

## Academic:

1. Lecture Schedule – UG, PG , PhD - Theory / Practical Schedule – Approved by BoS – Subject wise

### P.G

#### Semester – I : ANA – 601(1+2 =3)

#### Course Title: Comparative Osteology and Arthrology

#### Theory

| Sr. No. | Particulars   | No of lectures / Practicals |
|---------|---|-----------------------------|
| 1.      | Technical terms, structure, chemical and physical composition and classification of bones                         | 1                           |
| 2.      | Study on scapula and humerus of oX, horse, dog, pig, sheep, goat and poultry (including clavicle and coracoid).   | 1                           |
| 3.      | Study on radius and ulna of oX, horse, dog, pig, sheep, goat and poultry.   | 1                           |
| 4.      | Study on carpals of oX, horse, dog, pig, sheep, goat and poultry.   | 1                           |
| 5.      | Study on metacarpals and digits including sesamoids of oX, horse, dog, pig, sheep, goat and poultry.              | 1                           |
| 6.      | Comparative study on os-coxae including pelvimetry and femur of oX, horse, dog, pig, sheep, goat and poultry.     | 1                           |
| 7.      | Comparative study on tibia and fibula of oX, horse, dog, pig, sheep, goat and poultry.                            | 1                           |
| 8.      | Comparative study on tarsal and metatarsal of oX, horse, dog, pig, sheep, goat and poultry.                       | 1                           |
| 9.      | Study on the ethmoid, occipital and sphenoid bone of oX, horse, dog, pig, sheep, goat and poultry.                | 1                           |
| 10.     | Study on the frontal, parietal, interparietal and temporal bones of oX, horse, dog, pig, sheep, goat and poultry. | 1                           |

|     |   |    |
|-----|---|----|
| 11. | Study on the maxilla, premaxilla, palatine, pterygoid, nasal, lacrimal and malar bones of oX, horse, dog, pig, sheep, goat and poultry. | 1  |
| 12. | Study on vomer, hyoid and mandible bones of oX, horse, dog, pig, sheep, goat and poultry  | 1  |
| 13. | Study on cervical, thoracic, lumbar, sacral and coccygeal vertebrae of oX, horse, dog, pig, sheep, goat and poultry                     | 1  |
| 14. | Study on ribs and sternum of oX, horse, dog, pig, sheep, goat and poultry.  | 1  |
| 15. | Detailed study of different joints of the body  | 2  |
| 16. | Biomechanics of the locomotor system  | 1  |
| 17. | Radiographic anatomy  | 1  |
|     | Total   | 18 |

### Teaching lecture schedule

Semester – I : ANA – 601(1+2 =3)

Course Title: Comparative Osteology and Arthrology

### Practical

| Sr. No. | Particulars                                 | No of lectures /<br>Practicals |
|---------|---|--------------------------------|
| 1.      | Topographic terms.                          | 1                              |
| 2.      | Classification of bones                     | 1                              |
| 3-4.    | Comparative study on scapula and humerus    | 2                              |
| 5-6.    | Comparative study on radius and ulna        | 2                              |
| 7-8.    | Comparative study on carpals                | 2                              |
| 9-10.   | Comparative study on metacarpals and digits | 2                              |
| 11.     | Comparative study on os-coxae and femur     | 1                              |
| 12-13.  | Comparative study on tibia and fibula       | 2                              |

