

5. **AGE**

5.1 **Candidates should not be below 18 years and above 37 years of age as on 01-01-2021.**

5.2 The upper age limit may be relaxed up to 45 years for Punjab Government and its Board/Corporation/Commission and Authorities employees, all States/ Central Government employees.

5.3 The Upper age limit is relaxed up to 42 years for Scheduled Castes and Backward Classes of Punjab.

5.4 Ex-servicemen of Punjab Domicile shall be allowed to deduct the period of his service in the Armed Forces of Union from his actual age and if the resultant age does not exceed the maximum age limit prescribed for direct appointment to such a vacancy in the Service Rules concerned by more than three years, he shall be deemed to satisfy the condition regarding age limit.

5.5 The upper age limit is also relaxed up to 42 years for Widows, Divorcees and certain other Categories of Women.

5.6 The upper age limit is also relaxed up to 47 years for Persons with Disability of Punjab.

6. **PATTERN AND SCHEME OF COMPETITIVE EXAMINATION FOR SELECTION**

6.1 **PROCEDURE FOR SELECTION**

The procedure for selection of candidates for the post of veterinary officers in the Department of Animal Husbandry, Fisheries and Dairy Development, Government of Punjab will consist of written examination and interview as per the following details:

Subject Matter	No. of Questions	Total Marks
Written Competitive Examination	120	480
Interview	-	60
Total Marks	-	540

The written competitive examination for the post will be scheduled tentatively in April, 2022. The exact date of exam will be decided and intimated later keeping in view the public health safety issues.

6.2 **PATTERN OF THE WRITTEN COMPETITIVE EXAMINATION**

The pattern for written competitive examination comprising of 120 questions (@ 4 marks for each question) is as follows:

S.No.	Topic	No. of Questions	Marks (Each Question carries 4 marks)	Type of Questions
1.	Questions from the Subject	100	400	MCQs (Multiple Choice Questions)
2.	Questions from Logical Reasoning, Mental ability and General Knowledge	20	80	
Total		120	480	

The important points to note:

1. ***Each question carries 4 (four) marks and, for each correct answer candidate will get 4 (four) marks.***

- II. *There will be **Negative Marking** (One Mark for each question) in the written examination for questions wrongly answered i.e. for each incorrect answer, **1 (One) mark** will be deducted from the total score.*
- III. *To answer a question, the candidate has to find, for each question, the correct answer/ best option.*
- IV. *Answer key will be uploaded on the PPSC website (after written examination), and the candidates will be permitted to raise objections (if any). Candidates will be given four days to deliberate before putting up the objections.*
- V. *Unanswered/Unattempted questions will be given no marks. In case, a question is withdrawn, all candidates will be given **four (04) marks** irrespective of the fact whether the question has been attempted or not attempted by the candidate.*

6.3 DURATION OF TEST

The test would be of two (02) hours duration.

6.4 SYLLABUS OF THE WRITTEN TEST

The Question Paper will be based on the given syllabus from the subject and from Logical Reasoning, Mental ability and General Knowledge (**Annexure-VII**)

6.5 MODE OF EXAMINATION

The Examination is a Pen & Paper-based Test, to be answered on the specially designed machine gradable OMR sheet using Ball Point Pen.

6.6 INFORMATION ABOUT EXAM CENTRE

Information about the examination center(s) shall be mentioned on Admit Cards of all candidates. The Public Notice to download the Admit cards shall be given shortly on the website of the Commission.

6.7 ELIGIBILITY AND SCRUTINY OF APPLICATION FORMS AND TESTIMONIALS

- 6.7.1 All candidates who apply for ibid posts will be treated "provisionally eligible" for appearing in the competitive exam. Acceptance of applications at this stage and allotment of Roll Numbers by PPSC does not indicate acceptance of candidature by the PPSC, since there is no scrutiny of documents before the written test.
- 6.7.2 The scrutiny of application forms shall be done after the conduct of the examination. During the process of scrutiny, the application forms and other relevant documents, certificates, etc. of the candidates shall be examined to determine their eligibility as on **10/12/2021**. Candidates not meeting the eligibility criteria will be rejected after the scrutiny process or any time thereafter if found ineligible.
- 6.7.3 The candidates applying for the Competitive Examination should ensure that they fulfill all the eligibility conditions for admission to the examination. Their admission at all the

ANNEXURE (VII)- Syllabus

(A) Subject Syllabus

1.1 ANIMAL BREEDING AND GENETICS

Aids to selection. Methods of selection. Sire index. Classification of mating systems. Breeding methods. Inbreeding and outbreeding - types, merits, demerits, genetics consequences and their application in animal improvement. Importance of breeding records in farm animals and their standardization. Analysis of breeding records of different livestock and poultry farms and their maintenance. Current livestock and poultry breeding policies and programs in the state, methods of conservation- livestock and poultry conservation in state and country, classification of dog and cat breeds. Herd registration. Use of computer in handling and presenting veterinary and livestock data.

