

Part-A Introduction

Program Certificate	Class :B.Sc.	Year: I Year	Session 2021-22
Subject- Veterinary			
1.	Course code	- S1-VETE1T.	
2.	Course title	Veterinary Anatomy (Paper- I)	
3.	Course type	Core course	
4.	Pre requisite (If any)	To study this course, a student must have had biology in class 12 th . This course can be obtained as a core course by the students of all biological sciences.	
5.	Course learning outcomes CLO	Upon completion of this course student will be able to gain the knowledge of various aspects of veterinary anatomy like general osteology, arthrology & myology.	
6.	Credit value	4	
7.	Total marks	Max. marks : 100 (25+75) Min. Passing Marks:33	

Part-B Content of the course

Total number of Lectures/Tutorials/Practical (Two hours per week) : 60

S.no.	Unit	Topics	No. of Lectures
I.	Anatomy and of anatomy.	<p>1. Historical Background of animal anatomy</p> <p>2. General Osteology: Study of properties and structure of bone. Classification of skeletons. classification of bones with suitable examples and terms used in osteology.</p> <p>3. General Arthrology: Introduction to arthrology, classification of joints. different diarthrodial joints. structure of diarthrodial joints and movements permitted.</p> <p>4. General Myology: Introduction to myology, classification of muscles, etymology of muscles. Description of tendon, ligaments, aponeurosis, synovial bursa and synovial sheath. (Note: Detailed description of muscles of different regions of the body will be studied in the respective practical).</p> <p>5. General Angiology: Introduction to angiology. Structure of heart. General plan of systemic and pulmonary circulations, lymphatic and venous systems.</p> <p>6. General Neurology: Introduction to neurology and parts of central, peripheral and autonomic nervous system and sense organs. Formation of spinal nerve. Structure of meninges. brain. spinal cord.</p> <p>7. General Aesthesiology: Different surface regions, joint regions, Palpable Bony areas or prominences of the body of the animal. Palpable Lymph nodes and Arteries of the body and Surface veins for Venepuncture. Sites for collection of Bone marrow and Cerebrospinal fluid.</p> <p>8. General Splanchnology :Introduction to splanchnology , boundaries of thoracic, abdominal and pelvic and pelvic cavities ,topography of different organs of digestive, respiratory, urinary, endocrine, male and female reproductive systems of domestic animals and fowl. Principles and application of Radiography and Ultrasound for bones and soft tissues.</p>	20
Keywords/Tags: skeletons, joints, muscles, heart, nervous system, Ox.			
II.	Anatomy of Fore limb	<p>1. Study of bones of fore limb of ox and differences in horse, dog, pig and fowl.</p> <p>2. Study of hoof of ox and horse. Study of joints, ligaments, stay apparatus, major blood vessels, nerves, veins and lymph nodes of fore limb. Sites for Radial, Median, Ulnar and Volar nerve blocks.</p>	10

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Keywords/Tags: Bones, Domestic animals, ligaments, blood vessels, nerves, nerve blocks.

III.	Anatomy of Head and neck	<p>1. Study of cranial and facial bones, cervical vertebrae of ox and differences in horse, dog, pig and fowl. Boundaries of the oral, orbital, nasal and cranial cavities.</p> <p>2. Study of paranasal sinuses in ox, horse, dog and pig. 3. Study of articulations and special ligaments of the head and neck. Muscles of face, mastication, eye, ear, tongue, pharynx, soft palate, hyoid and larynx.</p> <p>4. Study of teeth, hard and soft palate, tongue, pharynx, larynx, thyroid, parathyroid and salivary glands and differences in horse, dog, pig and fowl.</p> <p>5. Study of cranial nerves, blood vessels and lymph nodes of head and neck regions.</p> <p>6. Study of boundaries of jugular furrow and structures of carotid sheath along with neck muscles.</p> <p>7. Study of sense organs, trachea and oesophagus.</p> <p>8. Age determination by Dentition. Sites for Tracheotomy, Esophagotomy, Ligation of Stensons duct and Mental. Mandibular. Maxillary. Cornual. Infraorbital, Supraorbital (frontal), Orbital and Auriculopalpebral nerve blocks and surgical approach to guttural pouches in horse.</p> <p>9. Importance of Cornual nerve and superficial Temporal artery in Amputation of Horn in cattle.</p>	20
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Keywords/Tags: Cranial bones, cranial nerves, Muscles, Sense organs, Dentition.

