

Plan of Written Examination

All the aspirants are informed as under with respect to the written test to be conducted for the recruitment of **Livestock Supervisor**:

- (i) The Exam will be conducted in MCQ (Multiple Choice Questions) format. OMR sheets will be used for answering the questions.
- (ii) There will be negative marking. Each question carries 1 mark. **For every wrong answer, 1/4th mark would be deducted. The question(s) not attempted will receive no credit or discredit.**
- (iii) The test would be of 2 hours duration.
- iv) Pattern of the written competitive examination is as follows:-

Sr. No.	Topic	No. of Questions	Marks (Each Question carries 1 mark)	Type of Questions
1.	Questions from the Subject (Part A of Syllabus)	90	90	MCQs (Multiple Choice Questions)
2.	Questions from General Knowledge, English, Punjabi, Logical Reasoning and Mental ability (Part B of Syllabus)	30	30	
Total		120	120	

- v) Tentative syllabus for the written examination for the recruitment of Livestock Supervisor is annexed at Annexure-1 and 2.

Annexure-I

Part A-Subject Syllabus

1. Elementary Animal Husbandry

Common breeds of cattle, buffalo, sheep, goat, pig, horse and poultry; Animal production systems; Principles of housing for farm animals; Routine managements practices for various categories of livestock (calves, heifers, pregnant and lactating animals etc.) and sick animals; Introduction to methods of castration; Milking techniques; Clean milk production concept, significance and factors affecting clean milk production; Sanitation and hygiene practices; Routine farm practices including wallowing, watering and bathing; Record keeping and responsibilities of veterinary inspector/ para-veterinarian; waste management, Identification techniques in animals, Bio-security methods at livestock farm.

2. Elementary Livestock Handling

An overview of animal behavior, Common tools used for animal control; Methods of restrain and handling of animals; Dentition, Farrier practices and shoeing, Hoof trimming in bovine; Prevention of cruelty to animals, Preparing animals for show/animal fair.

3. Elementary Animal Nutrition

Principles of animal nutrition; Digestive systems including rumination; Nutritional important of carbohydrates, lipids, proteins, vitamins, minerals and water; Common feeds and fodders; Scientific feeding and feeding schedule for different categories of livestock; Colostrums feeding- How, when and why to feed colostrums to calves? Feeding practice of cow & buffalo-Ration balancing; Anti nutritional factors; Feed additives; Hay and Silage making, Precautions in the storage of feed and fodder.

4. Basic Computer Applications

Knowledge about the computer accessories. Use of computer in handling and presenting veterinary and livestock data. Working in Windows 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. Practice in Farm data recording.

5. Elementary Anatomy and Physiology of Animals

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 (Thoracic, abdominal and Pelvic) and its related organs. Basic physiological parameters of domestic animals.

6. Elementary Pharmacology

Introduction to Pharmacology, Nature and sources of drugs; Routes of drug administration; Dosage forms; Pharmaceutical processes; Handling of hazardous substances; Common antiseptics and disinfectants; Weights and measures; Pharmacy calculations; Classification of important drugs; Important Indigenous and allopathic drugs.

7. Elementary Veterinary Epidemiology and Public Health

Introduction to epidemiology, surveillance, and monitoring of common seasonal infectious diseases like Brucellosis, Rabies, Cysticercosis, TB, JD, Anthrax, FMD, Food borne pathogens, Public health considerations; Common zoonoses and their management; Disposal of cadaver; Concept of contagious, notifiable diseases and outbreaks.

8. Elementary Poultry Science

Poultry types-Layer, Broiler; Common breeds/strains of poultry; Meat and egg productivity, and production, 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 ration; Introduction to common poultry diseases; Vaccination.

9. Elementary Animal Husbandry Extension

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 programmers. Duties of veterinary inspector/ para-veterinarian; Communication tools and Role of media, Set-up of Animal Husbandry Department, Record maintenance at Veterinary Hospital, Government schemes for farmers benefits.