1.2 ANIMAL NUTRITION

Importance of grasslands and fodders in livestock production. Various types of fodder crops utilized in the state. Preparation and conservation of green-fodders. Rations for scarcity periods. Anti-nutritional components of feeds and fodders. Feed additives, feed processing. Requirements and recommended allowances of protein, energy and minerals for maintenance, production and reproduction and feeding schedule for cattle, buffalo, sheep, goat, pig, poultry and dog. Formulation of rations. Balanced and total mixed rations. Therapeutic nutrition.

1.3 LIVESTOCK PRODUCTION AND MANAGEMENT

Role of dairying in India. Dairy development schemes in the country. Common animal husbandry terms. Body conformation and methods of identification. Breeds and economic traits of cattle, buffalo, horse, pig, and camel. Colour and markings (as per RWTCl) of horses. Common vices in horse, poultry, and dogs; their prevention and care. Dentition and ageing of animals. Feeding, care and management of new born, young stock, dry, pregnant and milking cattle, buffalo, horse and pig. Calving, foaling, farrowing and whelping. Castration and dehorning of cattle and buffaloes. Routine dairy farm operations. Dairy farm accounts and records. Rules and regulations regarding transport of livestock by rail, road, air and on foot. Management of animals during transport by different means. Preparation of animals and birds for show. General principles affecting the design and construction of building for housing livestock. Various types of animal houses. Different systems of ventilations, drainages, sewerage disposal techniques, waste diversion for liquid manure, compost, cow dung, gas unit, etc. Importance of sheep and goat production in national and state economy. Different indigenous and exotic breeds of sheep and goats. Feeding, management and breeding of sheep and goat. Ram and buck management. Care of sheep and goat in pregnancy and parturition. Rearing of lambs and kids. Weaning, fattening. Sheep and goat housing. Wool grading. Different breeds and varieties of chicken. Formation, structure and nutritive value of egg. Culling

of poultry and effect of culling on egg production. Incubation and hatching of eggs, selection of hatching eggs, handling and care of hatching eggs. Natural and artificial brooding. Different systems of housing of poultry. Floor space requirements, constructional details of poultry houses. Care and Management of chicks, pullets, layers and broilers. Feeds and feeding of broilers and layers. Poultry farm records. Commercial hatcheries and its role in poultry development. Disinfection of farm equipment and poultry houses. Care and breeding, egg and spawn management. Handling and management of laboratory animals-rabbit, rat and mice.

1.4 LIVESTOCK PRODUCTS TECHNOLOGY

Composition of milk. Factors affecting yield and quality of milk. Physical and chemical properties of milk. Principles involved in pasteurization, homogenization and dehydration. Preparation of various concentrated and dehydrated milk products. Preparation of butter, ghee, khoa, lassi, curd, ice-cream and cheese. Legal and ISI standard of milk and milk products. Detection of adulterants and preservatives in milk and milk products through various tests. Estimation of efficiency of pasteurization through different tests. Bacteriological examination of milk and products for their wholesomeness. Ante-mortem and post-mortem examination of buffalo, sheep, goat, pig and poultry. Utilization of slaughter house by-products, organic wastes available through animal industries, fallen and slaughtered effluent and glandular by-products. Structure, composition, nutritive value, post-mortem changes and eating quality of meat tissues. Fraudulent substitution of meat and its recognition. Principle of various preservation techniques like chilling, freezing curing, smoking, thermal processing, canning and irradiation. Meat cutting, packaging. Microbial and other deteriorative changes in meat and their identification. Standards and quality control measures adopted for meat and meat products in India. Meat food products order. Microbial spoilage of eggs, preservation and maintenance of eggs.

1.5 VETERINARY ANATOMY

Topographic anatomy and gross anatomical structures involved in the clinical examination and surgical interferences of importance in large and small animals. Radiographic anatomy of various regions of domestic animals. Microscopic study of important organs/systems of domestic animals.