IV.	Anatomy of Thorax	<p>1. Study of thoracic vertebrae, ribs and sternum of ox and differences in horse, dog, pig and fowl.</p> <p>2. Study of joints, special ligaments, blood vessels, nerves, lymph vessels and lymph nodes of thorax.</p> <p>3. Study of organs of thorax i.e. trachea, thymus, oesophagus, lungs and differences in horse, dog, pig and fowl.</p> <p>4. Study of pleura, its reflections and mediastinum. Areas of auscultation and percussion of heart and lungs and site for Paracentesis Thoracis.</p>	10
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Keywords/Tags: Vertebrae, ribs, sternum, thorax, pleura.

Part C-Learning Resources

Text Books, Reference Books, Other resources

Suggested Readings:

1. Cappello, M & Aspinall, V, "Introduction to veterinary anatomy & physiology", 2004.
2. Hayes, K, "Anatomy & physiology of animals", M.I. Books International 2016.
3. Sally, J. Bowden, vn, "Introduction to veterinary anatomy & physiology of workbook", 2nd edition, Elsevier & health sciences, 2012.
4. Reece, W., "Functional anatomy & physiology of domestic animals by CTI reviews", Cram101, 2016.
5. Jones M., "BSAVA Text book of veterinary nursing", British small animal veterinary association, 5th edition, 2011.
6. Ghosh R.K., "Primary Veterinary anatomy", Current books international, 7th edition, 2018.
7. Ghosh R.K., "Essential of veterinary histology & embryology", Current books international, 3rd edition, 2017.
8. Philip E. Cockran, "Laboratory manual for comparative veterinary anatomy & physiology", Delmar thomson learning, 2nd edition, 2010.
9. Bhamburkes Vithal, R., "Veterinary anatomy", New India publishing agency.
10. Singh Baljeet "Dyce sack & wensing's textbook of veterinary anatomy", Saunders.
11. Jadon N. S. "Veterinary anatomy and physiology", New India publishing agency, NIPA
12. Sathapathy Shrinivas & Mohapatra Swagat. "Essentials of Veterinary Anatomy & Physiology in Domestic

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Animals and Birds", Narendra Publishing House.

13. डॉ. मनीष वशिष्ठ, डॉ. प्रदीप जांगीर, "पशु शरीर रचना विज्ञान" मुरलीधर प्रिंट्स

14. डॉ. उगमसिंह शेखावत (करोरी) "पशु शरीर रचना विज्ञान" SPH प्रकाशक

15. गोविन्द नारायण पुरोहित, "पशु शरीर रचना विज्ञान कोष" आधुनिक विज्ञान प्रकाशक

Suggestive digital platforms web links :

- 1) https://www.youtube.com/channel/UCoNyjGQs-_kMBdv_sWggA for veterinary anatomy video lectures.
- 2) <http://www.drvet.in>>bvsc-ah.
- 3) <http://ims.tanu.vas.ac.in>>view
- 4) <http://cvm.msu.edu>>vetschool-tails
- 5) <http://www.journeywithasr.com>

Part D-Assessment and Evaluation

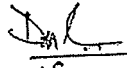
Suggested Continuous Evaluation Methods:

Maximum Marks : 100

Continuous Comprehensive Evaluation (CCE) : 25marks University Exam (UE) 75 marks

Internal Assessment : Continuous Comprehensive Evaluation (CCE):25	Class Test Assignment/Presentation	15 10
External Assessment : University Exam Section: 75 Time : 02.00 Hours	Section(A) : Three Very Short Questions (50 Words Each) Section (B) : Four Short Questions (200 Words Each) Section (C) : Two Long Questions (500 Words Each)	03 x 03 = 09 04 x 09 = 36 02 x 15 = 30 Total 75.

Any remarks/ suggestions:


 19-8-21
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 Head
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 Govt P.G. College Barwani (M.P.)

