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SYLLABUS
OF
DIPLOMA IN VETERINARY
AND ANIMAL SCIENCES

First Year
Paper -I: Introductory Anatomy

Paper Code – DVAS-111

Cr. Hrs 3 (2+1)

Maximum Time : 3 Hrs.

University Examination Marks: 70
Continuous Internal Assessment : 30

Marks Total marks : 100

Minimum Pass Marks : 40%

Instruction for paper setter

- 1. The question paper will consist of two sections namely A & B. Both sections are compulsory.**
- 2. Section A will comprise of 15 short answer type questions (3 questions from each unit).The candidate have to attend any 10 questions. Each question will carry 2.5 marks.**
- 3. Section B will contain 5 descriptive type questions(one question from each unit).The candidate have to attend any three questions. Each question will carry 15 marks.**

UNIT-I

- Cell structure , Tissue Structure
- Study of bones- Glossary of osteology, Classification, work and identification of various bones of the body of cow, horse, dog, sheep, pig, and poultry and comparison thereof
- Study of joints and hinges of the body

UNIT-II

- Study of muscles and tendons of leg and neck.
- Study of skin and others e.g. epidermis, dermis, hypodermis, sweat glands of skin, horn, claws, chest nut etc.

UNIT-III

- Digestive system – mouth, tonsils, pharynx, esophagus , ruminant and non ruminant stomach , small intestine, large intestine, associated organs and digestive gland for digestion .
- Respiratory system – nostril, nasal cavity , sinus, pharynx , larynx, trachea, lungs, thorax, pleura.

UNIT-IV

- Circulatory system – heart, blood arteries, veins, portal circulation , foetal circulation, lymphatic system.
- Excretion system – Structure of kidney, ureter, bladder , urethera, Structure of nephrons, micuration etc.

UNIT-V

- Female genital system – Ovary , Uterine tube, Uterus, vagina , vulvas, blood arteries and nerves related to genital system.
- Male genital system – testis, scrotum, epididimus, ductus deferens, penis, muscles, blood arteries, nerves related to genital system, accessory sex glands.
- Structure of udder.

Practical

Maximum Time : 3 Hrs.

University Examination : 80 Marks

Total Marks : 100

Continuous Internal Assessment : 20Marks

Minimum Pass Marks : 40%

Practical introductory study of following using charts, models and basic laboratory facilities :

- Cell Structure, Tissue Structure
- Study of bones – Glossary of osteology, classification, work and identification of various bones of the body of cow, horse, dog, sheep, pig and poultry and comparison thereof.
- Study of joints and hinges of the bodes
- Study of muscles and tendons of leg and neck
- Study of skin and others e.g. epidermis, hypodermis, sweat glands of skin, horn, claws, chest nut etc.
- Digestive system – mouth, tonsils, pharynx, esophagus, ruminant and non-ruminant stomach, small intestine, large intestine, associated organs and digestive gland for digestion.
- Respiratory system – nostril, nasal cavity, sinus, pharynx, larynx, trachea, lungs, thorax, pleura, respiratory physiology.

- Circulatory system – heart, blood arteries, veins, portal circulation, fetal circulation, lymphatic system.
- Excretion system – Structure of kidney, ureter, bladder, urethra, working of kidneys, structure of nephrons, micturation etc.
- Female genital system – ovary, uterine tube, uterus, vagina, vulva, blood arteries and nerves related to genital system.
- Male genital system – Testis, scrotum, epididimus, duct us deferens, penis, muscles, blood arteries, nerves related to genital system, accessory sex glands, secondary sex characters.
- Structure of udder.

Paper -II: Introductory Physiology and Biochemistry

Paper Code –DVAS-112

Cr. Hrs-3(2+1)

Maximum Time : 3 Hrs.