|               |   |           |
|---------------|---|-----------|
| <b>14.</b>    | Comparative study on tarsal and metatarsal  | <b>2</b>  |
| <b>15-16</b>  | Comparative study on the ethmoid, occipital and sphenoid bone                                     | <b>3</b>  |
| <b>17-18.</b> | Comparative study on the frontal, parietal, interparietal and temporal bones                      | <b>2</b>  |
| <b>19-20.</b> | Comparative study on the maxilla, premaxilla, palatine pterygoid, nasal, lacrimal and malar bones | <b>2</b>  |
| <b>21-22.</b> | Comparative study on vomer, hyoid and mandible bones  | <b>2</b>  |
| <b>23-24.</b> | Comparative study on cervical and thoracic vertebrae  | <b>2</b>  |
| <b>25-27.</b> | Comparative study on bones of lumbar, sacral and coccygeal vertebrae.                             | <b>2</b>  |
| <b>28-30.</b> | Comparative study on ribs and sternum   | <b>2</b>  |
| <b>31-32.</b> | Classification and detailed study of different joints of the body.                                | <b>2</b>  |
| <b>33-34.</b> | Biomechanics of the locomotor system  | <b>2</b>  |
| <b>35-36.</b> | Radiographic anatomy  | <b>2</b>  |
|               | Total   | <b>36</b> |

### Teaching lecture schedule

**Semester – I : ANA – 602 (2+2 =4)**

**Course Title: Comparative Splanchnology**

#### Theory

| <b>Sr. No.</b> | <b>Particulars</b>   | <b>No of lectures / Practicals</b> |
|----------------|--|------------------------------------|
| <b>1.</b>      | Introduction   | <b>1</b>                           |
| <b>2.</b>      | Study of topographic anatomy and reflection of thoracic, abdominal and pelvic cavities in ox, horse, dog, pig, sheep, goat and poultry | <b>2</b>                           |
| <b>3.</b>      | Comparative anatomy of oral cavity in ox, horse, dog, sheep, goat and pig.   | <b>2</b>                           |
| <b>4.</b>      | Comparative anatomy of dentition in ox, horse, dog, sheep, goat and pig,   | <b>1</b>                           |
| <b>5.</b>      | Comparative anatomy of tongue in ox, horse, dog, sheep, goat and pig.  | <b>1</b>                           |
| <b>6.</b>      | Comparative anatomy of esophagus in different species  | <b>1</b>                           |
| <b>7.</b>      | Study of the salivary glands of various species  | <b>1</b>                           |
| <b>8.</b>      | Study of ruminant stomach along with omentum   | <b>2</b>                           |
| <b>9.</b>      | Study of monogastric stomach and omentum of various species  | <b>2</b>                           |

|        |   |    |
|--------|---|----|
| 10.    | Comparative anatomy of small intestines of various species              | 1  |
| 11.    | Comparative anatomy of large intestines of various species              | 1  |
| 12.    | Study of liver and gall bladder of various species                      | 1  |
| 13.    | Study of spleen and pancreas of various species                         | 1  |
| 14.    | Study of digestive system of poultry                                    | 1  |
| 15-16. | Study of nasal cavity in ox, horse, dog, sheep, goat and pig            | 2  |
| 17.    | Study of larynx of various species                                      | 1  |
| 18.    | Study of trachea of various species                                     | 1  |
| 19.    | Comparative anatomy of lungs of various species                         | 2  |
| 20.    | Study of digestive system of fowl                                       | 1  |
| 21.    | Study of kidneys of various species                                     | 1  |
| 22.    | Study of ureter and urinary bladder                                     | 1  |
| 23.    | Study of urethra  | 1  |
| 24.    | Study of male genital system and associated organs of various species   | 1  |
| 25.    | Study of female genital system and associated organs of various species | 2  |
| 26.    | Study of male and female genital system of fowl                         | 1  |
| 27.    | Study of udder of different species of animals                          | 1  |
| 28.    | Study of body cavities  | 2  |
|        | Total   | 36 |

**Teaching lecture schedule**  
**Semester – I : ANA – 602 (2+2 =4)**  
**Course Title: Comparative Splanchnology**  
**Practical**

| Sr. No. | Particulars   | No of lectures /<br>Practicals |
|---------|---|--------------------------------|
| 1.      | Introduction  | 1                              |
| 2.      | Study of topographic anatomy of thoracic, abdominal and pelvic cavities in different animals. | 2                              |
| 3.      | Comparative anatomy of oral cavity in ox, horse, dog, sheep, goat and pig.                    | 2                              |

