

VETERINARY PUBLIC HEALTH AND EPIDEMIOLOGY

Course Structure

| COURSE NO. | COURSE TITLE | CREDITS | SEM |
|-------------------|---|----------------|------------|
| VPE 601 | ELEMENTS OF VETERINARY PUBLIC HEALTH | 2+0 | I |
| VPE 602 | MICROORGANISMS OF PUBLIC HEALTH SIGNIFICANCE | 3+1 | I |
| VPE 603 | ZOONOSES AND PUBLIC HEALTH | 2+1 | II |
| VPE 604 | PRINCIPLES OF FOOD HYGIENE AND SAFETY | 3+1 | I |
| VPE 605 | MEAT AND MILK HYGIENE | 2+1 | II |
| VPE 606 | ENVIRONMENTAL POLLUTION AND SAFETY | 2+1 | I |
| VPE 607 | PRINCIPLES OF EPIDEMIOLOGY | 2+0 | I |
| VPE 608 | APPLIED EPIDEMIOLOGY | 2+1 | II |
| VPE 609 | LIVESTOCK AND POULTRY DISEASE INVESTIGATION | 0+2 | I |
| VPE 610 | VETERINARY CLINICAL EPIDEMIOLOGY | 1+1 | II |
| VPE 691 | MASTER'S SEMINAR | 1 | I, II |
| VPE 699 | MASTER'S RESEARCH | 20 | I, II |
| VPE 701 | CURRENT TOPICS IN VETERINARY PUBLIC HEALTH | 2+0 | I |
| VPE 702 | EMERGING AND REEMERGING ZOONOSES | 2+1 | I |
| VPE 703 | QUALITY CONTROL OF FOODS OF ANIMAL ORIGIN | 2+1 | I |
| VPE 704 | ADVANCES IN ENVIRONMENTAL POLLUTION CONTROL | 1+1 | II |
| VPE 705 | RECENT CONCEPTS IN EPIDEMIOLOGY AND DISEASE FORECASTING | 2+1 | I |
| VPE 706 | HERD HEALTH MANAGEMENT | 2+1 | I |
| VPE 707 | SURVEY, SURVEILLANCE AND DATA MANAGEMENT | 2+1 | II |
| VPE 708 | MOLECULAR APPROACHES IN EPIDEMIOLOGY | 2+1 | II |
| VPE 790 | SPECIAL PROBLEM | 0+2 | II |
| VPE 791 | DOCTORAL SEMINAR I | 1 | I, II |
| VPE 792 | DOCTORAL SEMINAR II | 1 | I, II |
| VPE 799 | DOCTORAL RESEARCH | 45 | I, II |

VETERINARY PUBLIC HEALTH AND EPIDEMIOLOGY

Course Contents

VPE 601 **ELEMENTS OF VETERINARY PUBLIC** **2+0** **SEM - I**
HEALTH

Objective

To acquaint students with basics of veterinary public health and to update knowledge of disaster, biological weapons, biological hazards and remedial measures, bioterrorism and biomedical hazards and their prevention.

Theory

UNIT-I: The purpose and scope of veterinary public health; veterinary interests in public health, principal functions and fields of activity of public health veterinarians.

UNIT-II: Definition of veterinary public health administration; organization, administration and implementation of veterinary public health services and programmes. Public health team, administration and functions; place of veterinarian in the public health team; veterinary public health agencies and institutions in India and abroad.

UNIT-III: Natural and man made disaster, impact analysis and classification of disaster, scale, essential preparations to manage disaster, role and sequence of emergency medical services by veterinarians, effect of natural disasters like floods, prolonged draughts, forest fires, earthquakes, tsunami and tidal damages, storms etc. on animal population both domestic and wild, post-disaster disease susceptibility, emergency control and remedial measures.

UNIT-IV: Biomedical hazards and biosafety, occupational health risk management, biological weapons, major agents and their characteristics which have been used in the past and those which can be used in future as biological weapons, hazard analysis and combating bioterrorism, bioethics and social ethics, advisory role of veterinarians.