University Examination : 70 Marks

Continuous Internal Assessment : 30 Marks

Total marks : 100

Minimum Pass Marks : 40%

Instruction for paper setter

- 1. The question paper will consist of two sections namely A & B. Both sections are compulsory.**
- 2. Section A will comprise of 15 short answer type questions (3 questions from each unit).The candidate have to attend any 10 questions. Each question will carry 2.5 marks.**
- 3. Section B will contain 5 descriptive type questions(one question from each unit).The candidate have to attend any three questions. Each question will carry 15 marks.**

UNIT- I

- General physiology and biochemistry of muscles i.e. smooth, cardiac, voluntary striated muscles.
- General physiology and biochemistry of body fluids : Formation of blood cells, haemopoiesis , plasma, serum, blood PH , blood clot formation, various types of blood cells, lymph, cerebrospinal fluid, synovial fluid.

UNIT- II

- General physiology and biochemistry of digestive system – Chemical structure of blood viz. carbohydrate , fat, protein , minerals, vitamins etc. Prehension, mastication, swallowing , gastric movements, physiology of small and large intestine, digestion in ruminants and non-ruminants and their comparative study, various enzymes used during digestion, absorption of feed ingredients, metabolism of protein , carbohydrate and fat Digestive glands e.g. Salivary glands, gall bladders, pancreas and their functions.

UNIT- III

- General physiology and biochemistry of circulatory system – Cardiac cycle , system of heart , nervous control of blood flow, shock (blood volume and pressure) venous and lymphatic return.
- General physiology and biochemistry of respiratory system-mechanism of respiration , respiratory action , dead space , artificial respiration, exchange of gases etc.

UNIT- IV

- General physiology and biochemistry of urinary system-physiology of kidney and nephron.
- General physiology and biochemistry of milk letdown-milk secretion, galactopoesis, letdown of milk, agalactia.

UNIT- V

- General physiology and biochemistry of female genital system – puberty, oogenesis ovulation , formation of corpus luteum, estrous cycle , hormones of female genital system, pregnancy and parturition.
- General physiology and biochemistry of male genital system – Erection , Ejaculation, hormones of male genital system, factors affecting working of testis, Spermatogenesis, spermatozoa, working of accessory glands.

Practical

Maximum Time : 3 Hrs.

University Examination : 80 Marks

Total Marks : 100

Continuous Internal Assessment : 20Marks

Minimum Pass Marks : 40%

Practical introductory study of following using charts, models and basic laboratory facilities :

- Physiology of muscles i.e. smooth, cardiac, voluntary striated muscles.
- Formation of blood cells, haemopoiesis, plasma, serum, blood pH, blood clot formation, various fluid, serum, macrophages and immunity.
- Physiology of digestive system – Chemical structure of food viz carbohydrate, fat, protein, minerals, vitamins, biochemical agents etc. Pre-tension, mastication, swallowing, gastric movements, physiology of small and large intestine, digestion in ruminants and non-ruminants and their comparative study, various enzymes used during digestion, absorption of feed

ingredients, metabolism of protein, carbohydrate and fat. Digestive glands e.g salivary glands, gall bladder, pancreas and their functions.

- Physiology of respiratory system - Mechanism of respiration, respiratory action space, artificial respiration exchange of gases etc.
- Physiology of circulatory system – Cardiac cycle, system of heart, nervous control of blood flow, shock (blood volume and pressure), Venous & lymphatic return,
- Physiology and bio-chemistry of urinary system- Physiology of kidney & nephron.
- Physiology of female genital system – Puberty, oogenesis ovulation, formation of corpus luteum, estrous cycle, hormones of female genital system, pregnancy & parturition.
- Physiology of male genital system – erection, ejaculation, hormones of male genital system, factors affecting working of testis, spermatogenesis, spermatozoa, working of accessory glands.
- Physiology of milk letdown – Milk secretion, galactopoiesis, letdown of milk,agalactia.

Paper -III: Introductory Animal Management and Health Science

Paper Code –DVAS-113

Cr. Hrs- 3 (2+1)

Maximum Time : 3 Hrs.