|       |   |    |
|-------|---|----|
| 4.    | Comparative anatomy of dentition in ox, horse, dog, sheep, goat and pig,      | 1  |
| 5.    | Comparative anatomy of tongue in ox, horse, dog, sheep, goat and pig.         | 2  |
| 6.    | Comparative anatomy of esophagus in different species                         | 1  |
| 7.    | Study of the salivary glands of various species.                              | 2  |
| 8.    | Study of ruminant stomach along with omentum                                  | 2  |
| 9.    | Study of monogastric stomach and omentum of various species                   | 2  |
| 10.   | Comparative anatomy of small and large intestines and anus of various species | 2  |
| 11.   | Study of liver and gall bladder, spleen, pancreas of various species          | 2  |
| 12.   | Study of larynx of various species  | 1  |
| 13.   | Comparative anatomy of lungs of various species                               | 2  |
| 14.   | Study of body cavities  | 2  |
| 15-16 | Study of urinary system and associated organs of various species              | 2  |
| 17.   | Study of male genital system and associated organs of various species         | 2  |
| 18.   | Comparative study of accessory sex glands in different species                | 2  |
| 19.   | Study of female genital system and associated organs of various species       | 2  |
| 20.   | Study of endocrine organs of various species                                  | 2  |
| 21.   | Study of udder of different species of animals                                | 2  |
|       | Total   | 36 |

### Teaching lecture schedule

**Semester – II : ANA – 603 (2+2 =4)**

**Course Title: Myology, Angiology, Neurology and Aesthesiology of Ox**  
**Theory**

| Sr. No. | Particulars  | No of lectures / Practicals |
|---------|--|-----------------------------|
| 1.      | Myology and organization of various types of muscles | 2                           |
| 2.      | Heart and pericardium                                | 4                           |
| 3.      | Muscles and blood supply to the head and neck        | 3                           |
| 4.      | Muscles and blood supply to the forelimb             | 3                           |

|     |  |    |
|-----|--|----|
| 5.  | Muscles of thorax and abdomen and thoracic aorta, abdominal aorta and its branches | 2  |
| 6.  | Muscles and blood supply to the hind limb  | 2  |
| 7.  | Venous system  | 2  |
| 8.  | Lymph glands and its afferent and efferent vessels                                 | 2  |
| 9.  | Study of brain   | 2  |
| 10. | Study of cranial nerves  | 2  |
| 11. | Study of spinal cord and spinal nerves   | 2  |
| 12. | Brachial and lumbo-sacral plexus   | 2  |
| 14. | Structure of eye ball  | 2  |
| 15. | Structure of external, middle and internal ear of different species                | 2  |
| 16. | Study of hoof  | 2  |
| 17. | Study of horn  | 2  |
|     | Total  | 36 |

#### Teaching lecture schedule

**Semester – II : ANA – 603 (2+2 =4)**

**Course Title: Myology, Angiology, Neurology and Aesthesiology of Ox**  
**Practical**

| Sr. No. | Particulars   | No of lectures /<br>Practicals |
|---------|---|--------------------------------|
| 1.      | Introduction to general mycology  | 1                              |
| 2.      | Structure of heart  | 2                              |
| 3.      | Brachiocephalic trunk, course of aorta, coronary arteries and pulmonary trunk                               | 1                              |
| 4.      | Bicarotid trunk   | 1                              |
| 5.      | Blood supply to the forelimb  | 1                              |
| 6.      | Thoracic aorta and its branches abdominal aorta   | 1                              |
| 7.      | Abdominal aorta and its branches  | 1                              |
| 8.      | Blood supply to the hind limb   | 1                              |
| 9.      | Meninges  | 1                              |
| 10.     | Dorsal and ventral aspect of brain and ventricles of brain, sagittal sections of brain of different species | 1                              |

