

ANNEXURE-III**SCHEME AND SYLLABUS FOR RECRUITMENT TO THE POST OF VETERINARY ASSISTANT SURGEON UNDER THE CONTROL OF DIRECTOR, VETERINARY AND ANIMAL HUSBANDRY DEPARTMENT****FOR PC. NO. 01:- VETERINARY ASSISTANT SURGEON (CLASS –A)****SCHEME OF EXAMINATION**

| Written Examination(objective type) | No. of Questions | Duration (Minutes) | Maximum Marks |
|---|-------------------------|---------------------------|----------------------|
| PAPER-I: General Studies And General Abilities | 150 | 150 | 150 |
| PAPER-II: Veterinary Science (Degree Level) | 150 | 150 | 300 |
| Total Marks | | | 450 |

| Name of the Papers | Language of Examination |
|--|------------------------------------|
| Paper-I: General Studies and General Abilities | Bilingual i.e., English and Telugu |
| Paper-II: Veterinary Science (Degree Level) | English |

Syllabus**PAPER-I: GENERAL STUDIES AND GENERAL ABILITIES**

1. Current affairs – Regional, National and International.
2. International Relations and Events.
3. General Science; India's Achievements in Science and Technology.
4. Environmental issues; Disaster Management- Prevention and Mitigation Strategies.
5. Economic and Social Development of India and Telangana.
6. Physical, Social and Economic Geography of India.
7. Physical, Social and Economic Geography and Demography of Telangana.
8. Socio-economic, Political and Cultural History of Modern India with special emphasis on Indian National Movement.
9. Socio-economic, Political and Cultural History of Telangana with special emphasis on Telangana Statehood Movement and formation of Telangana state.
10. Indian Constitution; Indian Political System; Governance and Public Policy.
11. Social Exclusion; Rights issues such as Gender, Caste, Tribe, Disability etc. and inclusive policies.
12. Society, Culture, Heritage, Arts and Literature of Telangana.
13. Policies of Telangana State.
14. Logical Reasoning; Analytical Ability and Data Interpretation.
15. Basic English. (10th Class Standard)

PAPER-II: VETERINARY SCIENCE (DEGREE LEVEL)

UNIT I: General

Role of livestock and their products in Indian economy and human health; Current livestock programmes and policies of state and Nation; Economics of dairy, Sheep, goat, poultry, pig, rabbit farming and fisheries; Constraints to the livestock development programs.

UNIT II: Livestock Management

Common terms used in Animal Husbandry; Demography of livestock; Housing, handling, restraining, ageing, breeding, feeding and caring of different age groups of different species of animals including zoo/wild and lab animals; Economic project proposal for housing and maintenance of livestock, poultry and lab animals; Routine farm practices of livestock and commercial poultry; Strategies for enhancing productivity through livestock improvement; Quality maintenance of livestock by-products; Fodder production and management; Maintenance of labour, accounts and farm records.

UNIT III: Animal Nutrition

Nutritional terms and definitions; Role of nutrition in livestock health and production; classification and composition of feeds and fodders including forest grasses; Antinutritional factors and toxins in feeds and fodders; Feeding standards and nutrient requirements of different categories of livestock and computation of rations; Nutritional deficiency and its influence on livestock performance; Feed supplements and additives; Conservation and preservation of feeds and fodders; Economic utilization of agro by-products for feeding livestock; Utilization of unconventional feeds; Wildlife nutrition.

UNIT IV: Animal Breeding and Genetics

Important breeds of cattle, buffalo, sheep, goat, pig, dog, horse and poultry, with special reference to economic traits of farm animals; Breeding of important species of zoo/wild animals. Breeding livestock for high performance and disease resistance; Principles of genetics; Nature of DNA and RNA-their models and functions; Applications of recombinant DNA technology, cloning and role of gene actions and cytogenetics; Types of mating; Animal breeding policies and programmes in State and Nation.

UNIT V: Veterinary Anatomy, Physiology and Biochemistry

Gross study of bones, joints, muscles of skeleton; Gross study of organs of digestive, respiratory, circulatory, urinary, nervous and reproductive systems; Mechanism of respiration; General functions of blood and its constituents (blood cells, plasma & serum and coagulation); Cardio Vascular, Nervous, Muscular and respiratory systems; Hormonal control of Lactogenesis; Environmental factors affecting animal production; Environmental stress on animal performance; Green house gases-role of ruminants; Digestion, absorption and metabolism of carbohydrates, proteins, fats and other nutrients in simple stomach animals and ruminants.