1.6 VETERINARY PHYSIOLOGY AND BIOCHEMISTRY

Physiology of digestion, circulation, respiration and excretion in ruminants and simple stomach animals. Endocrine glands and their hormones –classification. general mode of action and regulation of hormones. Structural and functional organization of mammary glands, hormonal control of mammary growth, lactogenesis and galactopoiesis. Reaction of animals to different environmental variations and temperature. Central control of heat regulation. Temperature regulation in birds. Metabolism of carbohydrates, lipids and proteins in ruminants and nonruminants. Biochemistry of renal function, acid base

balance, stress, shock and digestive disorders. Role of blood sugar, ketone bodies, blood urea nitrogen, proteins, macrominerals and electrolytes as an aid to diagnosis. Role of enzymes for detection of tissue affections/organ affections (scope and limitations).

1.7 VETERINARY MICROBIOLOGY

Development of immune system, humoral and cellular immune responses. Antigens: Definition, specificity, azoprotein, heterophil and blood group antigens. Antibodies: Chemical and physical properties, electrophoresis, structure and function of immunoglobulins. Serological reactions: Introduction to principles and diagnostic applications of agglutination, precipitation, isohaemagglutination, phagocytosis, complement fixation, neutralization, toxin and antitoxin reaction, immunofluorescence. Hypersensitivity-allergy, classification, anaphylaxis and delayed type hypersensitivity, auto-immunity. Disease diagnosis –Polymerase chain reaction (P.C.R.). hybridoma technique, monoclonal antibody and DNA probes. Staining, special staining, cultural characters, aerobic and anaerobic cultivation, biochemical characters, pathogenicity test and antibiogram of bacteria and fungi. Sterilization, disinfection and asepsis.

1.8 VETERINARY PHARMACOLOGY AND TOXICOLOGY

Anticonvulsants, opioid agonists and antagonists, antipyretics, steroids and non-steroidal anti-inflammatory drugs. Commonly used emollients, demulcents, stomachics, prokinetics, antiemetics, antiulcer, carminatives, antizymotics, purgatives, antidiarrhoeals, antihypertensives, diuretics, urinary acidifiers, urinary alkalizers, ecboics, cardiac glycosides, vasodilators, coagulants, anticoagulants, antihistaminics, expectorants, mucolytics, antitussives drugs. General approaches to diagnosis and treatment of poisoning. Clinical signs, diagnosis and treatment of toxicities caused by commonly used organophosphates, carbamates, chlorinated hydrocarbons, pyrethroids, herbicides, fungicides, rodenticides, arsenic, lead, fluoride, nitrates, nitrites, urea, snake venom. Introduction and basic principles of antimicrobial therapy. Classification of antimicrobial drugs, development of resistance and interaction of antibacterials. Sulphonamides, quinolones, beta- lactam antibiotics, aminoglycosides, tetracyclines, amphenicols, macrolides, nitrofurans and other antibacterials. Antifungal, antiviral and antitubercular drugs. Chemotherapy of helminthic and protozoan infections. Antiseptics and disinfectants. Ectoparasiticides and antineoplastic drugs.

1.9 VETERINARY PARASITOLOGY

Classification (names only) of common parasites (Helminths, arthropods, Protozoa and parasitic diseases of domestic animals in Punjab. Common diagnostic techniques for different parasitic diseases. General Control measures against parasites. Chemoprphylaxis against parasites. Acaricide resistance.

1.10 VETERINARY PATHOLOGY

Etiology, epidemiology, transmission, pathogenesis, clinical findings, clinical pathology, diagnosis, treatment, prevention and control of the following diseases of

poultry:Respiratory disease complex, New castle disease, Infectious bronchitis, Infectious laryngotracheitis, Influenza, Duck virus hepatitis, Egg drop syndrome, Fowl pox, Coryza. Avian encephaloemyelitis. Infectious bursal disease, Neoplastic diseases – Mareks disease and Avian leucosis, etc. Salmonellosis- Pullorum disease, Typhoid and Paratyphoid, Pasteurellosis-Fowl cholera, Avian Mycoplasmosis, Chlamydiosis. Coli bacillosis, Spirochaetosis, Fungal infections –Aflatoxicosis, Aspergillosis and Favus. Parasitic infestation caused by Nematodes, Cestodes and Protozoa (blood and gastrointestinal). Nutritional deficiency diseases. Post mortem examination of large animals, small animals and poultry.