|     |   |    |
|-----|---|----|
| 11. | Cranial nerves,   | 1  |
| 12. | Spinal cord and spinal nerves   | 1  |
| 13. | Brachial plexus   | 1  |
| 14. | Lumbo-sacral plexus   | 1  |
| 15. | Venous drainage and lymphatic system                                      | 1  |
| 16. | Blood supply to the brain   | 2  |
| 17. | Study of eye  | 1  |
| 18. | Study of ear  | 1  |
| 19. | Autonomic nervous system  | 1  |
| 20. | Muscle of face, larynx, mastication, soft palate, tongue, pharynx and ear | 4  |
| 21. | Muscles of neck   | 2  |
| 22. | Muscles of fore limb  | 2  |
| 23. | Muscles of fore limb  | 1  |
| 24. | Muscles of, abdomen   | 2  |
| 25. | Muscles of hip and thigh  | 2  |
| 26. | Extensors and flexors of hind limb  | 2  |
| 27. | Muscles of tail and penis   | 1  |
|     | Total   | 36 |

**Teaching lecture schedule**  
**Semester – II : ANA – 604 (1+3 =4)**  
**Course Title: Gross, Histological and Histochemical Techniques**  
**Theory**

| Sr. No. | Particulars   | No of lectures / Practicals |
|---------|---|-----------------------------|
| 1.      | Embalming fluid and its preparation   | 1                           |
| 2.      | Embalming techniques, formalin and modified gravity feed embalming technique.   | 1                           |
| 3.      | Maceration and preparation of skeletons; taxidermy, burial method, specimens different species; Tompsett 1955, Mulligan 1931 for gray matter, Waldman and Michaels (1954) for white matter, Hewitt method | 1                           |
| 4.      | Demonstration of sites of ossifications alizarin red technique  | 1                           |

|     |   |    |
|-----|---|----|
| 5.  | Preparation of transparent specimens of various organs, plastination                    | 1  |
| 6.  | Preparation of transparent specimens of various organs, plastination                    | 1  |
| 7.  | Chemical composition of a living cell   | 1  |
| 8.  | Fixation of tissue samples with different fixatives and post fixation of tissue samples | 1  |
| 9.  | Embedding, block preparation and paraffin sectioning.                                   | 1  |
| 10. | Natural and synthetic dyes  | 1  |
| 11. | Metachromasia and supravital staining   | 1  |
| 12. | Routine hematoxylin and eosin staining  | 1  |
| 14. | Special staining for connective, muscular and nervous tissue.                           | 1  |
| 15. | Special stain for demonstration of nucleic acids  | 1  |
| 16. | Special staining for cytoplasmic granules and pigments and minerals                     | 1  |
| 17. | Differential staining for cell types  | 1  |
| 18. | Demonstration of silver staining techniques   | 1  |
|     | Total   | 18 |

**Teaching lecture schedule**  
**Semester – II : ANA – 604 (1+3 =4)**  
**Course Title: Gross, Histological and Histochemical Techniques**  
**Practical**

| Sr. No. | Particulars  | No of lectures / Practicals |
|---------|--|-----------------------------|
| 1.      | Embalming fluid and its preparation  | 2                           |
| 2.      | Embalming techniques, formalin and modified gravity feed embalming technique.  | 2                           |
| 3.      | Maceration and preparation of skeletons; taxidermy, burial method, chemical method(sodium hydroxide method) gross staining of brain specimens different species; Tompsett 1955, Mulligan 1931 for gray matter, Waldman and Michaels (1954) for white matter, Hewitt method | 2                           |
| 4.      | Demonstration of sites of ossifications alizarin red technique   | 2                           |
| 5.      | Preparation of transparent specimens of various organs, plastination   | 2                           |
| 6.      | Preparation of casts of various organs, vinyl acetate cast   | 2                           |