10. Elementary Animal Reproduction

Female genitalia of cattle, buffalo and goats, Reproductive cycle, Puberty, Oestrous cycle; Methods of heat detection including fern pattern; Gestation in domestic animals; Methods of pregnancy diagnosis; Abortion in domestic animals; Parturition and impending signs, Types of infertility in farm animals-causes and remedies; Sexual health and herd health programme; Care and management of dam and new born calf, Introduction to parturient problems in dairy animals.

11. Elementary Andrology and Artificial Insemination

Study of male genitalia and gonads; Puberty, Methods of semen collection and storage; Handling of fresh/frozen semen; Artificial insemination including optimum time of AI; Diseases transmitted through semen.

12. Elementary Parasitology

Introduction to common parasites i.e., protozoa (Theileria, Babesia, Anaplasma and Trypanosomes), Tremetodes (Liver flukes, amphistomes and lung flukes), cestodes (Moneizia, Dipylidiumcaninum, Taeniasis, Hydatid cyst), nematodes (Toxocare, Hemonchus, Lung worm, filarial nematodes etc) and arthropods (Flies, Ticks, Mites, Fleas and myiasis) in livestock; Economic importance of parasitic diseases of livestock.

13. Procurement, Handling and Testing of milk

History of dairy development in India. Three tier structure of dairy cooperative. An introduction to Indian dairy industry with special reference to dairy sector in Punjab. Milk- definition, its composition, factors affecting the quality of milk and standards. Milk collection systems and its handling (transportation, reception

and storage). Platform tests for quality analysis of milk. Important sanitary and hygienic practices for milk handling. Cleaning and its importance. Introduction to common detergents & sanitary agents. Milk pricing system and its concept.

14. Basic Livestock Health Management

Introduction to common diseases of livestock; Hemorrhagic Septicaemia. Brucellosis, Tuberculosis, Foot and Mouth disease, Rabies, Johne's disease, Glanders, Theileriosis, Classical swine fever, etc. Insecticide toxicities. Preventive health measures for bacterial, viral and parasitic diseases in various species.

15. Veterinary Hospital Maintenance

Maintenance of case record and lig books of scheduled drugs Basic accounting; Preparation of bills and maintenance of consumable and non-consumable stock of hospital; History taking, Prescription reading and dispensing of drugs, Preparation of animals for surgical operation; Care and maintenance of surgical, anesthetic and other common equipments; Assisting veterinary surgeon in post-operative care; Hospital hygiene, Sterilization of operation theatre; Surgical pack and surgical instruments; Types of suture material, Categorization of biomedical waste, its disposal as per pollution control board regulations.

16. Elementary Veterinary Medicine

Introduction to digestive, respiratory, urinary and production systems and their diseases (Milk fever, Ketosis; Haemoglobinuria); Preliminary knowledge about indigestion, bloat, constipation, diarrhea, aspiration pneumonia and urinary incontinence, Mastitis; Common mineral and vitamin deficiencies, Hoof care.

17. Elements of Wound care and Management

Wound causes, classification; Types of wound dressings; Basic concepts of abscess, ulcers, haematoma, cyst, tumor and hernia; Clinical use of antiseptics, fly repellents, anti-maggot etc.; First aid in sick animals including fracture cases. Management of bloat; Hoof care.

18. Basic Clinical Pathology and Laboratory techniques

Handling of laboratory equipment, glassware and chemicals; Cleaning and sterilizing of laboratory wares; Basic microscopy principles; Blood collection techniques; Use of anticoagulants; Serum and plasma separation; Urine collection, preservation and common physical and chemical tests; Collection, preservation and dispatch of tissues for histopathology, Protocols for necropsy of mammals and poultry birds.