Format for Syllabus of Practical Paper

Part-A Introduction

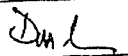
Program Certificate	Class :B.Sc.	Year: I Year	Session 2021-22
Subject: Veterinary			
1	Course Code	S1 -VETE 1P	
2	Course Title	Lab work on veterinary anatomy I	
3	Course Type (Core Course/Elective/Generic Elective/Vocational/.....)	Core Course	
4	Pre-requisite (if any)	To study this course. a student must have had biology in class 12 th . This course can be obtained as a core course by the students of all biological sciences.	
5	Course Learning outcomes (CLO)	Upon completion of this course student will be able to gain the practical knowledge of various aspects of veterinary anatomy like general osteology, arthrology, mycology and working knowledge of various instruments and apparatus.	
6	Credit Value	2	
7	Total Marks	Max. Marks: 25+75	Min. Passing Marks:33

Part B- Content of the Course

Total No. of Lectures-Tutorials-Practical (Two hours per week): 30

L-T-P:

Unit	Topics	No. of Lectures
I	Study of general terms used in anatomy. study of anatomical planes. Study of different parts of skeleton, different surface and joint regions. Study of boundaries of thoracic, abdominal and pelvic cavities. Demonstration of different types of joints, muscles, tendons, ligaments, synovial bursa and synovial sheath. In situ demonstration of heart, meninges, brain and spinal cord. Boundaries of Thoracic, Abdominal and Pelvic Cavities and in situ demonstration of organs of digestive, respiratory, urinary, endocrine, male and female reproductive systems of domestic animals. Demonstration of Different surface regions, joint regions and Palpable Bony areas or prominences of the body of the animal , Common sites of fractures, Palpable Lymph nodes and Arteries of the body (ventral coccygeal artery in ox, femoral artery in dog and cat , facial artery in horse) and Surface veins for Venepuncture (cephalic vein and recurrent tarsal vein in dog and cat , jugular vein in large animals.) and Sites for collection of Bone marrow and Cerebrospinal fluid. Visualization of Radiographs and ultrasound pictures of various organs and Fractures of various bones.	10
II	Fore limb: Demonstration of different bones of fore limb of ox and comparison with horse, dog, pig and fowl. Dissection of the fore limb. Study of joints, ligaments, muscles, major blood vessels, lymph nodes and nerves of fore limb. Study of sites for different nerve blocks or neurectomies in fore-limb. Study of suprascapular nerve paralysis-shoulder sweeney, radial nerve paralysis-capped elbow. Structure of the equine hoof and comparison with ox. Demonstration of radiographs of normal bones of fore limb. Clinical importance of cephalic vein for intravenous injections in dog.	05
III	Head and neck: Demonstration of cranial and facial bones, cervical vertebrae of ox and comparison with horse, dog and fowl. Dissection of muscles of face, mastication, tongue, pharynx, soft palate, hyoid, larynx, eye and ear. Dissection of superficial neck muscles. Dissection of brain and its parts. Dissection or demonstration of tunics of eye. Study of teeth.	10


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	tongue, pharynx, thyroid, parathyroid and salivary glands and differences in horse, dog, pig and fowl. Study of cranial nerves and blood vessels of head and neck regions. Study of trachea and oesophagus. Study of nerve blocks of the head i.e. corneal, auriculopalpebral, Peterson's orbital nerve block, mandibulo-alveolar and mental nerve blocks. Importance of facial artery for recording pulse in horse. Surgical importance of Stenson's duct in domestic animals. Surgical approach to guttural pouches-Viborg's triangle. Clinical importance of jugular vein for intravenous injections in large animals. Demonstration of radiographs of normal bones of head and neck.	
IV	Thorax: Demonstration of thoracic vertebrae, ribs and sternum of ox and comparison with horse, dog, pig and fowl. Dissection of muscles, blood vessels, nerves and lymph nodes of thorax. Demonstration of organs of thorax i.e. trachea, oesophagus, thymus, lungs and heart and differences in horse, dog, pig and fowl. Study of pleural reflections of thoracic cavity. Demonstration of sites for auscultation and percussion. Recurrent laryngeal nerve paralysis-roaring in horses. Choke or oesophageal obstruction. Demonstration of radiographs and videos of ultrasonography of organs of thorax.	05

Keywords/Tags:**Part C-Learning Resources****Text Books, Reference Books, Other resources****Suggested Readings:**

1. Jones M. & Mullineaux E., "BSAVA manual of practical of veterinary nursing", British small animal veterinary association, 4th edition, 2007.
2. Satha pathy, S., Joshi, S.K. & Singh. M.K., "A Handbook on anatomy & physiology of domestic animals & birds", Satish serial publishing house, 2015.