University Examination : 70 Marks

Continuous Internal Assessment : 30 Marks

Total marks : 100

Minimum Pass Marks : 40%

Instruction for paper setter

- 1. The question paper will consist of two sections namely A & B. Both sections are compulsory.**
- 2. Section A will comprise of 15 short answer type questions (3 questions from each unit).The candidate have to attend any 10 questions. Each question will carry 2.5 marks.**
- 3. Section B will contain 5 descriptive type questions(one question from each unit).The candidate have to attend any three questions. Each question will carry 15 marks.**

UNIT – I

- Economic importance of animals and their products .
- Methods of identification of animals by firing, numbering , tattooing , ear tagging, foot rings and numbers at foot .
- Normal temperature, pulse and respiration of animals.
- Weighing of animal by girth and length.

UNIT – II

- Information of various breeds habitat qualities of cow, buffalo, sheep, goat, camel, pig and poultry, Information of exotic breeds.
- Animal Management – General information like handling of animals and their control, use of nose ring and bull holder etc.
- Determination of age by dentition of cow , sheep, goat, horse and camel.

UNIT – III

- Ideal animal house of cow – animal house for organized dairy form.
- Lay out and construction of poultry house.
- Cleanliness of animals sheds – purpose, methods etc.

UNIT – IV

- Management of dry cow reason for drying of cow (non-milking) , management of pregnant cow.
- Management of cow – during and after parturition. Parturition at separate sanitize chamber, prevention from milk fever, shedding of placenta and post parturient care.

- Nursing care of neonate before and after birth, colostrum feeding, housing of neonate , castration, dehorning and prevention from diseases.

UNIT – V

- Care and management of calf.
- Importance of care of dairy bull, training, housing , exercise for reproduction etc.
- Production of milk – purpose , method , pathogenic agents and prevention thereof.

Practical

Maximum Time : 3 Hrs.

University Examination : 80 Marks

Total Marks : 100

Continuous Internal Assessment : 20Marks

Minimum Pass Marks : 40%

Practical introductory study of following using charts, models and basic laboratory facilities:

- Controlling of animal by taking around animal house and veterinary hospitals.
- Marking of animals, firing and weighing.
- Letdown of milk by full hand milking.
- Castration of mate calf and dehorning of calf.
- Detection of normal body temperature, respiration and pulse.
- Ideal animal house visit and study thereof.
- To visit poultry and study thereof.
- Disinfection of animal house and milking utensils.

Paper -IV: Animal Husbandry Extension , Developmental Programmes Swine Husbandry and Poultry

Paper Code –DVAS-114

Cr. Hrs- 3 (2+1)

Maximum Time : 3 Hrs.

University Examination : 70 Marks

Continuous Internal Assessment : 30 Marks

Total marks : 100

Minimum Pass Marks : 40%

Instruction for paper setter

- 1. The question paper will consist of two sections namely A & B. Both sections are compulsory.**
- 2. Section A will comprise of 15 short answer type questions (3 questions from each unit).The candidate have to attend any 10 questions. Each question will carry 2.5 marks.**
- 3. Section B will contain 5 descriptive type questions(one question from each unit).The candidate have to attend any three questions. Each question will carry 15 marks.**

UNIT – 1

- Role and importance of extension.
- Knowledge of animal husbandry extension education.
- General knowledge of animal husbandry extension programmes.

UNIT – II

- Routine information of working of veterinary hospital.
- To manage various registers of hospital.
- Milk recording , herd registration, full registration, owner registration, artificial insemination, follow up should be visualized.

UNIT – III

- Role of audio – visual aid in extension.
- Selection of progressive animal owner in village.
- Meeting , seminars, rallies etc. at village level and their importance.

UNIT – IV

- Knowledge of working and powers of officials of the department.
- Knowledge of various schemes and programmes of the department.

UNIT – V

- **Animal production programme (individual benefit scheme).**
 - (I) Cross breeding programme.
 - (II) Information of departmental activities of poultry farming and swine husbandry .

Practical

Maximum Time : 3 Hrs.

University Examination : 80 Marks

Total Marks : 100

Continuous Internal Assessment : 20Marks

Minimum Pass Marks : 40%

- Visit of animal fair of state level, study of departmental activities by audio visual aid chart model etc in fairs.
- To organize meeting, seminars at village level and to deliver departmental programmes to animal owners.
- Milk recording herd registration bull registration etc. near to the hospital.
- To participate in animal show, calf shows milk competition organized by the department.