1.11 VETERINARY PUBLIC HEALTH

Sources of bacterial contamination of raw milk and method of control. Clean milk production; sources of contamination during collection, transport and processing of milk and methods of control. Milk borne diseases and methods of control. Toxic residues in milk and their health hazards. General principles and elements of meat inspection. Methods of slaughter. Conditions detected at meat inspection and their judgement; characteristics of meats of different food animals; composition, rigor mortis. Differentiation of meat of different food animals. Inspection of poultry, eggs, fish and game animals. Meat borne diseases and methods of control. Examination of lymph nodes and their importance in meat inspection. Role of livestock, pets, various wild and cold blooded animals in transmission of zoonotic diseases. Study of the important zoonotic diseases of the region. Methods of prevention, control and eradication of zoonotic diseases, Method of prevention and control of air and water borne diseases of animals. Stray animal control, fallen animals and environment: radiation, drugs, etc. as source of pollution. Pattern of disease distribution in community. periodicity of diseases, occurrence and dynamics of disease transmission, office international des epizootics (OIE), its functions, classification of diseases that are transmissible.

1.12 VETERINARY AND ANIMAL HUSBANDRY EXTENSION

Steps of extension teaching. Classification of extension teaching methods, their selection and use. Client dealing: Communication with rural and urban public for data collection, history taking, follow up, appraisal on prognosis, announcing death of animal to the owner, etc. Various kinds of farming e.g., large and small scale farming, mixed farming, co-operative and collective farming. Economic principles underlying co-operative societies, cooperative milk activities in India. Animal Husbandry planning and programmes, Animal Husbandry administration, Key village scheme, ICDP, Gosadan/Gosala, Panchayati Raj, Integrated Rural Development Programme in Animal Husbandry. Calculation of economics of livestock and poultry farming to know the profitability of the enterprise.

1.13 ANIMAL REPRODUCTION, GYNAECOLOGY AND OBSTETRICS

Development of female genitalia and description of pelvis in domestic animals. Sexual maturity in relation to reproduction. Role of hormones in various phases of reproduction. Oestrous cycle in domestic animals and factors affecting it. Synchronization of oestrous cycle. Ovulation. Transportation of sperms, fertilization and attachment. Development of foetus and foetal membranes. Types and functions of placenta. Gestation, duration and stages of gestation in domestic animals. Superfetation and Superfecundation. Superovulation and embryo transfer. Differential diagnosis of pregnancy. Disease and accidents during gestation. Prolonged gestation. Premature birth. Early embryonic mortality. Abortion in domestic animals. Fetal mummification, maceration, pyometra. Fertility, infertility and sterility. Functional infertility – anoestrus, ovarian hypoplasia, cystic ovary. Fertilization failure and repeat breeding. Infectious infertility – specific and nonspecific infections affecting genital organs. Sexual health control and herd reproductive health programme. Parturition in domestic animals including stages of parturition. Expulsion and retention of after birth. Postpartum diseases and complications (cervicovaginal prolapse, uterine prolapse, vaginitis, cervicitis, metritis, pyometra, postpartum paraplegia). Clinical use of hormones and prostaglandins. Intrauterine presentation of fetus, eutocia, dystokia. Types of dystokia. General handling of dystokia. Diagnosis and treatment of dystokia cases. Obstetrical operations. Mutation and forced extraction. Fetotomy and Caesarean section. Mismating, transmissible venereal tumor and pyometra in bitches. Development and comparative study of male genitalia and gonads. Growth, puberty, sexual maturity, libido. Endocrine control of reproduction in male domestic animals. Factors affecting maturity and sex drive in bulls. Sexual behaviour in males. Forms of male infertility and factors affecting infertility, its diagnosis and treatment. Diseases, abnormalities and malformations of male genitalia, their diagnosis and treatment of coital injury and infections. Testicular hypoplasia and degeneration. Disease of the accessory sex glands. Advantages and limitations of A.I. Methods of semen collection in various species. Technique of A.I. Factors affecting quality and quantity of semen. Tests for evaluation of semen, extension of semen, preservation of semen at different temperatures. Storage and shipment of semen. Semen metabolism. Biochemistry of semen.