19. Practical On-Farm/Farmer's Door Training

Handling, management practices of Dairy farm, Stud Farm, Poultry Farm, Piggery Farm, Sheep and Goat farm, Routine farm operations including vaccination etc. Communication with farmers; Use of audio and visual aids for training for farmers; Organizing farmer interactions, Extension programmes viz. Kisan Mela, Livestock shows, Animal markets and Animal welfare camps.

20. Practical In-Clinics Training

Handling and dealing with sick animals, Record keeping; History taking; Sampling of body fluid/tissues; Medication; Pos-operative management of surgical patients; Care of pregnant animals; Vaccination; Preparation of solutions, lotions, tinctures, ointments, mixtures (carminatives, laxatives, purgatives, febrifuge etc.) Electuaries etc.

21. Practical Lab/Hospital Training

Handling of laboratory equipment; Methodology for transporting various samples to laboratory for examination; Blood smear preparation; Staining; Complete blood count; Serum and plasma separation; Preservations of serum, plasma and tissues; Urine examination; Preparation of smears for faecal examination.

22. Practical Bull Centre Training

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; Artificial insemination; Record keeping.

Annexure-2

Part B--General Knowledge, Punjabi, English, Logical Reasoning and Mental Ability.

Sr. No.	Indicative Contents of Syllabus	Weightage (Approx.)
1	<p>General Knowledge and Current affairs of National and International importance including:</p> <p>(i) Political issues, (ii) Environment issues, (iii) Current Affairs, (iv) Science and Technology, (v) Economic issues, (vi) History of India with special reference to Indian freedom struggle movement. (vii) Sports, (viii) Cinema and Literature.</p>	10
2	<p>Logical Reasoning & Mental Ability:</p> <p>Verbal reasoning : Coding, Decoding, Analogy, Classification, Series, Direction sense test, relations, mathematical operations, time test, odd man out problems.</p> <p>Non Verbal reasoning : Series, Analogy and Classification.</p> <p>Basic numerical skills, Percentage, Number system, LCM and HCF, Ratio and Proportion, Number series, Average, Problems based on Ages, Profit & Loss, Partnership and Mixture, Simple and Compound Interest, Work and Time, Time and Distance, Mensuration and Data Interpretation.</p>	10
3	<p>English:-</p> <p>Basic Grammar, Subject and Verb, Adjectives and Adverbs, Synonyms, Antonyms, One Word Substitution, Fill in the Blanks, Correction in Sentences, Idioms and their meanings, Spell Checks, Adjectives, Articles, Prepositions, Direct and Indirect Speech, Active and Passive Voice, Correction in Sentences, etc.</p>	5
4	<p>ਪੰਜਾਬੀ:-</p> <p>ਸ਼ੁੱਧ-ਅਸ਼ੁੱਧ, ਸ਼ਬਦਜੋੜ, ਅਗੇਤਰ ਅਤੇ ਪਿਛੇਤਰ, ਸਮਾਨਾਰਥਕ/ਵਿਰੋਧੀ ਸ਼ਬਦ, ਨਾਂਵ, ਪੜਨਾਂਵ ਅਤੇ ਕਿਰਿਆ ਦੀਆਂ ਕਿਸਮਾਂ ਤੇ ਸਹੀ ਵਰਤੋਂ,</p>	5

	ਲਿੰਗ ਅਤੇ ਵਚਨ, ਪੰਜਾਬੀ ਅਖਾਣ ਤੇ ਮੁਹਾਵਰੇ, ਅੰਗਰੇਜੀ ਤੋਂ ਪੰਜਾਬੀ ਅਨੁਵਾਦ ਅਤੇ ਬਹੁਤੇ ਸ਼ਬਦਾਂ ਦੀ ਥਾਂ ਇੱਕ ਸ਼ਬਦ ਆਦਿ।	
	Maximum Marks	30

Note:-a) The distribution of marks/question in each section is indicative. It may vary slightly.

b) The syllabus is broadly classified as above but may vary to some extent.

