, chick guards, chick feeders, chick waterers.
- 2.2 Grower house equipment –grower feeders, grower waterers, grower cages.
- 2.3 Layer house equipment –layer feeders, layer waterer, nest box and grit box. Types of layer feeders, laying cages.
- 2.4 Other equipment –debeakers, balances, egg boxes and filler flats, catching crates, catching hooks, litter racker, pedigree boxes.

UNIT-III: Managements of Chicks, Growers, Layers and Management of Broilers

- 3.1. Management of chicks-chick feeding, chick watering, and debeaking. Temperature maintenance –infra red brooding, environmental problem in a poultry farm and its control, prophylactic vaccination.
- 3.2 Management of growers -grower feeding, watering and debeaking.
- 3.3 Layer management –layer feeding, watering on floor and in cages, medication, egg collection and lighting schedule.
- 3.4 Broiler management –separating sexes, lighting schedule, feeding, watering, prophylactic vaccination and medication of broilers.
- 3.5 Forced moulting and culling.

UNIT-IV: Hatchery Management

4.1 Litter management –material, special emphasis on adverse weather conditions, racking, mixing of lime, built up litter and disposal of litter.

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- 4.2 Moulting –age of moulting, process of moulting, forced moulting. Methods and precautions in forced moulting.
- 4.3 Stress management -identification of various agents causing stress.
- 4.4 Management problems –density of bird, watering and feeding space, rodent control, difficulties in poultry management.
- 4.5 Introduction to management of ducks, quails and turkeys –hatchery operations care during fumigation. Candling, setting and transferring of hatching eggs, cleaning of hatching eggs. Requirements of temperature, humidity and turning. Gaseous environment of incubator and corrective measures

Max. Marks: 40

- 1. Identification of poultry housing materials.
- 2. Designing and sketching of poultry house for chicks.
- 3. Designing and sketching of grower house on floor and in wiremesh cages.
- 4. Designing and sketching of layer house on floor and in cages.
- 5. Visit to a poultry farm.
- 6. Preparation of tables for space, feeder and waterer requirement of birds of various ages.
- 7. Drawing sketches of floor brooder, battery brooder, chick feeder, chick waterer and brooder guards.
- 8. Arranging waterers, feeders and chick guards in a brooder house.
- 9. Identification of equipment for infra-red brooding.
- 10. Recording of temperature.
- 11. Drawing sketch and handling of a grower feeder, waterer and wire floor battery cages.
- 12. Drawing a sketch and handling automatic water arrangement in cages.
- 13. Drawing a diagram and handling of nest box and grit box.
- 14. Debeaking of birds
- 15. Drawing a diagram of debeaked chick and debeaked adult bird.
- 16. Drawing a sketch and handling of catching crate, catching hooks, litter racker and pedigree boxes.
- 17. Identification of filler flats -paper pulp, plastic.
- 18. Drawing and handling of bamboo, wooden and metal transport crates.
- 19. Cooling poultry house in summer, through water spraying, side curtains, straw thatching, etc.
- 20. Identification of feather of fowl-primary, secondary and body feather. Sketching sequence of falling of feather in moulting.
- 21. Cleaning and fumigation of hatching eggs, setting, candling and transferring of eggs.
- 22. Distinguishing between fertile and infertile eggs.
- 23. Recording of temperature, humidity and turning in hatchery.
- 24. Drawing a chart for common defects in operation of hatcher and setter and their remedial measures.
- 25. Drawing a sketch of wing feather showing slow and rapid feathering.
- 26. Drawing a sketch of cloacal opening to differentiate between male and female protuberance.
- 27. Setting a chick sexing room, bulbs, reflector, chick boxes, etc.

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IV - SEMESTER Paper –IV (Theory) POULTRY DISEASES AND CONTROL

Max. Marks: 60

UNIT-I: HEALTH AND SANITATION

- 1.1 Definition, symptoms and signs of diseases in poultry and their health.
- 1.2 Management of hygienic conditions- use of detergents in spraying and cleaning of sheds, cleaning through fumigation.
- 1.3. Importance of sanitation in hatchery building, hatchers and setters.
- 1.4 Role of intermediate hosts in spread of diseases. Pre-disposing factors for sickness-faulty feeding practices, poor ventilation, lack of cleanliness, Overcrowding, attendant, precautions to avoid infection.