1.14 VETERINARY MEDICINE

(A) General systemic states-hyperthermia, hypothermia, fever, septicaemia, toxemia, shock and dehydration; (B) Diseases of (i) digestive system with special reference to rumen dysfunction and diseases of stomach in ruminants and simple stomach animals; (ii) peritoneum, liver and pancreas; (iii) respiratory system; (iv) cardiovascular system including blood and blood forming organs; (v) urinary system; (vi) nervous system; (vii) skin; (viii) musculo-skeletal system; (ix) eye; (x) ear; (xi) neonates: (C) Common neoplasms. Etiology, epidemiology, pathogenesis, clinical symptoms, clinical biochemistry, clinical pathology, diagnosis, treatment, prevention and control of : (A) Metabolic diseases – Milk fever; acute parturient hypocalcaemia in goats, sows and bitches; lactation tetany in mares; downer cow syndrome; ketosis; hypomagnesaemia;

nutritional haemoglobinuria in cattle and buffalo; osteodystrophia fibrosa; azoturia in equines; hypothyroidism and diabetes in dogs. (B) Diseases caused due to deficiency of iron, copper, cobalt, zinc, selenium, manganese, calcium, phosphorus, magnesium, vitamins A, B complex, C, D, E and K in domestic animals. Legal duties of veterinarians. Evidence procedure in court Code of conduct and ethics for veterinarians. Common offences against animals and laws related to these offences. Detection of frauds-doping, alteration of description, bishoping, etc. Legal aspects of examination of animals for soundness, examination of injuries. Animal insurance. Prevention of Cruelty to Animals Act, 1960 (59 of 1960) and various rules on animal welfare under this Act. The Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009 (salient features). Law relating to generation and disposal of biomedical waste. Causes of sudden death in animals. Signs of death. Post mortem examination of Vetro-legal cases, writing report, collection and despatch of morbid materials to forensic laboratory. Surveillance and monitoring and forecasting of animal diseases. Investigation of an epidemic, prevention, control and eradication of diseases. Etiology, epidemiology, transmission, pathogenesis, clinical findings, clinical pathology, diagnosis, treatment, prevention and control of the following diseases of cattle, horse, pigs, sheep, goats and pet animals: (i) Bacterial diseases- mastitis, joint ill, anthrax, ulcerative lymphangitis, glanders, strangles, black quarter, braxy, tetanus, enterotoxemia, bacillary haemoglobinurea, botulism, colibacillosis, salmonellosis, pasteurellosis, brucellosis, listeriosis, campylobacteriosis (vibriosis), tuberculosis, paratuberculosis, actinomycosis, actinobacillosis, erysipelosis, leptospirosis. Common diseases caused by Ricketts, Pseudomonas, Yersinia, Haemophilus, Bordetella, Moraxella, Mycoplasmas (ii) Viral diseases- Foot and mouth disease, vesicular stomatitis, vesicular exanthema, pox, rinderpest, mucosal disease, malignant head catarrh, ephemeral fever, infectious bovine rhinotracheitis, leucosis, viral pneumonia, calf diarrhoea virus, African horse sickness, African swine fever, rabies, ephemeral fever, pseudorabies, equine encephalomyelitis, infectious equine anemia, equine influenza, papillomatosis, equine abortions, swine & equine influenza, infectious canine hepatitis, parvovirus infection of dogs, canine distemper, transmissible gastroenteritis, sheep pulmonary adenomatosis, Maedi/visna (iii) fungal diseases- ringworm, histoplasmosis, sporotrichosis, candidiasis, cryptococcosis, coccidioidomycosis and mycotoxicosis; (iv) Parasitic diseases of economic importance- amphistomiasis, schistosomiasis, nematodiasis (round worms), verminous bronchitis, echinococcosis, coenurosis, other tapeworm infestations, visceral & cutaneous leishmaniasis, trypanosomiasis, bovine sarcocystosis, toxoplasmosis, babesiosis, theileriasis, anaplasmosis, ectoparasitic infestations (ticks, mange, fleas allergies, myasis).

1.15 VETERINARY SURGERY AND RADIOLOGY

General Surgery: General surgical principles, pre-operative and post operative considerations, Importance of sutures, suturing materials and different knots. Asepsis/antisepsis, their application in veterinary surgery, sterilization of surgical material and instruments. Inflammation, abscess, tumors, cysts, hernia, etc. and their treatments.