|     |   |    |
|-----|---|----|
| 7.  | Chemical composition of a living cell   | 2  |
| 8.  | Fixation of tissue samples with different fixatives   | 4  |
| 9.  | Post fixation of tissue samples   | 2  |
| 10. | Embedding, block preparation and paraffin sectioning.   | 4  |
| 11. | Natural and synthetic dyes  | 2  |
| 12. | Metachromasia and supravital staining   | 2  |
| 13. | Routine hematoxylin and eosin staining  | 2  |
| 14. | Special staining for connective: elastic, reticular and collagen fibres, muscular and nervous tissue. | 4  |
| 15. | Staining for carbohydrates: pas, amp and proteins.  | 3  |
| 16. | Special stain for demonstration of nucleic acids, lipids and enzymes                                  | 3  |
| 17. | Special staining for cytoplasmic granules   | 3  |
| 18. | Special staining for pigments and minerals  | 3  |
| 19. | Differential staining for cell types  | 3  |
| 20. | Demonstration of silver staining techniques   | 3  |
|     | Total   | 54 |

**Teaching lecture schedule**  
**Semester – I : ANA – 605 (0+1 =1)**  
**Course Title: Clinical Anatomy**  
**Practical**

| Sr. No. | Particulars   | No of lectures / Practicals |
|---------|---|-----------------------------|
| 1.      | Clinical examination of animal by palpation, percussion and auscultation  | 1                           |
| 2.      | Site to record temperature, pulse, palpable lymph nodes, collection of blood and pregnancy diagnosis in domestic animals  | 1                           |
| 3.      | Area of auscultation for lungs and heart, passing of probang  | 1                           |
| 4.      | Preferable site for injections in domestic animals (intradermal, subcutaneous, intramuscular, intravenous, intracardiac, intratracheal, subconjunctival, intra-articular, epidural)           | 1                           |
| 5.      | Nerve blocks of head region (frontal, infraorbital, mandibulo-alveolar, mental, retrobulbar, Peterson, auriculopalpebral and cornual) for different surgical conditions (extraction of tooth, | 2                           |

|            |  |           |
|------------|--|-----------|
|            | trephining of frontal and maxillary sinuses, extirpation of eye ball, amputation of horn, haematoma)   |           |
| <b>6.</b>  | Surgical conditions of respiratory system (catheterization of guttural pouch, ventriculectomy in horse, tracheotomy, thoracocentesis)  | <b>1</b>  |
| <b>7.</b>  | Paravertebral nerve block, paracentesis, rumenocentesis. Surgical conditions of digestive system (passing of stomach tube, ligation of parotid duct, oesophagotomy, abdominocentesis, rumenotomy, laparotomy/ celiotomy, gastrotomy, splenectomy, enterotomy, extirpation of anal sacs in dog) | <b>2</b>  |
| <b>8.</b>  | Surgical conditions of urinary system (urethrotomy, puncturing of urinary bladder, catheterization of urinary bladder, cystotomy)  | <b>1</b>  |
| <b>9.</b>  | Surgical conditions of genital system (hysterotomy/ caesarean section, ovario-hysterectomy (spaying), castration, vasectomy, caponing in fowl)   | <b>1</b>  |
| <b>10.</b> | Nerve blocks of fore limb (radial, median, ulnar, volar digital nerves) for surgical affections  | <b>1</b>  |
| <b>11.</b> | Nerve blocks of hind limb (tibial, peroneal, saphenous, plantar digital nerves) for surgical affections including patellar desmotomy   | <b>1</b>  |
| <b>12.</b> | Nerve blocks (pudic, cranial epidural, caudal epidural) for surgical affections including docking  | <b>2</b>  |
| <b>13.</b> | Radiographical techniques, contrast radiography  | <b>1</b>  |
| <b>14.</b> | Radiographic visualization of organs of thoracic and abdominal cavity  | <b>1</b>  |
| <b>15.</b> | Radiographic visualization of organs of pelvic cavity  | <b>1</b>  |
| <b>16.</b> | Post-mortem examination and collection of material for teaching and research   | <b>2</b>  |
|            | Total  | <b>18</b> |