Paper -V: Introductory Animal Breeding and Genetics.

Paper Code –DVAS-115

Cr. Hrs- 2 (1+1)

Maximum Time : 3 Hrs.

University Examination : 70 Marks

Continuous Internal Assessment : 30 Marks

Total marks : 100

Minimum Pass Marks : 40%

Instruction for paper setter

- 1. The question paper will consist of two sections namely A & B. Both sections are compulsory.**
- 2. Section A will comprise of 15 short answer type questions (3 questions from each unit).The candidate have to attend any 10 questions. Each question will carry 2.5 marks.**
- 3. Section B will contain 5 descriptive type questions(one question from each unit).The candidate have to attend any three questions. Each question will carry 15 marks.**

UNIT – I

- Heredity – Definition , classification etc.
- Chemical basis of genetics – Structure of DNA and RNA

UNIT – II

- Mendals law of heredity.

UNIT – III

- Sexual heredity – No. of chromosome , homologous , heterologous chromosome, sex determination.
- Mutation , types of mutation , Effect of mutation.

UNIT – IV

- Breeding rules in animals especially cross breeding , selective breeding , upgrading breeding and culling.
- Technique to improve breeding performance.

UNIT – V

- Importance of progeny testing and proven sire.
- Importance and maintenance of pedigree record, progeny record and breeding records.

Practical

Maximum Time : 3 Hrs.

University Examination : 80 Marks

Total Marks : 100

Continuous Internal Assessment : 20Marks

Minimum Pass Marks : 40%

- Practical aspects of theory syllabus and basic statistical principles and practice.
- Practical aspects of theory syllabus and basic computer operative and practice.

Paper-1 Introductory Veterinary pharmacology

Paper Code – DVAS-211

Cr. Hrs- 3 (2+1)

Maximum Time : 3 Hrs.

University Examination : 70 Marks

Continuous Internal Assessment : 30 Marks

Total marks : 100

Minimum Pass Marks : 40%

Instruction for paper setter

- 1. The question paper will consist of two sections namely A & B. Both sections are compulsory.**
- 2. Section A will comprise of 15 short answer type questions (3 questions from each unit).The candidate have to attend any 10 questions. Each question will carry 2.5 marks.**
- 3. Section B will contain 5 descriptive type questions(one question from each unit).The candidate have to attend any three questions. Each question will carry 15 marks.**

UNIT-I

- Glossary of pharmacology viz. Indian pharmacopoeia, British pharmacopoeia,
- Meteorology, weight and measures , their symbol used during prescription
- Compounding and dispensing, powders, mixtures electuary, ointment, lotion, paste, pultis, procedure and application/ uses
- Route of administration of drugs viz. per os, per nose, per rectum, in urogenital tract, topical application etc injections i.e. intravenous, intramuscular, subcutaneous, intratracheal, intraruminal,

UNIT-II

- Posology/ doses factors affecting dose rate viz. age, body weight, sex, environment, habitat, disease, route of administration, effect of drug, rate of excretion of drug.
- Pharmaceutical classification, table of veterinary formulae and pharmacopial formulae viz. manufacturing drugs having base as water, alcohol, vinegar, oil etc.
- Result of drug action.

UNIT-III

MATERIA MEDICA

- Alkali metal and ammonia- sodium chloride, sodium hydroxide, sodium carbonate, sodium bicarbonate, potassium chloride, potassium permanganate, potassium carbonate, potassium bicarbonate, potassium nitrate, potassium iodide, sodium citrate, ammonium chloride, liquor ammonia fort, ammonium carbonate, spirit ammonia aromaticus.
- Alkali earth metal – calcium chloride, calcium gluconate, calcium borogluconate, calcium lactose, calcium phosphate, calcium hydroxide, creatapreparata , plaster of paris, magnesium carbonate, magnesium sulphate.
- Heavy metals- Aluminium hydroxide, kaolin, lead acetate, zinc sulphate, zinc oxide, calamine, copper sulphate, silver nitrate, mercurous chloride (calomel), bin iodide of mercury, mercurochrome, argirol, pretargol, ferrous sulphate, ferric chloride, tincture ferri-perchloride, cabalt chloride.
- Metalloids- bismuth carbonate, bismuth subnitrate, potassium antimony tartrate (tartar emetics), Acetyl arsan, suramin, arsenic trioxide, calcium glycerophosphate.
- Non-metal halogen – chlorine, iodine, oxygen, sulphur (sublimed), wood charcoal.