Wound classification, symptoms, diagnosis, treatments, complication and their prevention and remedies. Hemorrhage and haemostasis, shock, haematoma, necrosis, gangrene, burn and scald, frost bite. Surgical infections their preventions and management. Surgical affections of muscles, artery and vein. Fracture and dislocation and other affections of joints. Anaesthesiology: General considerations, types of anaesthesia, definition and selection of anaesthetics and methods of administration. Local and regional analgesia. Premedication in domestic animals. Intravenous anaesthesia, dissociative anaesthesia. Preparation of the patient for anaesthesia. Preparation, evaluation of dose and induction of anaesthesia. General anaesthesia, anesthetic drugs, inhalation anaesthesia, its method of administration in horse, cattle and dog and gadgets for monitoring. Anaesthetic emergencies and remedies. Chemical restraint of wild /zoo animals. CNS stimulants and central muscle relaxants. Radiology: Production and properties of X-rays.

Factors influencing production of radiograph (radiographic factors, geometric factors, photographic factors). Density, detail and contrast. X-ray accessories filters, restrictors, collimator, grid, etc. Principle of viewing and interpreting X-ray films. Classification and interpretation of radiographic lesions. Contrast radiography: classification, materials used, indications and contra indications. Biological effects of radiation. Radiation hazards and safety measures. Principles of ultrasonography, radiation therapy and physical therapy in veterinary practice. Positioning and radiography of different parts of the body in small and large animals. Surgery: Affections of the lips and cheek, tongue, palate, nose, sinuses, guttural pouch, horn, teeth and salivary glands and their treatment. Affections of neck, esophagus, trachea, pharynx and larynx. Congenital affections of lower jaw and their treatment. Affections of the ear and their treatment. Anatomical considerations and examination of the eye. Surgical affections of conjunctiva, cornea, ciliary's apparatus, lens, traumatic affections of the eye lids, eye, tumors of eye, retinal detachment. Injuries and infections of anterior and posterior chambers. Surgical approaches and general consideration for thoracic surgery. Contusions and fracture of rib, injuries of costal cartilage, fracture of sternum, perforated wounds, sternal fistula, pneumocoele. Surgical approaches to traumatic pericarditis of cattle, heart worm disease in dogs and abdomen in various species of animals. Hernia and its treatment in various species. Surgical affections of the stomach (in dogs and ruminants), intestine, rectum, anal glands, liver, spleen, pancreas, kidney, ureters, urinary bladder, urethra, penis, sheath, testicle, scrotum, udder and tail. Spaying in various species. Lameness, its definition and classifications. Body conformation in relation to lameness, diagnosis of lameness. General methods of therapy. Specific joint diseases in dogs and large animals and their treatment. Application of external and internal immobilization for fracture. Rehabilitation. Shoulder slip (Sweeny), bicipital, bursitis, arthritis, capped elbow, radial paralysis, carpal, bent knee, knock knee, hygroma of knee, open knee joint and blemished knee. Fracture of carpal bone and fracture of accessory carpal. Contraction of digital flexors. Splints and sore shin. Tendinitis, wind puffs and seasmoiditis. Osslets, ring bones, quittor,

side bones, navicular disease, pyramidal disease and fracture of extensor process. Laminitis, sand crack, seedy toe, fracture of third phalanx and pedal osteitis. Canker, thrush and corn. Cording up, myositis of psosas, iliac thrombosis, crural paralysis, subluxation of sacro-iliac ligament, rupture of round ligament and trochanteric bursitis. Femoral nerve paralysis, upward luxation of patella, stringhalt, gonitis, chondromalacia of patella, fracture of fibula, rupture of tendo achilles and rupture of peroneus tertus. Fibrotic and ossifying myopathy. Thorough pin, bog spavin and curb. Bovine lameness: contusions of sole, ulceration of sole, septic laminitis, avulsion of hoof and declawing. Interdigital fibroma, cyst, sand crack and hoof deformities. Therapeutic shoes and corrective shoeing. Examination of animals for soundness and preparation of soundness certificate.

(B) General Knowledge, Logical Reasoning & Mental Ability

(a) General Knowledge & Current Affairs

General Knowledge and Current affairs of National and International importance including:

- (i) Economic issues.
- (ii) Polity issues.
- (iii) Environment issues
- (iv) Science and Technology.
- (v) Any other current issues.
- (vi) (a) History of India with special reference to Indian freedom struggle movement
(b) History of Punjab- 14th century onwards.

(b) Logical Reasoning & Mental Ability

- (i) Logical reasoning , analytical and mental ability
- (ii) Basic numerical skills, numbers, magnitudes, percentage, numerical relation appreciation.
- (iii) Data analysis, Graphic presentation charts, tables, spreadsheets.