**Teaching lecture schedule**  
**Semester – I : ANA – 606 (1+1 =2)**  
**Course Title: General Histology and Ultrastructure**  
**Theory**

| <b>Sr. No.</b> | <b>Particulars</b>                                       | <b>No of lectures / Practicals</b> |
|----------------|--|------------------------------------|
| <b>1.</b>      | Introduction to animal cell and Study of plasma membrane | <b>1</b>                           |

|     |  |    |
|-----|--|----|
| 2.  | Study of nucleus and nuclear membrane and Study of mitochondria and endoplasmic reticulum  | 1  |
| 3.  | Study of Golgi apparatus, centriole, lysosomes, microtubules, microfilaments, etc.   | 1  |
| 4.  | Cell division and Cell wall modifications and junctional complexes   | 1  |
| 5.  | Light and ultrastructural study of different types of epithelial tissue and glands   | 2  |
| 6.  | Light and ultrastructural study of different types of muscular tissue  | 1  |
| 7.  | Introduction to different types of connective tissue and Detailed study of connective tissue fibres; collagen, reticular and elastic | 1  |
| 8.  | Study of different cell types of connective tissue, constituents of ground substance   | 1  |
| 9.  | Study of different types of connective tissues   | 1  |
| 10. | Light and ultrastructural details of different cartilages; hyaline, elastic and fibrous cartilage                                    | 3  |
| 11. | Light and ultrastructural details of bone  | 1  |
| 12. | Structural details of blood and its different constituents   | 2  |
| 13. | Light and ultrastructural study of neurons and neuroglial cells of CNS and PNS, nerves, ganglion, etc.                               | 3  |
|     | Total  | 18 |

### Teaching lecture schedule

Semester – I : ANA – 606 (1+1 =2)

Course Title: General Histology and Ultrastructure  
Practical

| Sr. No. | Particulars  | No of lectures / Practicals |
|---------|--|-----------------------------|
| 1.      | Study on electron micrographs of an animal cell to distinguish different organelles      | 1                           |
| 2.      | Study of electron micrographs of plasma membrane, nucleus and nuclear membrane           | 2                           |
| 3.      | Study of electron micrographs of mitochondria, Golgi apparatus and endoplasmic reticulum | 1                           |
| 4.      | Study of different types of epithelial tissues by light microscope                       | 1                           |
| 5.      | Study of different types of epithelial tissues and glands by electron micrographs        | 1                           |

|     |  |    |
|-----|--|----|
| 6.  | Study of different types of Muscle tissues by light microscope     | 1  |
| 7.  | Study of different types of Muscle tissues by electron micrographs | 1  |
| 8.  | Study of different types of connective tissue fibres and cells     | 2  |
| 9.  | Study of different types of connective tissues                     | 3  |
| 10. | Study of different types of cartilages                             | 1  |
| 11. | Study of Bone; ground bone and decalcified bone                    | 1  |
| 12. | Study of different constituents of blood                           | 1  |
| 13. | Study of different constituents of blood                           | 2  |
|     | Total  | 18 |

**Teaching Lecture Schedule**  
**Semester – II : ANA – 607 (3+1 =4)**

**Course Title : Systemic Histology and Ultrastructure**  
**Theory**

| Sr. No. | Particulars   | No of lectures / Practicals |
|---------|---|-----------------------------|
| 1.      | General organization of the wall of tubular organs                          | 2                           |
| 2.      | Light microscopic and ultra structural study of tongue, lip and cheek       | 2                           |
| 3.      | Light microscopic and ultra structural study of salivary gland              | 2                           |
| 4.      | Light microscopic and ultra structural study of pharynx and Oesophagus      | 2                           |
| 5.      | Light microscopic and ultra structural study of rumen, reticulum and Omasum | 2                           |
| 6.      | Light microscopic and ultra structural study of abomasum                    | 2                           |
| 7.      | Light microscopic and ultra structural study of small intestine             | 2                           |
| 8.      | Light microscopic and ultra structural study of large intestine             | 2                           |
| 9.      | Light microscopic and ultra structural study of liver                       | 2                           |
| 10.     | Light microscopic and ultra structural study of pancreas and gall bladder   | 2                           |
| 11.     | Light microscopic and ultra structural study of nasal cavity                | 2                           |
| 12.     | Light microscopic and ultra structural study of larynx and trachea          | 2                           |