UNIT-IV

SYSTEMIC PHARMACOLOGY

- Drugs act on Brain, nervous system- volatile general anaesthetic (chloroform, ether, trilene, ethylene, CCl₄). Narcotics (alcohol), chloral hydrate, urea derivative (Barbiturates) sulfonyl, group (sulfonal), alkaloid narcotics (opium, morphine, codeine) cannabis cocaine, Nux Vomica , nikethamide, musk, belladonna, hyocyamus, Dhatura stramonium, vasaka, jabacco, carbachol.
- Drugs act on digestive system-
- Digestive ferments, vegetable bitters and sweetening agents – Pulv zinger, malt, pepsin, sucrose, honey, saccharine.
- Purgative- castor oil, tincture asafetida, oil of alsii, croton oil, linseed oil, aloe
- Emollients and demulcents – Olive oil, ground nut oil, cotton seed oil, mustard oil, coconut oil, liquid paraffin, glycerin, gum acacia, starch barley
- Vegetable astringent – Tannic acid, catechu
- Carminative group – clove oil, cardamom, coriandrum, antithum, anisi, Cinnamon
- Counter irritant group – Turpentine, eucalyptus capcicum, black pippers, garlic, onion.
- Urinary antiseptic and diuretic- Sandle wood
- Solid volatile oil – Camphor, menthol, thymol
- Aloe, gum, resins – Asafoetida.

UNIT – V

- Anthelmentic-
- Round worm and hook worm – oil of chinapodium, piperazine adipate, diethyl/ carbamazine CCl₄
- Stomach worm – Fenovas, promentic, Butia semina, Beronia
- Tape worm – Nux acacia, Diclorofen, Kamala, pumpkin seed.
- Fluke worm – CCl₄
- Blood worm – Tarter emetics, Neguvon.

- Drugs act on circulatory system – cardiac depressant (aconite) cardiac tonic (digitalis, siquil), vasodilator (amylnitrate), vasoconstrictor(Adrenaline, amphetamine).
- Drugs act on respiratory system- expectorant (ipecacuhana)
- Drugs act on reproductive system – Caffeine, sodium salicylate, potassium nitrate, theobromine, theophylline, ergot, oxytocin
- Drugs act on skin (integumentary system) – paraffin, Vaseline, lard wax, gamaxene, soap, detergent, cetramide etc.
- Dosage and mode of action of sulpha drugs
- Incompatibility, tonic drugs and prevention thereof.

Practical

Maximum Time : 3 Hrs.

University Examination : 80 Marks

Total Marks : 100

Continuous Internal Assessment : 20Marks

Minimum Pass Marks : 40%

- Administration of drug viz per oral nose per-rectum, urogenital, injections (i/m,i/v/, s/c, i/ruminal, i/peritoneal, i/spinal) etc.
- Identification of drug by there physical or chemical effect.
- To understand prescription of a veterinarian and to treat to the animal accordingly.
- To prepare lotion, ointment, elector, mixtures, pastes and pultis.
- To prepare carminative, astringent, cough, mixtures etc.
- Knowledge of weight and measures.
- Collection of blood urine, faeces and milk for lab. exam and dispatch of sampling,

Paper-II: Veterinary Medicine

Paper Code –DVAS-212

Cr. Hrs- 4 (2+2)

Maximum Time : 3 Hrs.

University Examination : 70 Marks
Continuous Internal Assessment : 30 Marks

Total marks : 100

Minimum Pass Marks : 40%

Instruction for paper setter

1. The question paper will consist of two sections namely A & B. Both sections are compulsory.
2. Section A will comprise of 15 short answer type questions (3 questions from each unit).The candidate have to attend any 10 questions. Each question will carry 2.5 marks.
3. Section B will contain 5 descriptive type questions(one question from each unit).The candidate have to attend any three questions. Each question will carry 15 marks.