UNIT-II: Commen Disease Of Poultry And Their Causative Agents-Symptoms And Treatment

- 2.1 Viral diseases—Ranikhet diseases, fowl pox, EDS -76 (egg drop syndrome), infectious bursal diseases (Gumboro diseases) infectious bronchitis, infectious Laryngo Tranchitis, inclusion body hepatitis, avian encephalomyelitis, Reoviral arthritis, marek's disease, avian lymphoid leukosis.
- 2.2 Bacterial diseases—coli bacillosis, infectious coryza, salmonellosis, pasteurel lososs pirochetosis, mycoplasmosis, tuberculosis.
- 2.3 Fungal diseases—aspergillosis and aflatocicosis.
- 2.4Parasitic diseases—ectiparasistes—line, mites, ticks and fieas: Endoparasties—rounf worm tape worm and protozoan diseases—coccidiosis.

UNIT-III: Miscellaneous Diseases

- 3.1 Protozoan diseases-coccidiasis.
- 3.2 Staphyococcosis, cannibalism, pilling of birfs, egg bound condition, proapa of the uterus, cage layer fatigue.
- 3.3 Sodium chloride poising. Stunting syndrome, tumors. Diseases of duck, quinea fowl, turkeys and quail.
- 3.4 Nutritional deficiencies –polyneuritis, curried toe paralysis, encephalomalacia, rickets, perosiisnad other nutritional diseases.

UNIT-IV: Drugs and Antibiotics

- 4.1 How drugs are administered-through feed, water, injections.
- 4.2 Classification of drugs- sulfonamides, nitrofurans, coccidial, pasturarella and anthelmintics
- 4.3 Drug treatement-potency and length of drug treatement.
- 4.4 Antibiotics- bacitracin, chlotetra cycline etc.FDA approval guide lines for all antibiotics.

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Max. Marks: 40

- 1. Identification of healthy and sick birds.
- .2. Recording of temperature.
- 3. Visual appraisal of comb, buccalcavity, gait and behaviour.
- 4.Demonstration of terms: bacteria, virus, protozoa, fungus, sulphonamides, antibiotics, Antibodies, antigens, active immunity, passive immunity, acute and chronic diseases, pathogens, vaccines, virulence, morbidity, mortality.
- 5. Visit to poultry farm showing equipment, position of foot bath. Sterilization and sterilization methods.
- 6. Preparation of chart for common viral diseases, showing the Causative agents, symptoms, prophylactic vaccinations and treatment.
- 7. Preparation of chart for common bacterial and fungal diseases, showing their causative agents. Symptoms, vaccination and treatment.
- 8. Preparation of figure of life cycle of coccidial agents. Symptoms and treatment.
- 9. Control of Ecto-parasites -dipping methods, spraying with insecticides
- 10. Identification of common insecticides used in poultry and their use.
- 11. Deworming of poultry birds.
- 12. Preparation of table common nutritional diseases-their causes, symptoms and treatment.

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V - SEMESTER Paper – GE-1 (Theory) BACKYARD POULTRY

Max. Marks: 80

Unit-I: Basics of Backyard poultry

- 1. Definition of backyard poultry.
- 2. Rearing of birds.
- 3. Utilization of the products and by products by the family.
- 4. Income generation from backyard poultry unit.

Unit-II: Nutritional value of the egg and meat of backyard poultry.

- 1. Egg and Nutrition
- 2. Meat and Nutrition.
- 3. Mis-concept of egg is non-vegetarian food.
- 4. Half incubated egg and its nutritive value.

Unit-III: Improvement of country chicken by up gradation.

- 1. Procurement of exotic male breeds.
- 2. Establishment of small marketing units for consumers.
- 3. Bringing awareness among public regarding the nutritive value of egg and meat of local varieties.
- 4. Preparation of own feed with low cost.

Unit-IV: Brooding equipment for backyard poultry

- 1. Space and light requirement.
- 2. Local brooder boxes.
- 3. Local transporting materials.
- 4. Other required facilities like water.

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V - SEMESTER

Paper - V (Theory)

POULTRY HOUSING AND MAIMMUNOLOGY AND VACCINATION

Max. Marks: 50

UNIT-I: Immunity of the Poultry

- 1.1 The immune system –Introduction of Avian immune system, basic principles-innate and acquired immunities.
- 1.2 Antigens-Determinants of antigenicity, biological classes of antigens.
- 1.3 Chicken's primary and secondary lymphoid organs-Bursa and Thymus-Antibody mediated immunity (Humoral immunity).
- 1.4 Production and the role of different types of antibodies-IgM, IgG, IgA, Bile. Differences between old birds and newly hatched chick acquired antibodies from mother hen. Cell-mediated immunity-Helper T-ells, Cytotoxic T cells, Suppressor T cells.

UNIT-II: The Complement System

- 2.1 General properties, components, complement activation.
- 2.2 Classical pathway, alternative C pathway, biological effects of C.
- 2.3 Quantization of C and its components.
- 2.4 Biosynthesis of C, deficiencies of complement system.