Suggested Readings

Schwabe CW. 1969. *Veterinary Medicine and Human Health*. Williams & Wilkins.

Sherikar AT, Bachchil VN & Thapliyal DC. 2004. *Textbook of Elements of Veterinary Public Health*. ICAR.

Singh SK. 1998. *Disaster Management*. Mittal Publications, New Delhi.

VPE 602 **MICROORGANISMS OF PUBLIC HEALTH** **3+1** **SEM - I**
SIGNIFICANCE

Objective

To impart knowledge about importance and characteristic features of bacterial, viral, fungal, parasitic, chlamydial and rickettsial pathogens of public health significance.

Theory

UNIT-I: Importance of microbes in relation to veterinary public health; cultural, biochemical and other identification characters; ecology, transmission and survivability of bacteria in nature.

UNIT-II: Description of bacterial and viral pathogens of public health significance like *Bacillus*, *Listeria*, *Mycobacterium*, *Clostridium*, *Staphylococcus*, *Brucella*, *Leptospira*, *Vibrio*, *Salmonella*, *Escherichia*, *Campylobacter*, *Yersinia*, *Lactobacillus*, *Pseudomonas* and *Micrococcus*., Japanese encephalitis, encephalomyelitis, rabies, influenza, KFD, Rift valley fever, enteroviruses etc.

UNIT-III: Description of rickettsial, chlamydial and parasitic agents of public health significance belonging to genera *Coxiella*, *Rickettsia*, *Chlamydia*, *Taenia*, *Echinococcus*, *Trichinella*, *Toxoplasma*, *Diphyllobothrium*, *Fasciola*, *Cryptosporidium*, *Leishmaniasis*, etc.

UNIT-IV: Description of fungal agents of public health importance belonging to genera: *Aspergillus*, *Penicillium*, *Fusarium*, *Mucor*, *Histoplasma*, *Microsporium*, *Trichophyton* and *Sporotrichum*.

Practical

Isolation and identification methods for important bacterial, fungal, viral, parasitic and rickettsial agents of public health significance from host, vehicle and environment.

Suggested Readings

Ananthanarayan R & Panikar J. 1997. *Textbook of Microbiology*. Orient Longman.

Holt JG, Krieg NR, Sneath PHA, Staley JT & Williams ST. 1994. *Bergey's Manual of Determinative Bacteriology*. Williams & Wilkins.

Pathak KML. 1991. *Fundamentals of Parasitic Zoonoses*. Kalyani.

VPE 603 ZOONOSES AND PUBLIC HEALTH 2+1 SEM - II

Objective

To impart knowledge of epidemiology, prevention and control of important zoonotic diseases.

Theory

UNIT-I: Concept and classification of zoonoses; comprehensive description of etiology, host range, epidemiology, diagnosis and management of zoonotic diseases.

UNIT-II: Bacterial diseases: anthrax, brucellosis, tuberculosis, salmonellosis, yersiniosis, leptospirosis, listeriosis, plague, tularaemia, glanders, malidiosis, staphylococcosis, streptococcosis, tetanus, botulism, infections due to *Clostridium perfringens*, *E. coli*, *Aeromonas hydrophilla*, *Bacillus cereus* and *Vibrio parahaemolyticus*, cat scratch disease, chlamydiosis, Lyme disease, borreliosis (relapsing fever).

UNIT-III: Detailed description of viral zoonoses: influenza, rabies, tickborne encephalitis, FMD, hepatitis A & E, Norwalk, enterovirus, parvovirus, adenovirus, cytomegalovirus, astrovirus, calicivirus and coronavirus, vector borne viruses viz. Japanese encephalitis, Kyasanur forest disease, chickengunya, Crimean-Congo haemorrhagic fever, dengue fever, West-Nile virus, yellow fever, rift-valley fever, equine encephalitis, louping ill, and some rare and potential zoonotic viruses such as Newcastle and pox viruses, food-borne viruses viz. rota virus.

