

Syllabus
Veterinary Pharmacist Training
Course



Duration of Course : 2 Years (Four Semesters)
(Including six months hand on training at Veterinary Institutions)

Teaching System : Annual System

System of evaluation : Internal evaluation semester wise followed by Annual Examination to be conducted by affiliated University.

Preamble:

The proposed syllabus for Veterinary Pharmacist Training Course is aimed at preparing human resource capable of handling livestock, and maintenance of hospital and farm records, to acquaint students with various equipment being used in routine at hospital and livestock farms and make them capable to assist the doctor in treatment of livestock.

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Syllabus for Veterinary Pharmacists Training Course

FIRST YEAR

SEMESTER-I

Course Name

Cr.Hrs,

1. Elementary Animal Husbandry (AUVS-111)

(2+1)

Theory: Common breeds of cattle, buffalo, sheep, goat, pig. Animal production system; Principles of housing for farm animals; Routine management practices for various categories of livestock (calves; heifers, pregnant and lactating animals etc. and sick animals; Introduction to methods of castration; Milking techniques and clean milk production; Sanitation and hygiene practices; Record keeping and responsibilities of veterinary inspector para-veterinarian/Vety Pharmacists; waste management, Branding techniques in animals, Bio security methods at livestock farms and neonatal calf care.

Practical: Body parts of various livestock species; Routine dairy farm operations; Identification of different breeds; Identification techniques; Calf management and disbudding, Housing patterns; Cleaning and disinfection of dairy farm.

2. Elementary Livestock Handling (AUVS-112)

(2+1)

Theory: An overview of animal behavior, Common tools used for animal control; Method of restraint and handling of animals; Colures and markings of animals; Dentition; Hoof trimming in bovine, Papering animals for show/animal fair.

Practical: Dentition, Colors, Markings, Identification, Hoof trimming, Restraint and handling of animals, preparing animals for show/animal fair.

3. Elementary Animal Nutrition (AUVS-113)

(2+1)

Theory: Principle of animal nutrition; Digestive system; Nutritional importance of carbohydrates, lipids, proteins, vitamins, minerals and water; Common feeds and fodders; Scientifics feeding and feeding schedule for different categories of livestock; Anti nutritional factors; Feeds additives; Hay and Silage marking, Precautions in the storage of feed and fodder.

Practical: Identification and classification of feed and fodder; Sampling and preparation of feed; Preparation of hay and silage; Up gradation of roughages; Preparation of concentrate.

4. Basic Computer Application (AUVS-114)

(0+2)

Practical: Knowledge about the computer accessories. use of computer in handling and presenting Veterinary and livestock data, working in window operating system. working with MS word, Spreadsheets using Ms Excel, Graphics and MS Power Point, internet and world wide web, E-mail and internet services; computer viruses, antivirus.

5. Elementary Anatomy and Physiology of Animal (AUVS-115)

(2+1)

Theory: Introduction to anatomy and physiology of musculoskeletal, digestive, cardiovascular, respiratory, nervous, excretory, male and female reproductive and endocrine system; mammary glands of domestic animals; Body cavities and its related organs, Basics physiology parameters of domestic animals.

Practical: Topographic anatomy and localization of various organs and body systems in domestic animals; Recording of normal physiological parameter i.e. heart rate, respiration rate and rectal temperature, Orientation of Laboratory equipments.

6. Basics Clinical Pathology and Laboratory techniques (AUVS-116).

(2+1)

Theory: Handling of laboratory equipment, glassware and chemicals; Cleaning and sterilizing of laboratory wares; Basic microscopy principles; Blood collection techniques; Use of anticoagulants; Urine collection, preservation and common physical and chemical tests; Collection, preservation and dispatch of tissues for histopathology.

Practical: Opening of carcass, Collection, preservation and transportation of body fluids and tissues. serum and plasma separation. Examination of blood for HB, TLC, TEC, PCV, ESR preparation of blood smear, Physical examination of urine

FIRST YEAR

SEMESTER-II

1. Elementary Pharmacology(AUVS-121)

(2+1)

Theory: Introduction to Pharmacology, Nature and sources of drugs; Routes of drug administration; Dosage forms; Pharmaceutical processes; Handling of hazardous substances; Common antiseptics and disinfectants; Weighing and measurement of drugs and solutions; Pharmacy calculation; Classification of important indigenous drugs and contraindications for various medicines.

Practical: Basic equipment's/ instruments, Fundamental techniques in Pharmacy; Dispensing and labeling of drugs; Preparation of solutions, ointments, lotions tinctures, liniments, mixtures, electuaries etc. drug dosage calculations.

2. Elementary Poultry Science (AUVS-122)

(1+1)

Theory: Common breeds/strains of poultry; Different housing/ rearing systems; Management of layer and broiler farm; Brooding; Hatchery routines; Cleaning of poultry sheds and litter management; Bio- security; Feeding and poultry rations; Introduction to common poultry diseases; Vaccination; Introduction to Quail and Turkey farming.