|     |  |    |
|-----|--|----|
| 14. | Light microscopic and ultra structural study of lungs                                      | 2  |
| 15. | Light microscopic and ultra structural study of cardiovascular system including heart      | 2  |
| 16. | Light microscopic and ultra structural study of lymphoid organs                            | 2  |
| 17. | Light microscopic and ultra structural study of ovary                                      | 2  |
| 18. | Light microscopic and ultra structural study of oviduct and uterus                         | 2  |
| 19. | Light microscopic and ultra structural study of cervix, vagina and mammary glands          | 2  |
| 20. | Light microscopic and ultra structural study of testes                                     | 2  |
| 21. | Light microscopic and ultra structural study of epididymis and vas deferens                | 2  |
| 21. | Light microscopic and ultra structural study of urethra and accessory sex glands and penis | 3  |
|     | Total  | 54 |

**Teaching Lecture Schedule**  
**Semester – II : ANA – 607 (3+1 =4)**

**Course Title : Systemic Histology and Ultrastructure**  
**Practical**

| Sr. No. | Particulars   | No of lectures /<br>Practicals |
|---------|---|--------------------------------|
| 1.      | Light microscopic and ultra structural study of lip and cheek, tongue and salivary glands | 1                              |
| 2.      | Light microscopic and ultra structural study of pharynx and oesophagus                    | 1                              |
| 3.      | Light microscopic and ultra structural study of rumen, reticulum, Omasum and abomasum     | 1                              |
| 4.      | Light microscopic and ultra structural study of small intestine                           | 1                              |
| 5.      | Light microscopic and ultra structural study of large intestine                           | 1                              |
| 6.      | Light microscopic and ultra structural study of liver, pancreas and gall bladder          | 1                              |
| 7.      | Light microscopic and ultra structural study of larynx and trachea                        | 1                              |
| 8.      | Light microscopic and ultra structural study of lungs                                     | 1                              |
| 9.      | Light microscopic and ultra structural study of cardiovascular system including heart     | 1                              |
| 10.     | Light microscopic and ultra structural study of lymphoid organs                           | 1                              |

|            |  |           |
|------------|--|-----------|
| <b>11.</b> | Light microscopic and ultra structural study of ovary and oviduct  | <b>1</b>  |
| <b>12.</b> | Light microscopic and ultra structural study of uterus, cervix, vagina and mammary glands                                      | <b>1</b>  |
| <b>13.</b> | Light microscopic and ultra structural study of male reproductive system   | <b>1</b>  |
| <b>14.</b> | Light microscopic and ultra structural study of kidney, ureter, urinary bladder and Urethra                                    | <b>1</b>  |
| <b>15.</b> | Light microscopic and ultra structural study of endocrine glands; thyroid, pituitary, adrenal gland, parathyroid, pineal gland | <b>1</b>  |
| <b>16.</b> | Light and ultrastructural study of Spinal cord, cerebrum and cerebellum  | <b>1</b>  |
| <b>17.</b> | Light microscopic and ultra structural study of sense organs   | <b>2</b>  |
|            | Total  | <b>18</b> |

**Teaching Lecture Schedule**  
**Semester – III : ANA – 608 (2+1 =3)**

**Course Title : Developmental Anatomy**  
**Theory**

| <b>Sr. No.</b> | <b>Particulars</b>  | <b>No of lectures / Practicals</b> |
|----------------|---|------------------------------------|
| <b>1.</b>      | Introduction to Embryology, history of embryology, term used in embryology Gametogenesis; Spermatogenesis | <b>3</b>                           |
| <b>2.</b>      | Oogenesis; classification of eggs, structure of mammalian and avian eggs                                  | <b>3</b>                           |
| <b>3.</b>      | Fertilization, Cleavage Implantation Placentation   | <b>3</b>                           |
| <b>4.</b>      | Blastulation Gastrulation, formation of extra embryonic membranes   | <b>3</b>                           |
| <b>5.</b>      | Formation of extra embryonic membranes  | <b>2</b>                           |
| <b>6.</b>      | Organogenesis and histogenesis of nervous system,   | <b>2</b>                           |
| <b>7.</b>      | Development of sense organs   | <b>2</b>                           |
| <b>8.</b>      | Development of endocrine organs   | <b>2</b>                           |
| <b>9.</b>      | Cardiovascular system including fetal circulation.  | <b>2</b>                           |
| <b>10.</b>     | Embryonic development of gastro-intestinal tract  | <b>2</b>                           |
| <b>11.</b>     | Development of liver, pancreas and gall bladder   | <b>2</b>                           |
| <b>12.</b>     | Development of Respiratory system   | <b>2</b>                           |