Suggestive digital platforms web links:**Suggested equivalent online courses:****Part D-Assessment and Evaluation****Suggested Continuous Evaluation Methods:**

Internal Assessment	Marks	External Assessment	Marks
Class Interaction /Quiz	10	Viva Voce on Practical	15
Attendance	5	Practical Record File	10
Assignments (Charts/ Model Seminar / Rural Service/ Technology Dissemination/ Report of Excursion/ Lab Visits/ Survey / Industrial visit)	10	Table work / Experiments 1. Spotting (10) - 20 2. Major dissection - 10 3. Minor dissection - 05 4. Exercise based on radiographs - 15	50
TOTAL	25		75

Any remarks/ suggestions: Dissection will be carried out on cadavers procured by way of donation of animals or animals obtained from post-mortem section and the donated animals should be either incurable or in terminal stages and preserved specimens should be used. Within one year each college must setup a body donation programme or wild body programme. Computer simulations software's, models, mannequins, plastinated specimens, preserved body organs, models should be used for better understanding of the subject.

Dr. *[Signature]*
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(Dr. *[Signature]*)

Head

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Format for Syllabus of Theory Paper

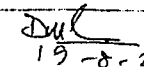
Part A Introduction			
Program: Certificate	Class :B.Sc.	Year: Ist Year	Session: 2021-22
Subject:			
1	Course Code	S1 - VETE 2T	
2	Course Title	Veterinary Anatomy Paper - II	
3	Course Type (Core Course/Elective/Generic Elective/Vocational/.....)	Core course	
4	Pre-requisite (if any)	To study this course, a student must have had the subject Biology in class/12 th . This course can be opted as a core course by the students of Biology.	
5	Course Learning outcomes (CLO)	After completion of this course, students will be able to : 1. Furnish the knowledge about the structure and forms of various organ systems, histology, embryology of domestic animals and birds. 2. Get thorough knowledge about the joints, muscles, blood vessels and nerves of Ox as a type of animal. 3. Provide anatomical knowledge which can be applied in physical and clinical examinations and prepare them to understand Pet's problems. 4. Prepare base to get employment in animal care hospitals, zoo or as animal care specialists in private & govt. sectors. 5. Get exposure to develop communication skills required in this field by preparing assignment and projects.	
6	Credit Value	4	
7	Total Marks	Max. Marks: 25+75	Min. Passing Marks:33

Part B- Content of the Course

Total No. of Lectures-Tutorials-Practical (Two hours per week): 60 Hours

L-T-P:

Unit	Topics	No. of Lectures
I	Abdomen : 1. Study of bones of abdomen of Ox and differences in horse, dog, pig and fowl. 2. Study of joints, special ligaments, blood vessels, nerves of abdomen region. Blood and nerve supply to abdominal viscera. Study of peritoneal reflections. 3. Organs of digestive, Urinary, male and female reproductive systems present in abdomen and difference in horse, dog, pig and fowl. 4. Study of mammary glands in cow and difference in mare, bitch and sow. 5. Study of spleen of Ox and difference in horse, pig, dog and fowl. 6. Study of major veins, lymph vessels, lymph nodes and endocrine glands of abdomen. 7. Boundaries and clinical importance of the flank and para lumbar fossa. 8. Sites of liver, Gall Bladder and Caecal Bipoies, Lapartotomy, Rumenocentesis, Rumenotomy, Abomasotomy, Splenectomy.	20