UNIT-IV: Q fever and other rickettsiosis, fungal infections viz. dermatophytosis, blastomycosis, coccidioidomycosis, cryptococcosis, histoplasmosis, aspergillosis, candidiasis, rhinosporidiosis and sporotrichosis. Attributes and impact of parasitic zoonoses; description, etiology, host range, epidemiology, diagnosis and disease management of echinococcosis, taeniasis and cysticercosis, toxoplasmosis, trichinellosis, cryptosporidiosis, dracunculosis, fasciolopsiosis, sarcocystosis, liver fluke diseases, cutaneous and visceral larva migrans, schistosomiasis, leishmaniasis, trypanosomiasis.

Practical

Isolation and identification of zoonotic agents, diagnostic procedures of zoonotic diseases.

Suggested Readings

Thapliyal DC. 1999. *Diseases of Animals Transmissible to Man*. International Book Distr. Co.

VPE 604 PRINCIPLES OF FOOD HYGIENE AND SAFETY 3+1 SEM - I

Objective

To acquaint the students about principles of food hygiene and quality improvement practices and to impart knowledge about major illnesses due to foods.

Theory

UNIT-I: Relation between veterinary public health and food hygiene; concept of food hygiene, impact of environmental sanitation and other factors on food quality.

UNIT-II: Food-borne bacterial and viral infections and intoxications due to *Salmonella*, *Campylobacter*, *Clostridium*, *Staphylococcus*, *Listeria*, *Vibrio*, *E. coli*, *Bacillus cereus*, bacterial toxins, infectious hepatitis, poliomyelitis, gastroenteritis etc, natural toxic substances in foods.

UNIT-III: Health problems due to food additives, biocides, bacterial toxins, heavy metals, antibiotics, hormones etc. in food. Food spoilage, safety and preservation methods.

UNIT-IV: General principles of prevention of food-borne illnesses, GMP, HACCP, risk analysis, Microbiological standards and quality control (biological and other indicators of hygienic quality and spoilage) of foods to prevent food borne infections.

Practical

Procedures for evaluation of hygienic/microbiological quality of raw and processed foods of animal origin by detection of biological and other indicators, detection and quantitation of food-borne pathogens, toxins, antibiotics, pesticides and additives in foods.

Suggested Readings

Jay JM. 1996. *Modern Food Microbiology*. CBS.

VPE 605 MEAT AND MILK HYGIENE 2+1 SEM - II**Objective**

To educate regarding general methods of food hygiene.

Theory

UNIT-I: Principles of food hygiene with special reference to foods of animal origin, human health and economics, nature and problems of food supply in India.

UNIT-II: Meat hygiene and public health, abattoir hygiene.

UNIT-III: Milk hygiene and public health, in-place cleaning.

UNIT-IV: Fish hygiene, egg hygiene, meat and milk adulteration, food legislation.

Practical

Milk and meat inspection, quality control tests of meat, milk and fish.

Suggested Readings

Gracey JF, Collins DS & Huey RJ. 1999. *Meat Hygiene*. WB Saunders.

Jay JM. 1996. *Modern Food Microbiology*. CBS.

WHO. 1962. *Milk Hygiene*. WHO.

VPE 606 ENVIRONMENTAL POLLUTION AND SAFETY 2+1 SEM - I**Objective**

To impart education about pollutants in the environment and their control.

Theory

UNIT-I: Introduction to environmental hygiene, environment and health, microbial aspects of pollution. Soil pollution, air pollution, water pollution and health.

UNIT-II: Genetic risk from environmental agents, health problems from nuclear energy and radiation pollution, environmental estrogens and pesticides pollution.

UNIT-III: Dissemination of excreted pathogens, animal-waste and human risk, principles of safe disposal of waste.

UNIT-IV: Heavy metals, pesticides, veterinary drug residues and human health.

Practical

Determination of potability of drinking water, estimation and detection of pathogenic microbes in water, air, soil, animal products, sewage, animal waste, inspection of sewage and waste disposal plants/sites.