Practical: Hatchery operation; Handling of birds; Vaccination of birds; Practical feeding, watering cleaning of poultry sheds; Debeaking; Assisting in Opening bird for post mortem and morbid material collection, Preservation and dispatch for laboratory diagnosis.

3. Elementary Animal Husbandry Extension (AUVS-123).

(1+1)

Theory: Extension in rural welfare; Community development and rural sociology; Principles and objectives of veterinary and animal husbandry extension; Qualities of extension worker; Extension teaching methods; Extension and training programme is. Duties of veterinary inspector/para-veterinarian; Role of media and communication tools, Prevention of Cruelty to animals and animal welfare concept.

Practical: Audio-visual aids; Awareness campaigns; Mass media; Preparation of charts, leaflet, pamphlet poster, flash cards etc. Participatory approach to animal husbandry Awareness regarding thrust areas i.e. mortality, immunization, neonatal care and infant mortality. Nutritional programme including hay and silage making fodder development and animal management.

4. Elementary Animal Reproduction (AUVS-124).

(2+1)

Theory: Female genitalia; Estrous cycle; Methods of heat detection; Gestation in domestic animal; Methods of pregnancy diagnosis; Abortion in domestic animals; Types of infertility in farm animals; Sexual health and herd health programme; Parturition; Care and management of dam and new born calf; Introduction to parturient problems in diary animal. pregnancy diagnosis.

Practical: Study of female genitalia of domestic animals; Heat detection; Rectal palpation for artificial insemination, care of instruments for gynecological procedures; Rectal palpation for artificial insemination, Care of instruments for gynecological procedures; Record keeping Pregnancy diagnosis.

5. Elementary Andrology and Artificial Insemination (AUVS-125) (2+1)

Theory: Study of male genitalia and gonads; Methods of semen collection and storage handling of fresh/frozen semen; Artificial insemination; Diseases transmitted through semen.

Practical: Breeding bull management; Exercise and physical examination of breeding bulls; Collection of preputial washings; Preparation of artificial vagina; Preparation of dummy/bull; Handling of fresh and frozen semen; Artificial insemination; Care, storage, sterilization equipment's and record keeping.

6. Elementary Veterinary Epidemiology and Public Health (AUVS-126) (2+1)

Theory: Introduction to epidemiology, surveillance and monitoring of seasonal diseases; Public health considerations; Common zoonosis and their management; Disposal of cadaver; Concepts of contagious, notifiable diseases and outbreaks, Importance of animal disease monitoring, surveillance and diseases reporting.

Practical: Attending to an outbreak of disease and assisting veterinarian in collection material in outbreak of disease, Disposal of infectious material, basic concept of disinfection and sterilization of infected site and material.

SECOND YEAR	SEMESTER-III
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1. Introduction to Livestock Disease Management (AUVS-211) (2+1)

Theory: Introduction to common disease of livestock and poultry; Hemorrhagic septicemia Black quarter, Sheep pox, PPR, Enterotoxaemia, Brucellosis, Tuberculosis, Foot and mouth disease, Rabies, John's disease, Glanders, Classical swine fever and metabolic disease etc. Insecticide toxicities and poisonous plants, Preventive health measures for bacterial, viral and parasitic diseases in various species.

Practical: Nursing care and client education in control and prevention of prevalent diseases. Testing of animals for TB/JD and Brucellosis; Testing of fodder samples; Cyanide toxicity etc; Vaccination for different diseases in animals.

2. Elementary Parasitology (AUVS-212) (2+1)

Theory: Introduction to common parasites i.e. protozoa, trematodes, cestodes, nematodes and arthropods in livestock; Economic importance of parasitic diseases of livestock, Ecto and Endo paraciticides.

Practical: Demonstration of endo and ecto parasites; Demonstration of eggs/oocysts of Parasites, preparation of blood smears and common staining techniques for demonstration of blood protozoa. Procedure for collection and dispatch of clinical samples (Blood fecal and skin scraping) to Parasitological laboratory

3. Veterinary Hospital Maintenance (AUVS-213) (2+1)

Theory: Maintenance of case record; Basic accounting; Preparation of bills and maintenance of consumable and non-consumable stock of hospital; Preparation of animals for surgical operations; Care and maintenance of surgical and anesthetic equipment's; Assisting veterinary surgeon in operative and post-operative care; Sterilization of operation theatre; Surgical pack and surgical instruments; Type of suture material.

Practical: Maintenance of case records; Maintenance of stock register; Administration of drugs; Handling and care of instruments and equipment's; Preparation of surgical pack; sterilization of surgical instruments; Preparation of animals for surgical procedure; Assisting veterinary surgeon in operative and post-operative care; Sterilization of operation theatre; Handling of biomedical waste.

4. Elementary Veterinary Medicine (AUVS-214)

(2+1)

Theory: Introduction to diseases of digestive, respiratory, musculo-skeletal, urinary and nervous system; Mastitis; Milk fever ; Ketosis; Haemoglobinuria; Deficiency diseases caused by minerals and vitamins.