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	<p>Cystostomy, Caesarean operation, enterotomy and paravertebral block. Keywords: Abdominal cavity, joints, spleen of Ox, flank, abomasotomy, enterotomy.</p>	
II.	<p>Hind Limbs and Pelvis :</p> <ol style="list-style-type: none"> 1. Study of bones of hind limb and pelvis of Ox and difference in horses, dog, pig and fowl. 2. Study of joints, ligaments, blood vessels, lymph nodes and nerves of hind limb, pelvis and tail region and pelvic viscera. 3. Study of peritoneal reflections, organs of digestive, urinary, male and female reproductive systems present in pelvic cavity and difference in horse, dog, pig and fowl. 4. Boundaries of the inguinal canal and structure of spermatic cord, pre pubic tendon and its importance. 5. Study of external genital organs. 6. Sites for Tibial, Peroneal, Plantar and Pubic nerve blocks, Patellar desmotomy, Urethrotomy, Castration, Vasectomy, Cranial and Caudal epidural anaesthesia. <p>Keywords : hind limb, Plevis, Peritoneal reflections, inguinal canal, external genital organs, Patellar desmotomy, vasectomy.</p>	20
III	<p>Cytology :</p> <ol style="list-style-type: none"> 1. Cell functions, Study of basic tissues i.e. epithelial connective, muscular and nervous tissues, blood and bone marrow. 2. Study of microscopic, structures of digestive, circulatory, urinary, respiratory, nervous, lymphatic, endocrine glands. 3. Male and female genital systems and mammary glands of domestic animals. 4. Study of microscopic structures of sense organs i.e. eye, ear and integument. <p>Keywords : Cell junctions, epithelial tissue, microscopic structure of digestive system, eye and ear.</p>	10
IV	<p>Introduction to Embryology :</p> <ol style="list-style-type: none"> 1. Gametogenesis, Fertilization, Cleavage, Types of eggs, Morula, blastulation, Gastrulation. 2. Types of implantation, twinning 3. Formation of foetal membranes in mammals and birds. 4. Placenta and its classification different germ layers and their derivatives. 5. Study of development of organs of digestive system, development of tongue, teeth, salivary glands, liver and pancreas. 6. Study of development of organs of respiratory, urinary, circulatory, lymphatic, nervous and musculo skeletal system. 7. Study of development of male and female reproductive systems, Development of Endocrine glands and sense organs i.e. eye and ear. <p>Keywords : Gametogenesis, blastulation, implantation, Placenta, development of tongue, respiratory system.</p>	10

Part C-Learning Resources

Text Books, Reference Books, Other resources

Suggested Readings:

- 1) Cappello, M & Aspinall, V. "Introduction to Veterinary Anatomy and Physiology". 2004.
- 2) Hayes, K, "Anatomy & Physiology of animals". M.L. Books International 2016.
- 3) Sally, J. Bowden, vn. "Introduction to Veterinary Anatomy & Physiology of workbook",

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- 2nd edition, Elsevier & health sciences, 2012.
- 4) Reece, W., "Functional Anatomy & Physiology of domestic animals by CTI reviews", Cram101, 2016.
 - 5) Jones M., "BSAVA Text book of Veterinary Nursing", British small animal veterinary association, 5th edition, 2011.
 - 6) Ghosh R.K., "Veterinary Anatomy" Current books international, 7th edition, 2018.
 - 7) Aspinall J. Richard J, Aspinall V, "Theory & Practice of Animal Taxonomy & Biodiversity".
 - 8) Colville Thomas P, "Clinical Anatomy", Mosby, 3rd Edition 2015.
 - 9) Saunders, "Veterinary Anatomy", Saunders, 2nd Edition 2015.
 - 10) Meehan Roberta M, "Fundamental of Anatomy & Physiology", Prentice Hall 1997.
 - 11) Bhambhurkar Vitthal R. "Veterinary Anatomy", New India Publishing Agency.
 - 12) Singh Baljit, "Dyve . Sack and Wensing's textbook of Veterinary Anatomy", Saunders.
 - 13) Jadon Narendra Singh "Veterinary Anatomy & Physiology", New India Publishing Agency, NIPA.
 - 14) Sathapathy Shrinivas & Mohapatra Swagat, "Essentials of Veterinary Anatomy & Physiology in Domestic Animals and Birds", Narendra Publishing House.