UNIT – I

- Sign in healthy and diseased animal – History, etiology, diagnosis, signs, treatment, death
- General principle of diagnosis – temperature, respiratory movement, pulse reading.
- Diseases of digestive system – Stomatitis Pharyngitis, choke, simple indigestion, bloat, impaction of rumen, colic, constipation and enteritis, dysentery, traumatic reticulitis, traumatic pericarditis, intestinal obstruction, hepatitis, jaundice, liver cirrhosis.

UNIT – II

- Diseases of respiratory system – URI, Epitaxis, Pneumonia, drenching pneumonia, pleuricy, bovine asthma.
- Diseases of urinary system – Nephritis, urinary calculi, retention of urine, hematuria
- Diseases of reproductive system – Mastitis, metritis, pyometra, dystocia, retention of placenta.

UNIT-III

- Diseases of nervous system – Meningitis, encephalitis
- Metabolic diseases – Milk fever, downer cow syndrome, ketosis, hemoglobin urea, hypomagnaesmic tetany, Avitaminosis-A, pica.
- Disease of skin, eye, ear, and joints – Dermatitis, eczema, scabies, conjunctivitis, otitis, rheumatism.

UNIT- IV

- Bacterial diseases – Anthrax, H.S., B.Q, Brucellosis, T.B. Actinomycosis, leptospirosis, salmonellosis, contagious pleuropneumonia, calf pneumonia, tetanus, enterotoxaemia, bacillary haemoglobinuria, Naval ill, foot rot.
- Fungal diseases – Ringworm, aflatoxicosis, fungal mastitis

- Toxicology – Poisons (types, effects, treatment, etc) – Arsanic, lead, cyanide, nitrate, nitrate etc

UNIT- V

- Viral diseases – R.P., F.M.D. Pox (cow pox, sheep pox, goat pox, fowl pox etc.) Rabies, bovine malignant catarrh, mucosal disease complex, ephemeral fever, mycoplasma, African horse sickness, Ranikhet, Marek's disease, pullorum disease, CRD.
- Parasitic Disease –
- Protozoan diseases – Anaplasmosis, Theilariasis, Babesiosis, surra, Leishmaniasis
- Internal parasitic diseases – liver fluke, Amphistomiasis, Ascariasis, Tapeworm, Parasites of digestive tract, Schistosarcosis, Coccidiosis.
- External parasitic diseases – Nasal granuloma, filarial, myasis, mange, ticks, lice infestation.

Practical

Maximum Time : 3 Hrs.

University Examination : 80 Marks

Total Marks : 100

Continuous Internal Assessment : 20Marks

Minimum Pass Marks : 40%

- Clinical Attendance, administration of drugs care and management of sick indoor and out door animals.
- Diagnose the disease by recording sighs, temperature, pulse, respiration.
- Sampling of blood, faeces, urine, milk etc. for laboratory diagnosis.
- Introduction to veterinary laboratory diagnosis.

Paper –III: Minor Surgery

Paper Code – DVAS-213

Cr. Hrs- 4 (2+2)

Maximum Time : 3 Hrs.

**University Examination : 70 Marks
Continuous Internal Assessment : 30 Marks**

Total marks : 100

Minimum Pass Marks : 40%

Instruction for paper setter

- 1. The question paper will consist of two sections namely A & B. Both sections are compulsory.**
- 2. Section A will comprise of 15 short answer type questions (3 questions from each unit).The candidate have to attend any 10 questions. Each question will carry 2.5 marks.**
- 3. Section B will contain 5 descriptive type questions(one question from each unit).The candidate have to attend any three questions. Each question will carry 15 marks.**

UNIT – I

- Methods of sterilization
- Definition of sepsis and asepsis

UNIT – II

- First aid for animal wound and abscess
- Anaesthetization of animal.

UNIT – III

- Knowledge of instrument, used in laboratory or hospitals.
- Suturing of skin and the instrument used there of.