UNIT VI: Veterinary Microbiology, Pathology, Parasitology and Pharmacology

Aetiology, morphology, life cycle, transmission, pathogenesis, symptoms, lesions, diagnosis, treatment, control and prevention of bacterial, viral, fungal, Chlamydial, rickettsial diseases of livestock, poultry and zoo/wild animals; Organs/tissues/cells of Immune system; infection and immunity; type and grades of immunity, serological reactions and modern diagnostic techniques; Principles of vaccine production, different types of vaccines, storage and their administration.

Concept and cause of disease in animals; General principles and procedures of necropsy; collection, preservation and dispatch of morbid materials for laboratory diagnosis, disease investigation; Veterolegal cases, writing of post-mortem report, notified diseases; General pathological conditions in bacterial, viral, fungal, Chlamydia, Rickettsial, parasitic diseases, neoplasm's, nutritional, metabolic, toxic, allergic and autoimmune diseases of livestock, poultry and zoo/wild animals; Emerging and re-emerging diseases of livestock.

Aetiology, morphology, life cycle, transmission, pathogenesis, symptoms, lesions, diagnosis, treatment, and strategic control of helminthic, protozoan and arthropod parasites affecting livestock and poultry; Detection and management of antiparasitic drug resistance.

Drug/hormone/vitamin action/adverse reaction on various organs/systems of the body; Veterinary Chemotherapy; Veterinary Toxicology; Pharmacokinetics; dose, routes of administration, absorption, distribution, biotransformation and excretion of different drugs; General approaches of diagnosis and treatment of toxicity/poisons caused by metal, non metal, plants, weeds, drugs, agro chemicals, venom bites, sting bites and residue toxicity; Pharmacodynamics - local and general anesthetics and antidotes; Antibiotics and chemotherapy.

UNIT VII: Veterinary Epidemiology and Public Health

Environmental hygiene; Role of veterinarian in public health; Zoonoses including food-borne diseases: concept, scope, objectives and uses of epidemiology; Aetiology, transmission, pathogenecity, symptoms, lesions, diagnosis, differential diagnosis, treatment, control and eradication of major contagious and non infectious diseases of livestock, birds and zoo/wild animals; Livestock products and by-products in relation to public health; Legislation and International (OIE, WTO) national food safety standards; Socio economic impact of zoonotic diseases in India; Control of environmental pollutants; Establishment of Animal Healthcare Centres.

UNIT VIII: Veterinary Medicine

Diagnosis, treatment and prevention of Livestock and poultry diseases of Bacterial, Viral, Parasitic and Fungal origin; Metabolic and deficiency disorders; systemic and non systemic diseases of livestock and poultry; Role of alternate/integrated/ethno veterinary medicine; Animal welfare and ethics, common

offences against animals, SPCA, Animal Welfare Board of India, NGOs; Laws relating to offences affecting public health.

UNIT IX: Veterinary Gynecology and Obstetrics

Anatomy of Female and Male reproductive tract; Puberty; Oestrus cycle; Reproductive physiology and hormones of reproduction; Management of reproductive disorders in animals; Multiple ovulation and embryo transfer technology in livestock and zoo animals; Pregnancy diagnosis and Veterinary obstetrics; Quality semen production and its characteristics in different species of animals, cryopreservation & artificial insemination; Establishment and organisation of semen production and artificial insemination centres.

UNIT X: Veterinary Surgery and Radiology

General surgical principles, surgical equipment, operation theatre management, asepsis, anti-sepsis and sterilization; Radiographic pathology; Diagnostic imaging; Pre and post-operative considerations, anesthesia, various surgical interventions in animals, surgical emergencies, intensive care of animals, physiotherapy, diathermy.

UNIT XI: Livestock Products Technology

Layout and maintenance of milk, meat & chicken processing units; Abattoir practices, methods of slaughtering and dressing, utilization of by products, unsound meat and its disposal; Preparation, processing, preservation, packaging, storage, transportation, nutritional value, quality control and marketing of livestock products and by-products; Objectives of meat inspection & laws, ante-mortem, post-mortem inspection; Legal standards of quality control, toxicity/pesticide residues and adulterants in livestock products and by-products.

UNIT XII: Veterinary Extension and Animal Husbandry

Livestock farming systems in rural India; Extension Education and Development; Communication and Extension Teaching Methods; Transfer of Technology for Livestock Animal Husbandry practices-rural upliftment; A.H developmental programmes in state and central government; Livestock economics, marketing and business management; Livestock contribution to national economy; Economics of animal diseases and disease losses; Livestock trade against trans-boundary countries.