Suggestive digital platforms web links :

- 1) https://www.youtube.com/channel/UCoNyjGQs--kMBdv_sWggA for veterinary anatomy video lectures.
- 2) <http://www.drvet.in>bvsc-ah>.
- 3) <http://ims.tanu.vas.ac.in >view>
- 4) <http://evm.msu.edu>vet-school-tails>

Suggested equivalent online courses:

- 1) <http://ecourseonline.iasri.res.in>view>
- 2) <http://ecourses.icar.gov.in/e-Learning>
- 3) <http://UGVeterinary & Animal Husbandry-e-Krishiksha>.

Part D-Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks : 100

Continuous Comprehensive Evaluation (CCE) : 25marks University Exam (UE) 75 marks

Internal Assessment :	Class Test Assignment/Presentation	15
Continuous Comprehensive Evaluation (CCE):25		10
External Assessment :	Section(A) : Three Very Short Questions (50 Words Each)	03 x 03 = 09
University Exam Section: 75	Section (B) : Four Short Questions (200 Words Each) Section (C) : Two Long Questions (500 Words Each)	04 x 09 = 36
Time : 02.00 Hours		02 x 15 = 30 Total 75

Any remarks/ suggestions:

Dmk
18-8-21
(Dr. Dhanu Sharma)

Head

Deptt. of Zoology
Govt P.G. College Barwani (M.P.)

Format for Syllabus of Practical Paper

Part A Introduction			
Program: Certificate	Class : B.Sc.	Year: 1st year	Session: 2021-22
Subject:			
1	Course Code	S1-VETE 2P	
2	Course Title	Lab work of Veterinary Anatomy Paper- II	
3	Course Type (Core Course/Elective/Generic Elective/Vocational/....)	Core Course	
4	Pre-requisite (if any)	To study this course, a student must have had the subject Biology in class/12 th . This course can be opted as a core course by the students of Biology.	
5	Course Learning outcomes (CLO)	1) Course investigates the structure and function of the animals body most commonly seen in veterinary practice such a live stock, avian, laboratory animals. 2) The lab component will allow students to gain experience with the tools and techniques used to study the body on a macroscopic and microscopic level. 3) Demonstrate microscopy and dissection skills as they pertain to the cytology, histology and anatomy of animal species.	
6	Credit Value	4	
7	Total Marks	Max. Marks: 25+75	Min. Passing Marks:33
Part B- Content of the Course			
Total No. of Lectures-Tutorials-Practical (Two hours per week): 30 Hours			
L-T-P:			
Unit	Topics	No. of Lectures	
I	Abdomen : 1. Demonstration of Bones forming boundaries of abdomen of Ox. 2. Its comparison with horse, dog and fowl. 3. Dissection of muscles, blood vessels and nerves of abdomen. 4. Demonstration of peritoneum, omentum, mesentary and organs of digestive, urinary , male and female reproductive system its difference with horse, dog, pig and fowl. 5. Demonstration of mammary glands of cow, mare, bitch and sow. 6. Demonstration of major veins, lymph vessels, Topographic location of abdominal viscera of Ox. 7. Demonstration of sites for Laparotomy, Caesarean section, Ovariohysterectomy, catheterization of urinary bladder and sites for anaesthesia. 8. Sites for liver, Gall bladder, Caeccal , biopsies. 9. Laparotomy, Rumenocentesis, Rumenotomy, Absomasotomy, splenectomy. 10. Caesarian operation, catheterization of urinary bladder. 11. Demonstration of radiographs and videos of ultrasonography of organs of abdomen. Keywords : Bones of Abdomen, Peritoneum, omentam, mammary	8	