Suggested Readings

Trieff NM. 1980. *Environment and Health*. Ann Arbor Science Publ.

VPE 607 PRINCIPLES OF EPIDEMIOLOGY 2+0 SEM - I**Objective**

To familiarize students with epidemiological concepts.

Theory

UNIT-I: Definitions, scope, concepts, types, application and common terms used in epidemiology.

UNIT-II: Host-Agent-Environmental factors in causation of diseases, disease patterns, routes and means of transmission of diseases, their interruption.

UNIT-III: Epidemiological data: its nature, sources, collection/sampling, designing of a questionnaire, storage, retrieval and presentation of data.

UNIT-IV: Disease monitoring and surveillance, epidemiological studies: experimental and observational, international organizations and laws regulating animal diseases.

Suggested Readings

Martin SW, Meek AH & Willeberg P. 1993. *Veterinary Epidemiology: Principles and Methods*. IBH.

Narayan KG. 2004. *Epidemiology, Diagnosis and Management of Zoonoses*. ICAR.

Schwabe CW, Riemann HP & Franti CE. 1984. *Epidemiology in Veterinary Practice*. 3rd Ed. Lea & Fabiger.

Thrusfield M. 2004. *Veterinary Epidemiology*. 8th Ed. Blackwell.

| | | | |
|----------------|---|------------|-----------------|
| VPE 608 | APPLIED EPIDEMIOLOGY | 2+1 | SEM - II |
| | Objective | | |
| | To acquaint students with the application of epidemiology in disease diagnosis, prevention and control. | | |
| | Theory | | |
| | <u>UNIT-I</u> : Principles of biosecurity, vaccines and vaccination, disinfection. | | |
| | <u>UNIT-II</u> : Epidemiological investigations of disease outbreak, modeling, disease forecasting, serological and molecular epidemiology. | | |
| | <u>UNIT-III</u> : Economics of diseases and different strategies for prevention and control of diseases and syndromes. Disease free zones and zero disease concept. | | |
| | <u>UNIT-IV</u> : Molecular basis of a disease, application of nucleic acid based assays for genomic characterization of field isolates vis-à-vis vaccine strains, emerging of new strains and vaccination failure. | | |
| | Practical | | |
| | Design proforma questionnaires for collection of information on health and diseases in populations, sero-surveys for important diseases of livestock and poultry, investigation of outbreaks, use of computer software in epidemiology. Extraction and isolation of nucleic acid of field isolates and vaccine strains, and their characterization by PCR and other molecular techniques. | | |
| | Suggested Readings | | |
| | Martin SW, Meek AH & Willeberg P. 1993. <i>Veterinary Epidemiology:Principles and Methods</i> . IBH. | | |
| | Thomas B. (Ed.). <i>Applied Veterinary Epidemiology</i> . Elsevier. | | |
| | Thrusfield M. 2004. <i>Veterinary Epidemiology</i> . 8 th Ed. Blackwell. | | |
| VPE 609 | LIVESTOCK AND POULTRY DISEASE INVESTIGATION | 0+2 | SEM - I |
| | Objective | | |
| | To expose students to actual field based investigations of diseases in livestock and poultry. | | |
| | Practical | | |
| | To attend outbreaks of infectious diseases and toxicological conditions in livestock and poultry in the field and at farms. Recording and analysis of data. Investigation and diagnosis on dead and live diseased animal(s) and poultry. Collection, preservation and transport of material in the face of disease outbreak, and processing of material in the laboratory for diagnosis, isolation of pathogens, antibiotic sensitivity test; screening of animal herds and poultry flocks for certain important diseases. Formulating and advising prevention and control measures. Estimation of Aflatoxins in feed samples and other poisons in suspected outbreaks. | | |
| | Suggested Readings | | |
| | Vihan VS. 2002. <i>Modern Veterinary Laboratory Techniques in Clinical Diagnosis</i> . CBS. | | |
| | Swayne <i>et al.</i> 2006. <i>A Laboratory Manual for the Isolation and Identification of Avian Pathogens</i> . IBD. | | |
| VPE 610 | VETERINARY CLINICAL EPIDEMIOLOGY | 1+1 | SEM - II |
| | Objective | | |
| | To familiarize students with various epidemiological approaches for solving field problems. | | |
| | Theory | | |
| | <u>UNIT-I</u> : Definitions and epidemiological approaches, measuring frequency of clinical events, incidence, prevalence, occurrence etc., principles of accuracy, precision, linearity, diagnostic sensitivity and specificity. | | |
| | <u>UNIT-II</u> : Uses of diagnostic tests, evaluation of diagnostic tests, cohort and case control studies. | | |
| | <u>UNIT-III</u> : Design and evaluation of clinical trials, cost of disease, cost benefit analysis. | | |
| | Practical | | |
| | Diseases of multiple etiology: mastitis, diarrhea, abortions, their diagnosis and prevention. Sampling, isolations and antibiotic/ culture sensitivity etc. statistical evaluation of diagnostic assays, sensitivity and specificity of diagnostic tests. | | |