Practical : Signs of healthy and disease animals; Method of drenching, dipping, bathing, spray; First aid in animals; Recording of temperature, pulse, respiration rate , examination of mucus membranes in healthy and diseases animals; Intravenous ; intramuscular , subcutaneous, oral and topical routes of drug administration; Collection of milk sample; Recording of ruminal motility; collection of ruminal liquor; Passing of stomach tube.

5. Elements of wound care and Management (AUVS-215)

(2+1)

Theory: Wound; causes and classification; Type of wound dressings; Basic concepts of abscess; Ulcer; Rematoma, cyst, tumour and hernia; clinical use of antiseptic, fly repellents, anti maggot etc; First aid kit in sick animals including fracture cases, Management of bloat; Hoof care.

Practical; Handling of animals; Dressing of aseptic, infected and maggot wounds; Use of sling; Dressings of bandages of surgical wounds; First aid in traumatized animal.

SECOND YEAR	SEMESTER-IV
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Last six months of training program me shall include hands on training at Veterinary Hospital Livestock Farms, sperm station and diagnostic labs.

Practical Training (AUVS-221)

0+15 (NC)

a) Veterinary Hospital (At Subdivision Level/Polyclinics): 3 months.

Training at hospital include handling and dealing with sick animals, Record keeping medication; Post-operative management of surgical patients; Vaccination; Artificial insemination, Preparation of solutions, lotions, tinctures, ointments, mixture (carminative, laxatives, purgatives, febrifuge etc.); Electuaries, etc. Castration, use of dehorner, mouth gags, twitch, hoof cutter, trochar & cannula, teat siphon, stomach tube, tagging and tattooing and all routine hospital jobs.

b) Livestock Farms: (2 months)

(Cattle farm, Poultry farm, Sheep farm-20 days each).

Handling management practices of dairy farm; Poultry farm; Piggery farm; Rabbit farm; Sheep and Goat farm, Care of pregnant animals; Routine farm operation including vaccination, deworming, Maintenance of records etc, Communication with farmers; Organizing meeting etc; Extension programmes; Animal welfare cams.

c) Sperm Station: (15 Days)

Management of breeding bull; Preparation of dummy; Artificial vagina preparation; Preparation of extenders, handling of chilled and frozen semen; Storage of semen; Handling of liquid nitrogen including its containers, record keeping etc.

d) Diagnostic Laboratory: (15 Days)

Handling of laboratory equipment; Methods for sending various samples to laboratory for examination; Blood smear preparation; Staining; Complete blood cell count; Serum and plasma separation; Preservation of serum plasma and tissues; Urine examination; Preparation of smears for faecal examination.

Brief Examination schedule and marks details for Veterinary Pharmacist Training course.

Papers	Course Title	Course No.	Internal Marks		External Marks	
			Theory (20%)	Practical (10%)	Theory (50%)	Practical (20%)
Paper-I (First Year)	i) Elementary Animal Husbandry	AUVS-111	10	5	10	5
	ii) Elementary Livestock Handling	AUVS-112	10	5	10	5
	iii) Elementary Animal Nutrition	AUVS-113	10	5	10	5
	iv) Basic of Computer Applications	AUVS-114	10	10	0	10
	v) Elementary Anatomy & Physiology of Animal	AUVS-115	10	10	10	10
	vi) Basic Clinical Pathology & Lab Techniques	AUVS-116	10	2	10	5
	Total			50	40	50
Paper-II (First Year)	i) Elementary Pharmacology	AUVS-121	10	5	10	5
	ii) Elementary Poultry science	AUVS-122	5	5	5	5
	iii) Elementary Animal Husbandry Extension	AUVS-123	5	5	5	5
	iv) Elementary Animal reproduction	AUVS-124	10	5	10	5
	v) Elementary Andrology & Artificial insemination	AUVS-125	10	5	10	5
	vi) Elementary Vety Epidemiology & Public Health	AUVS-126	5	5	5	5
	Total			45	30	45
Paper-III (Second Year)	Introduction to Animal Diseases & Management	AUVS-211	10	5	10	5
	Elementary Parasitology	AUVS-212	10	5	10	5
	Veterinary Hospital Maintance	AUVS-213	10	5	10	5
	Elementary Veterinary Medicine	AUVS-214	10	5	10	5
	Elements of Wound Care & Management	AUVS-215	10	5	10	5
	Total			50	25	50
Paper-IV (Second Year)				30%		70%
	Veterinary Hospital	AUVS-221		20		100(to be evaluated for training at various farms & Hospital
	Cattle Farm			20		
	Poultry Farm			15		
	Sheep Farm			15		
	Sperm Station			15		
	DI Lab			15		
Total				100		100

*Pass percentage should be 50% of total Internal External marks.

*Training in charge of concerned institute, shall evaluate the trainees and send the marks, along with attendance report.