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	glands of cow, laparotomy, catheterization.	
II	<p>Hind Limb & Pelvis :</p> <ol style="list-style-type: none"> 1. Demonstration of bones of hind limb of Ox (its comparison with horse, dog, pig & fowl). 2. Demonstration of joints & ligaments of hind limb and pelvis. 3. Dissection of muscles, blood vessels, lymph nodes and nerves of hind limbs and pelvic cavity. 4. Demonstration of organs of digestive, Urinary, male & female reproductive systems in Pelvic cavity. 5. Study of External genital organs, Clinical importance of femoral artery to record pulse in dog. 6. Clinical importance of recurrent tarsal vein for intravenous injections in dogs. 7. Demonstration of radiographs of normal bones & videos of ultrasonography of organs of Pelvis. 8. Demonstration of sites for Tibial nerver blocks, Potellar desmotomy, urethrotomy, castration, vasectomy & anaesthesia. <p>Keywords : Bones of hind limbs, Dissection of muscles, tarsal vein, Tibial nerve block, Castration.</p>	8
III	<p>Microscopy and Micrometry :</p> <ol style="list-style-type: none"> 1. Comparison of light and election microscopy. 2. Histological techniques, processing of tissues for paraffin sectioning and haematoxylin and cosin staining. 3. Microscopic examination of epithelium, connective tissue, muscular tissue, nervous tissue and blood. 4. Microscopic examination of organs of digestive, circulatory, urinary, respiratory, nervous, lymphatic, endocrine, male and female genital system and sensory organs of domestic animals. <p>Keywords : Light microscopy, Electron microscopy, Paraffin, Sectioning, nervous tissue, organs of circulatory system.</p>	8
IV	<p>Embryology :</p> <ol style="list-style-type: none"> 1. Demonstration of Placenta, Umbilical and foetal membranes of different domestic animals. 2. Demonstration of congenital anomalies of domestic animals as per availability. 3. Study of slides of developing organs of different systems as per the availability. 4. A embalmed cadaver of buffalo calf (procured through donated animals or cardavards obtained from post motem sections) to be used for dissection purposes. <p>Keywords : Foetal membranes of domestic animals, Congenital anomalies of domestic animals, embalmed cadaver</p>	6

Keywords/Tags:

Part C-Learning Resources

Text Books, Reference Books, Other resources

Suggested Readings:

1. Jones M R.e & ad Minuglsl:i neaux E., "BSAVA manual of practical of Veterinary Nursing", British small animal veterinary association, 4th edition, 2007.
2. Satha pathy, S., Joshi, S.K. & Singh, M.K., "A Handbook on Anatomy & Physiology of Domestic

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Animals & Birds", Satish serial publishing house, 2015.

3. Meshram Balwant, Mishra Pratiksha, Singh Gajendra, Parmar nishant, "Laboratory Manual for Veterinary Anatomy" Satish Serial Publishing House, 2021.
4. Cochram Phillip "Laboratory Manual for Comparative Veterinary Anatomy and Psychology", 2nd Edition, Delmar Cengage Learning, 2010.
5. The Merck Veterinary Manual, 11th Edition.
6. Color Atlas of Veterinary Anatomy, Volume III, The Dog and Cat.
7. Bowden Sally J, "Introduction to Veterinary Anatomy and Psychology work book", Butterworth Heinemann, 2nd Edition, 2012.

Suggestive digital platforms web links :

- 1) <http://ims.tanu.vas.ac.in>>view

Suggested equivalent online courses:


- 1) <http://ecourses.icar.gov.in/e-Learning>

Part D-Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Internal Assessment	Marks	External Assessment	Marks
Class Interaction /Quiz	10	Viva Voce on Practical	15
Attendance	5	Practical Record File	10
Assignments (Charts/ Model Seminar / Rural Service/ Technology Dissemination/ Report of Excursion/ Lab Visits/ Survey / Industrial visit)	10	a) Spotting (Histological Slides, Models & charts - 5) - 20 b) Dissection - 10 c) Staining - 5 d) Identification of Bones, Congenital Anomalies, Placenta thorough Radio graphs or Models or Charts -5 15	50
TOTAL	25		75

Any remarks/suggestions: Dissection will be carried out on cadavers procured by way of donation of animals or animals obtained from post-mortem section and the donated animals should be either incurable or in terminal stages and preserved specimens should be used. Within one year each college must setup a body donation programme or wild body programme. Computer simulations software's, models, mannequins, plastinated specimens, preserved body organs, models should be used for better understanding of the subject.


 19.8.21
 (Dr. Dinesh Verma)
Head
 Deptt. of Zoology
 Govt P.G. College Barwanli (M.P.)