UNIT – IV

- Dislocation, sprain in animals – sign and treatment
- Various types of bone fractures and their treatment

UNIT – V

- Firing, Tattooing, Dehorning, Docking

Practical

Maximum Time : 3 Hrs.

Total Marks : 100

Minimum Pass Marks : 40%

University Examination : 80 Marks

Continuous Internal Assessment : 20Marks

- Awareness and uses of surgical instruments.
- Sanitization of instruments used in hospital, first-aid and bandaging of wounds etc.
- To prepare site for operation and to help veterinary doctor during operation.
- Demonstration of castration and other minor surgical procedures.

Paper-IV: Animal feeds and Animal Nutrition.

Paper Code – DVAS-214

Cr. Hrs- 2 (1+1)

Maximum Time : 3 Hrs.

University Examination : 70 Marks

Continuous Internal Assessment : 30 Marks

Total marks : 100

Minimum Pass Marks : 40%

Instruction for paper setter

1. The question paper will consist of two sections namely A & B. Both section are compulsory.
2. Section A will comprise of 15 short answer type questions (3 questions from each unit).The candidate have to attend any 10 questions. Each question will carry 2.5 marks.
3. Section B will contain 5 descriptive type questions(one question from each unit).The candidate have to attend any three questions. Each question will carry 15 marks.

UNIT- I

- Biochemical classification of animal feed, nutrients and their effects on animal body
- Enzymes, vitamins, hormones

UNIT – II

- Feed standards
- Economics status of animal feed
- Methods for preparation of ration

UNIT – III

- Name and utility of feed stuffs used for animal nutrition
- Utility of trees as roughage
- Toxic plants and poisonous food stuffs.

UNIT – IV

- Grazing farm management
- Preparation of hay and silage

UNIT – V

- Feeding of diseased Animals
- Feeding management of different animals like young ones, pregnant animals, dry/lactating animals, breedable male

Practical

Maximum Time : 3 Hrs.

University Examination : 80 Marks

Total Marks : 100

Continuous Internal Assessment : 20Marks

Minimum Pass Marks : 40%

- Preparation and identification of concentrate, roughage, crops, trees and cereals as animal feed.

Paper – V: Animal Reproduction

Paper Code – DVAS-215

Cr. Hrs- 4 (2+2)

Maximum Time : 3 Hrs.

**University Examination : 70 Marks
Continuous Internal Assessment : 30 Marks**

Total marks : 100

Minimum Pass Marks : 40%

Instruction for paper setter

- 1. The question paper will consist of two sections namely A & B. Both sections are compulsory.**
- 2. Section A will comprise of 15 short answer type questions (3 questions from each unit).The candidate have to attend any 10 questions. Each question will carry 2.5 marks.**
- 3. Section B will contain 5 descriptive type questions (one question from each unit).The candidate have to attend any three questions. Each question will carry 15 marks.**

UNIT- I

- Physiology of reproduction – Puberty, estrus cycle, sign of heat, reproductive hormones, conception, gestation and parturition and their importance

UNIT – II

- Artificial insemination – character, collection, preservation and transportation, insemination by speculum / per rectal route, use of frozen semen, details of insemination technique, preservation and usefulness of frozen semen, character and precautions of liquid nitrogen.

UNIT – III

- Knowledge of instrument used during artificial insemination, sanitization of cryogenic jar and their maintenance
- Maintenance of artificial insemination and breeding records.

UNIT – IV

- Obstetrical knowledge and their treatment

UNIT – V

- Anoestrus, sterility/ infertility, silent heat, repeat breeding etc.

Practical

Maximum Time : 3 Hrs.

University Examination : 80 Marks

Total Marks : 100

Continuous Internal Assessment : 20Marks

Minimum Pass Marks : 40%

- To get knowledge of reproductive organs. Live animals/reproductive organs obtained from slaughter house/fantom box etc.
- Per rectal examination of reproductive organs.
- Pregnancy diagnosis.
- Artificial insemination – Thawing, preparation of A.I. gun, practice of artificial insemination.
- Maintenance of frozen semen, jar and apparatus used in artificial insemination.
- Practical knowledge in case of retention of placenta.