UNIT-III Immunodeficiency Diseases

- 3. 1 Primary immunodeficiency's-disorders of complement, disorders of phagocytosis.
- 3.2 Secondary immunodeficiency's.
- 3.3 Bird Flu-symptoms, causes and its treatment.
- 3.4 Classification of hypersensitivity reactions- Type-I, type-II, type-III and Type-IV.

UNIT-IV: Vaccination

- 4.1 Live and Killed vaccines.
- 4.2 Vaccination programs, schedule.
- 4.3 Stress and Vaccination.
- 4.4 Vaccination procedures for broilers, broiler-breeders, commercial layers, turkeys, duck breeders, and commercial ducklings.

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Max. Marks: 30

- 1. Preparation of vaccines and their preservation.
- 2. Vaccination poultry birds.
- 3. Study of internal organs of the body of the fowl.
- 4. Collection of blood, separation of serum and plasma and preservation.
- 5. Preparation of blood smear and tissue impression smear and staining.
- 6. Post-mortem examination for important poultry diseases.
- 7. Fumigation of hatchery and eggs.
- 8. Visit to a disease diagnostic laboratory.

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V - SEMESTER Paper - VI (Theory) POULTRY PRODUCTS AND TECHNOLOGY

Max. Marks: 50

UNIT-I: Animal Protein-Poultry Egg and Meat

- 1.1 Present status of poultry products technology in India and its scope for expansion and future development.
- 1.2 Structure, chemistry, per capita consumption of poultry and egg in India and abroad including changing consumer attitude towards these items.
- 1.3 Egg and poultry meat as a source of quality animal protein.
- 1.4 Sources of contamination of egg and its products and its prevention.

UNIT-II: Egg Quality and its Maintenance

- 2.1 Importance of egg quality studies and techniques available to evaluate the same Factors responsible for deterioration of egg quality.
- 2.2 Microbial spoilage of eggs. Methods of preservation of shell eggs.
- 2.3 Handling, collection, grading, packaging and storage of eggs.
- 2.4 Organisations and operation of cold stores for holding shell eggs and its products.

UNIT-III: Manufacture of Egg Powder

- 3.1 Functional properties of eggs. Pasteurization, freezing and dehydration of egg products, including their packaging and storage.
- 3.2 Principles and techniques of manufacture of egg powder, albumen flakes, yolk granules and other edible egg products.
- 3.3 Industrial use of egg and egg products.
- 3.4 National and international standards for egg and egg products.

UNIT-IV: Poultry Dressing and Processing

- 4.1 Principles of dressing poultry including chilling, packing and labelling. Meat yield, meat cutting and factors influencing meat yield-comparative evaluation of various types of avian species used in India for purposes of meat different methods of preservation of poultry meat-chilling, freezing, curing, smoking, dehydration and canning. Microbial spoilage of poultry meat and its prevention.
- 4.2 Inspection, grading and standardization of dressed poultry. Fundamentals and principles of further processed poultry products.
- 4.3 Specifications and regulations relating to poultry products offered for sale Sanitation in poultry processing plant and egg breaking unit.
- 4.4 Selection of types of detergents and sanitizers. Sampling technique and quality control of egg and poultry products. Packaging transportation and marketing of egg and poultry products.

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Max. Marks:30

- 1. Structural details and internal parts of an egg.
- 2. Composition and nutritive value of different types of avian eggs.
- 3. Measurement of external and internal physical quality of eggs.
- 4. Identification of quality defects in eggs.
- 5. Candling, grading, Washing and coating of eggs.
- 6. Spraying of eggs for preservation.
- 7. Preservation of eggs by different techniques.
- 8. Preparation of cold store and its operation during storage and removal for disposal.
- 9. Packing of shell eggs for short and long term transport
- 10. Preparation of various edible egg products.
- 11. Evaluation of dressing yield, meat yield and dressing loss of chicken and ducks.
- 12. Sampling of meat and egg. Products.
- 13. Organoleptic evaluation of chicken and egg products.
- 14. Sanitary practices in a poultry and egg breaking plant.
- 15. Visit to poultry processing plants to get familiar with their organisation, layout and operation.
- 16. Marketing methods for disposal of egg and poultry products-by visiting different marking units.

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VI - SEMESTER Paper – GE-2 (Theory) PRINCIPLES IN EGG MARKETING

Max. Marks: 80

Unit-I

- 1. Mode of transportation.
- 2. Economics of egg marketing.
- 3. Diurnal dynamics in egg transportation.
- 4. Prevention of breakage during transportation.

Unit-II

- 1. To prevent the loss due to breakage.
- 2. Marketing regularity.
- 3. Formation of cooperative societies.
- 4. Financial support through insurance agencies.