FOR PC. NO. 02:- VETERINARY ASSISTANT SURGEON (CLASS –B)**SCHEME OF EXAMINATION**

| WRITTEN EXAMINATION (Objective Type) | No. of Questions | Duration (Minutes) | Maximum Marks |
|---|-----------------------------|-------------------------------|--------------------------|
| Paper-I: General Studies And General Abilities | 150 | 150 | 150 |
| Paper-II: Concerned Subject | 150 | 150 | 300 |
| Total | | | 450 |

| Name of the Papers | Language Of Examination |
|--|------------------------------------|
| Paper-I: General Studies And General Abilities | Bilingual i.e., English and Telugu |
| Paper-II: Concerned Subject | English only |

SYLLABUS**PAPER-I: GENERAL STUDIES AND GENERAL ABILITIES**

1. Current affairs – Regional, National and International.
2. International Relations and Events.
3. General Science; India's Achievements in Science and Technology.
4. Environmental issues; Disaster Management- Prevention and Mitigation Strategies.
5. Economic and Social Development of India and Telangana.
6. Physical, Social and Economic Geography of India.
7. Physical, Social and Economic Geography and Demography of Telangana.
8. Socio-economic, Political and Cultural History of Modern India with special emphasis on Indian National Movement.
9. Socio-economic, Political and Cultural History of Telangana with special emphasis on Telangana Statehood Movement and formation of Telangana state.
10. Indian Constitution; Indian Political System; Governance and Public Policy.
11. Social Exclusion; Rights issues such as Gender, Caste, Tribe, Disability etc. and inclusive policies.
12. Society, Culture, Heritage, Arts and Literature of Telangana.
13. Policies of Telangana State.
14. Logical Reasoning; Analytical Ability and Data Interpretation.
15. Basic English. (10th Class Standard)

PAPER-II: CONCERNED SUBJECT

UNIT-I Veterinary Anatomy, Physiology and Biochemistry

Gross study of bones, joints, muscles of skeleton; Gross study of organs of digestive, respiratory, circulatory, urinary, nervous and reproductive systems; Mechanism of respiration; General functions of blood and its constituents (blood cells, plasma & serum) coagulation, cardiac cycle, blood circulation, blood pressure, renal function; Hormonal control of Lactogenesis; Environmental factors affecting animal production; Environmental stress on animal performance; Green House, Gases-Role of ruminants; Digestion, absorption and metabolism of carbohydrates, proteins, fats and other nutrients in simple stomach animals and ruminants.

UNIT-II Livestock Management, Livestock Breeding and Genetics & Livestock Products Technology

Common terms used in Animal Husbandry; Demography of livestock; Housing, handling, restraining, ageing, breeding, feeding and caring of different age groups of different species of animals including zoo/wild and lab animals; Economic project proposal for housing and maintenance of livestock, poultry and lab animals; Routine farm practices of livestock and poultry; Strategies for enhancing productivity through livestock improvement; Quality maintenance of livestock by-products; Fodder production and management; Maintenance of labour, accounts and farm records.

Important breeds of cattle, buffalo, sheep, goat, pig, dog, horse and poultry, with special reference to economic traits of farm animals; Breeding of important species of zoo/wild animals. Breeding livestock for high performance and disease resistance; Principles of genetics; Nature of DNA and RNA-their models and functions; Applications of recombinant DNA technology, cloning and role of gene actions and cytogenetics; Animal breeding policies and programmes in State and Nation.

Layout and maintenance of milk, meat and egg processing units; Abattoir practices, methods of slaughtering and dressing, utilization of by products, unsound meat and its disposal; Preparation, processing, preservation, packaging, storage, transportation, nutritional value, quality control and marketing of livestock products and by-products; Objectives of meat inspection & laws, ante-mortem, post-mortem inspection; Legal standards of quality control, toxicity/pesticide residues and adulterants in livestock products and by-products.

UNIT-III Livestock Nutrition

Nutritional terms and definitions; Role of nutrition in livestock health and production; Classification and composition of feeds and fodders including forest grasses; Anti-nutritional factors and toxins in feeds and fodders; Feeding standards and nutrient requirements of different categories of livestock and computation of rations; Nutritional deficiency and its influence on livestock performance; Feed supplements and additives; Conservation and preservation of feeds and fodders; Economic utilization of agro by-products for feeding livestock; Utilization of unconventional feeds; Wildlife nutrition.

UNIT-IV Veterinary Microbiology

Aetiology, morphology, life cycle, transmission, pathogenesis, symptoms, lesions, diagnosis, treatment, control and prevention of bacterial, viral, fungal, Chlamydial, Rickettsial diseases of domesticated animals, birds and zoo/wild animals; Organs/tissues/cells of Immune system; infection and immunity; type and grades of immunity, serological reactions and modern diagnostic techniques; Principles of vaccine production, different types of vaccines, storage and their administration.