Suggested Readings

Smith RD. 2005. *Veterinary Clinical Epidemiology - a Problem Oriented Approach*. 3rd Ed. Taylor & Francis, CRC.

**VPE 701 CURRENT TOPICS IN VETERINARY 2+0 SEM - I
PUBLIC HEALTH**

Objective

To acquaint with contemporary issues concerning VPH.

Theory

UNIT-I: Contemporary status of Veterinary Public Health administration, organization and functions of veterinary public health agencies in India and abroad.

UNIT-II: Advanced studies on principles, diagnostic methods of emerging public health problems, advances in zoonotic diseases. Role of biotechnology in food hygiene, Hazard Analysis Critical Control Point System (HACCP).

UNIT-III: Health/diseases associated with various occupations: Transportation, spread, maintenance and control of diseases affecting various occupational groups in contact with animals and their public health significance

UNIT-IV: Biohazards and bioterrorism: Case studies, innovative biosecurity approaches, regulations for safety in laboratories, hospitals, biological plants, case studies of natural and man made disasters, approaches for management of disasters, formation of teams/groups, equipments required for managing such disasters.

Suggested Readings

Goel SL. 2007. *Disaster Administration and Management: Text and Case Studies*. Deep & Deep Publ., New Delhi.

Pinnkowski J. (Ed.). 2008. *Disaster Management Handbook*. CRC Press, Boca Raton.

Selected articles from journals.

**VPE 702 EMERGING AND RE-EMERGING 2+1 SEM - I
ZONOOSES**

Objective

To acquaint with emerging and re-emerging zoonotic diseases.

Theory

UNIT-I: Concept of emerging and re-emerging zoonotic infections, international interests in zoonoses, measurement and economics of zoonoses, latest diagnostic and management planning for zoonoses.

UNIT-II: Current challenges and strategies, euzoonoses, xenozoonoses, nosocomial zoonoses, newer zoonotic agents viz. cat-scratch disease, rat bite fever, Creutzfeld-Jacob disease, Ebola, Marburg, Lassa, Nipah, Menangle, Herpes B, SARS.

UNIT-III: Simian and human immunodeficiency, bovine spongiform encephalopathy, hepatitis A & E, toro, influenza viruses; re-emerging zoonoses with new pathology viz. neurocysticercosis, campylobacteriosis, rabies, Guillan-Barre Syndrome, tuberculosis.

Practical

Special problems related to emerging/re-emerging prevalent zoonotic diseases in India.

Suggested Readings

Selected articles from journals.

**VPE 703 QUALITY CONTROL OF FOODS OF 2+1 SEM - I
ANIMAL ORIGIN**

Objective

To provide expertise to student in food quality control.

Theory

UNIT-I: Microorganisms influencing food quality and food safety, principles of microbiological quality control of foods.

UNIT-II: Major food-borne pathogens and spoilage organisms; their significance in consumer safety.

UNIT-III: Detection of microorganisms in foods of animal origin.