Unit-III

- 1. Government subsidiaries and their role in promotion of poultry industries.
- 2. Technical support sponsored by government hatcheries.
- 3. Reasons for spoilage of eggs and remedies.
- 4. Storage of eggs by conventional methods.

Unit-IV

- 1. Proper utility of egg shell as a feed supplement.
- 2. Egg shell as a fertilizer.
- 3. Using of egg shell in making handicrafts.
- 4. Egg shell for sustainable quality.

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VI - SEMESTER

Paper – VII (Theory) POULTRY ENTREPRENUEURSHIP

Max. Marks: 50

UNIT-I: Poultry Extention

- 1.1. Extension Education Principles of extension technique. Poultry extension objectives and its role in poultry development programmes. Qualities of extension worker different poultry development programmes, their impact and future strategy.
- 1.2 Extension methodology and techniques. Handling audio-visual and their importance in poultry education programmes. Methods of effective communication.
- 1.3 Rural sociology-its impact, social institutions and their role in poultry development concept of socio-economic cultural change.
- 1.4 Nature and importance of marketing. Marketing process, communication media, methodology of survey and their assessment. Adoption process and factors influencing adoption.

UNIT-II: Poultry Marketing

- 2.1 Marketing channels for poultry and poultry products. Marketing societies and farmers cooperatives.
- 2.2 Formation of poultry co-Operative societies –their objectives and impact on social structure.
- 2.3 Salesmanship, qualities of a salesman. Advertising agencies and their role in acceptability of poultry products.
- 2.4 Pricing, demand and supply and its relationship with pricing. Effect of season.

UNIT-III: Poultry Economics

- 3.1. Economics of egg production. Economic of broiler production. Factors affecting economic returns.
- 3.2 Economics of poultry production and its relationship with national economy. Benefits and limitation of poultry farming.
- 3.3 The role of poultry products sale points in efficient marketing.
- 3.4 Poultry farm records, inventory receipt and expenditure.

UNIT-IV: Poultry Insurance and Financial Management

- 4.1 Specific forms for maintaining feed, flock, strength, mortality, incubation, performance and health records
- 4.2 Accountancy financial statement of profit and loss. Model scheme for setting up of a layer/broiler farm of various sizes
- 4.3 Importance of poultry insurance. Some e.g. of Financial institutions involved in support of poultry programme

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Max. Marks: 30

- 1. Preparations of communication materials such as posters, charts, Bulleting, boards and films.
- 2. Handling of audio-visual aids.
- 3. Organization of poultry exhibition in rural and urban areas.
- 4. Conducting group discussions, meetings to educate village farmers and arranging demonstrations
- 5. Familiarizing with local marketing channels of poultry and poultry products.
- 6 .Preparation of a flow diagram showing steps required for formation of co-operative societies.
- 7. Calculation of economics of broiler production
- 8 .Calculation of economic of cockerel production
- 9. Calculation of cost of preparation of egg and meat products
- 10. Study of registers and accounts
- 11. Preparations of insurance schedule.

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VI - SEMESTER
Paper - VIII (Theory)
POULTRY WASTE MANAGEMENT

Max. Marks: 50

UNIT-I: Poultry Litter

- 1.1 Poultry litter- Bedding materials.
- 1.2 Importance of poultry farm pollution.
- 1.3 Value of poultry manure.

UNIT-II: Poultry Litter Management and Practices

- 2.1 Moisture management methods.
- 2.2 Litter re-utilization methods.
- 2.3 Litter amendments.
- 2.4 Acidifiers and other amendments.

UNIT-III: Disposal and Uses

- 3.1 Methods of disposal of faecal material.
- 3.2 Types of uses of faecal materials.
- 3.3 Environmental advantages due to use of poultry litter.

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Max. Marks: 30

- 1. Preparation of Manure and spreading on cropland or green land.
- 2. Composting of litter.
- 3. Preparing fuel from faecal material.
- 4. Preparing fertilizer from poultry litter.
- 5. Demonstration of litter and cage rearing systems
- 6. Feed equipments and maintenance; hammer mill, mixture, pellet mill-types, principle of working, comparison of different types, premix preparations, quality control of raw materials.
- 7. Feed mill operation. Demonstration of different types of feeder, waterer, fogger, sprinklers etc.

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REFERENCE BOOKS

- 1. Mack O.North or Donald D.Bell, 1990. Commercial Chicken Production Manual (fourth edition). Van Nostrand reinhold –New York.
- 2. Curtis, S. E.1983. Environmental Management in Animal Agriculture. Iowa State University Press, Ames, IA.
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