Bacterial Genetics, Bacterial Plasmids; Determinants of Pathogenesis and its molecular basis, Markers & PAMPS; Exotoxins and Endotoxins; Bacteriophages;

Replication of DNA and RNA Viruses, Non Genetic and Genetic Interactions between Viruses; Immune response to viruses, Viral Vaccines and Chemotherapy; Double and Single Standard DNA & RNA Viruses, Prions; Antigen and its Characteristics, antigen, antibody Interactions; Veterinary Mycology.

UNIT-V Veterinary Pathology

Concept and cause of diseases in animals; General principles and procedures of necropsy; collection, preservation and dispatch of morbid materials for laboratory diagnosis, disease investigation; Veterolegal cases, writing of post-mortem report, notified diseases; General pathological conditions in bacterial, viral, fungal, Chlamydia, rickettsial, parasitic diseases, neoplasm's, nutritional, metabolic, toxic, allergic and autoimmune diseases of domesticated animals, birds and zoo/wild animals.

Avian pathology, Pathology of Lab Animals, Fish, Wild & Zoo Animals; Emerging and re-emerging diseases of livestock; Techniques in pathology and Veterolegal pathology.

UNIT-VI Veterinary Parasitology

Veterinary Helminthology, Entomology, Acarology, Protozoology; Malacology, identification of parasitic stages in snails; Parasitic zoonoses, parasites of zoo and wild animals; Clinical Parasitology, Immunoparasitology; Parasitological techniques; Trends in the control of livestock and poultry parasites; Strategic control measures of parasites affecting livestock with special emphasis on improved versions of chemical, biological and immunological control and integrated pest management; Assessment of anti helminthic, anti protozoal and Acaricidal drug resistance.

UNIT-VII Veterinary Pharmacology & Toxicology

Drug/hormone/vitamin action/adverse reaction on various organs/systems of the body; Pharmacokinetics: dose, routes of administration, absorption, distribution, biotransformation and excretion of different drugs; General approaches of diagnosis and treatment of toxicity/poisons caused by metal, non metal, plants, weeds, drugs, agro chemicals, venom bites, sting bites and residue toxicity; Pharmacodynamics - local and general anesthetics and antidotes; Antibiotics and chemotherapy.

UNIT-VIII Veterinary Epidemiology and Public Health

Environmental hygiene; Role of veterinarian in public health; Zoonoses including food-borne diseases: concept, scope, objectives and uses of epidemiology; Aetiology, transmission, Pathogenicity, symptoms, lesions, diagnosis, differential diagnosis, treatment, control and eradication of major contagious and non infectious diseases of livestock, birds and zoo/wild animals; Livestock products and by-products in relation to public health including legislation and International (OIE, WTO) national food safety standards; Socio economic impact of zoonotic diseases in India; Control of environmental pollutants; Establishment of Animal Healthcare Centers; Bioterrorism and Disaster Management.

UNIT-IX Veterinary Medicine

Diagnosis, treatment and prevention of Livestock and poultry diseases of Bacterial, Viral, Parasitic and Fungal origin; Metabolic and deficiency disorders; systemic and non systemic diseases of livestock and poultry; Role of alternate/integrated/ethno veterinary medicine; Animal welfare and ethics, common offences against animals, SPCA, Animal Welfare Board of India, NGOs; Laws relating to offences affecting public health.

UNIT-X Veterinary Gynaecology and Obstetrics

Anatomy of Female and Male reproductive tract; Puberty; Oestrus cycle; Reproductive physiology and hormones of reproduction; Management of reproductive disorders in animals; Multiple ovulation and embryo transfer technology in livestock and zoo animals; Pregnancy diagnosis and Veterinary obstetrics; Quality semen production and its characteristics in different species of animals, cryopreservation & artificial insemination; Establishment and organisation of semen production and artificial insemination centers.

UNIT-XI Veterinary Surgery & Radiology

General surgical principles, surgical equipment, operation theatre management, asepsis, anti-sepsis and sterilization; Radiographic pathology; Diagnostic imaging; Pre and post-operative considerations, anesthesia, various surgical interventions in animals, surgical emergencies, intensive care of animals, physiotherapy, diathermy.

UNIT-XII Veterinary Extension and Animal Husbandry

Livestock farming systems in rural India; Extension Education and Development; Communication and Extension Teaching Methods; Transfer of Technology for Livestock Animal Husbandry practices-rural upliftment; A.H developmental programmes in state and central government; Livestock economics, marketing and business management; Livestock contribution to national economy; Economics of animal diseases and disease losses; Livestock trade against trans-boundary countries.

UNIT-XIII Veterinary Biotechnology

Fundamentals and application of biotechnological tools in animal health practices: Techniques of molecular biology, genetic engineering; Molecular diagnostics, Animal cell culture, Reproductive biotechnology, Vaccine biotechnology, Immunology; Bioinformatics, Animal genomics, Biodiversity, Bio-safety and Bioethics.