UNIT-IV: Importance and maintenance of abattoir and meat plant sanitation, dairy plant sanitation, food plant waste disposal.

Practical

Special problems on microbiological quality of foods of animal origin; detection, enumeration and identification of important food-borne pathogens. Evaluation of sanitation and disinfection procedures in food plants, evaluation of efficacy of disinfectants.

Suggested Readings

Selected articles from journals.

VPE 704 ADVANCES IN ENVIRONMENTAL 1+1 SEM - II
POLLUTION CONTROL

Objective

To update knowledge on modern environmental pollution problem and control.

Theory

UNIT-I: Advanced studies on problems pertaining to environmental hygiene, air, soil and water pollution, disinfection procedures, impact of global environmental problems on human/animal health; ecophilosophy, environmental ethics and environmental economics, environmental conflicts and cooperation.

UNIT-II: Environmental risks and management, environmental risk assessment and reporting, modern global information, surveillance and monitoring systems, decision making and public awareness.

UNIT-III: International environmental management efforts, participatory international organizations and their selected programmes and selected legislations.

Practical

Detection and estimation of air, soil and water pollution; detection of pathogens in environmental sources.

Suggested Readings

Selected articles from journals.

VPE 705 RECENT CONCEPTS IN EPIDEMIOLOGY 2+1 SEM - I
AND DISEASE FORECASTING

Objective

To learn about different epidemiological aspects of major diseases and to develop suitable disease forecasting system.

Theory

UNIT-I: Review of epidemiological concepts and applications, recent concepts.

UNIT-II: Epidemiology of economically important diseases in the region (haemorrhagic septicemia, foot and mouth disease, surra, brucellosis, PPR, swine fever, IBD, fowl typhoid, avian Influenza, sheep pox etc.

UNIT-III: Geographical Information System and its applications in epidemiology, various expert systems and their role in epidemiology.

UNIT-IV: Modeling and application of various models in disease forecasting. Epidemiological software.

Practical

Epidemiological exercises of economically important diseases in the region, use of Geographical Information System in epidemiology, various expert systems, modeling and various models used in disease forecasting, use of various epidemiological softwares.

Suggested Readings

Noordhuizen JPTM, Franklin K, Thrusfield MV & Graat EAM. 2003. *Application of Quantitative Methods in Veterinary Epidemiology*. IBD.

VPE 706 HERD HEALTH MANAGEMENT 2+1 SEM - I

Objective

Adoption of holistic approach to address issues of herd health without affecting production.

Theory

UNIT-I: General principles, interactions between health and production.

UNIT-II: Dairy cattle: mastitis, brucellosis and haemoprotozoan control and health management of dairy cows and calves.

UNIT-III: Health and production in swine, sheep, goats and poultry.

Practical

Visit to farms, assessment of their problems, systematic programme or control of a specific disease and its impact, economics.

Suggested Readings

Radostits & Blood DC. 1996. *Herd Health*. Book Power.

VPE 707 SURVEY, SURVEILLANCE AND DATA 2+1 SEM - II
MANAGEMENT**Objective**

To demonstrate different methodologies and procedures involved in conducting survey and surveillance, collection, analysis & interpretation of data.

Theory

UNIT-I: Over-view of concepts of survey and surveillance, purpose and method of sampling, size of sample, questionnaires.

UNIT-II: Goals and types of surveillance, monitoring, mechanism of surveillance and surveillance network.

UNIT-III: Disease/data recording and reporting, vet. recording schemes, vet. information system and data bases.

UNIT-IV: General concepts for emergence of new diseases and re-emergence of old diseases. Epidemiology of globally and nationally important emerging/re-emerging diseases and designing of strategies for their prevention and control.

Practical

Development of questionnaires on selective topics, survey of livestock and poultry farmers to find out usefulness/effectiveness of vaccination/ artificial insemination/ other practices, surveillance of important diseases in different parts of state, analysis and presentation of data, development of suitable software.

Suggested Readings

Selected articles from journals.

VPE 708 MOLECULAR APPROACHES IN EPIDEMIOLOGY 2+1 SEM - II**Objective**

Learning of recent advanced molecular techniques for establishing disease diagnosis.

Theory

UNIT-I: The concept of molecular basis of a disease, molecular determinants of pathogenicity of infectious agents and their transmissibility to susceptible populations of livestock and poultry.

UNIT-II: Laboratory biosafety, antigenic, genetic and biological characterization of field isolates of pathogens incriminated in field outbreaks, differentiation of field and vaccine strains, the concept of marker vaccines, and correlation of pathotypes and genotypes of a pathogen.

UNIT-III: Immunological tests, immunoblotting techniques and use of monoclonal antibodies in different ELISAs for antigenic analysis. Application of nucleic acid based assays viz. polymerase chain reaction (PCR) assays, nucleotide sequencing, restriction endonuclease analysis and RFLP analysis for genomic characterization using the field material directly or after extraction of nucleic acid from small scale cultures, use of radioactively labeled or non radioactive oligo-nucleotide probes in dot-blot and Southern hybridizations.

Practical

Extraction and isolation of nucleic acid from field isolates of the causative pathogens, digestion with restriction endonucleases and electrophoresis in agarose gel in order to obtain fingerprints and their comparative analysis. SDS-PAGE for protein profiling. Western blotting and ELISA for screening of field samples.

Suggested Readings

Selected articles from journals.

VPE 790 SPECIAL PROBLEM 0+2 SEM - I, II**Objective**

To provide expertise in handling practical research problem(s).

Practical

Short research problem(s) involving contemporary issues and research techniques.

VETERINARY PUBLIC HEALTH AND EPIDEMIOLOGY

List of Journals

- Abstracts on Hygiene and Communicable Diseases
- Applied and Environmental Microbiology
- Avian Diseases
- Avian Pathology
- British Veterinary Journal
- Emerging Infectious Diseases
- Epidemiology and Infection
- Food Science and Technology Abstracts
- Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases
- Infection and Immunity
- Journal of Food Protection
- Journal of Food Science and Technology
- Journal of Veterinary Public Health
- Letters in Applied Microbiology
- Quarterly Bulletin of O.I.E.
- Tropical Animal Health and Production
- Veterinary Microbiology
- Veterinary Record
- World Animal Health

e-Resources

- www.who.int/zoonoses/vph/en (W.H.O. website related to zoonotic diseases)
- www.fao.org (Website of Food and Agriculture Organization)
- www.cdc.gov (website of CDC publications)
- <http://calvados.c3sl.ufpr.br/ojs2/index.php/veterinary/> (Archives of Veterinary Science)
- <http://www.pjbs.org/ijps/ijps.htm> (International Journal of Poultry Science)
- <http://www.medwellonline.net/java/fp.html> (Journal of Animal and Veterinary Advances)
- <http://www.jstage.jst.go.jp/browse/jpsa> (Journal of Poultry Science)
- <http://www.jstage.jst.go.jp/browse/jvms/-char/en> (Journal of Veterinary Medical Science)
- <http://www.cipav.org.co/lrrd/> (Livestock Research for Rural Development)
- <http://www.jstage.jst.go.jp/browse/jpestics> (Journal of Pesticide Science)
- <http://www.vetsci.org> (Journal of Veterinary Science)

Suggested Broad Topics for Master's and Doctoral Research

- Prevention and control of emerging and re-emerging food-borne infections and intoxications
- Prevention and control of major zoonotic diseases of local importance
- Environmental pollution and health problems
- Food safety, risk analysis and shelf life
- Food adulteration and food safety
- Molecular and epidemiological studies on infectious diseases of livestock and poultry
- Surveillance of economically important diseases of farm animals and poultry
- Development of immunodiagnostic/ sero-diagnostic tests for field application
- Monitoring of protective immunity induced by vaccines under different schedules
- Diagnostic assay for milk adulterants
- Diagnostic assays and epidemiological studies in respect of toxicants in livestock and poultry feeds