|            |                               |           |
|------------|-------------------------------|-----------|
| <b>13.</b> | Development of urinary system | <b>2</b>  |
| <b>14.</b> | Male reproductive system      | <b>2</b>  |
| <b>15.</b> | Female reproductive system    | <b>2</b>  |
| <b>16.</b> | Musculoskeletal system        | <b>2</b>  |
|            | Total                         | <b>36</b> |

**Teaching Lecture Schedule**  
**Semester – III : ANA – 608 (2+1 =3)**

**Course Title : Developmental Anatomy**  
**Practical**

| <b>Sr. No.</b> | <b>Particulars</b>  | <b>No of lectures / Practicals</b> |
|----------------|---|------------------------------------|
| <b>1.</b>      | Study of sperm and ova  | <b>1</b>                           |
| <b>2.</b>      | Cleavage, Blastulation and Gastrulation   | <b>2</b>                           |
| <b>3.</b>      | Study of whole mount sections of chick embryo and serial sections of chick embryo | <b>2</b>                           |
| <b>4.</b>      | Organogenesis, Development of nervous system                                      | <b>1</b>                           |
| <b>5.</b>      | Organogenesis, Development of digestive system                                    | <b>2</b>                           |
| <b>6.</b>      | Organogenesis, Development of digestive system                                    | <b>2</b>                           |
| <b>7.</b>      | Organogenesis, Development of cardiovascular system                               | <b>2</b>                           |
| <b>8.</b>      | Organogenesis, Development of endocrine system                                    | <b>1</b>                           |
| <b>9.</b>      | Organogenesis, Development of urinary system                                      | <b>2</b>                           |
| <b>10.</b>     | Organogenesis, Development of male and female reproductive system                 | <b>2</b>                           |
| <b>11.</b>     | Determination of age of different species of embryo                               | <b>1</b>                           |
|                | Total   | <b>18</b>                          |

**Teaching Lecture Schedule**  
**Semester – III : ANA – 609 (1+0 =1)**

**Course Title : Wild Life and Forensic Anatomy  
Theory**

| <b>Sr. No.</b> | <b>Particulars</b>  | <b>No of lectures / Practicals</b> |
|----------------|---|------------------------------------|
| <b>1.</b>      | Introduction, scope and importance of anatomy of wild animals   | <b>1</b>                           |
| <b>2.</b>      | Origin, evolution and classification of wild mammals and birds  | <b>1</b>                           |
| <b>3.</b>      | Morphological adaptations of wild mammals and birds   | <b>1</b>                           |
| <b>4.</b>      | Radiography and ultrasonography as a tool to study wild life anatomy  | <b>1</b>                           |
| <b>5.</b>      | Anatomy of skeletal system of Elephants with special emphasis on dentition and ageing and seXual dimorphism | <b>1</b>                           |
| <b>6.</b>      | Anatomy of digestive, respiratory, reproductive and urinary systems of elephants                            | <b>1</b>                           |
| <b>7.</b>      | Anatomy of skeletal system of wild carnivores including lion, tiger, leopard, cheetah, wolf and fox.        | <b>1</b>                           |
| <b>8.</b>      | Anatomy of digestive, respiratory, reproductive and urinary systems of wild carnivores                      | <b>1</b>                           |
| <b>9.</b>      | Anatomy of skeletal, digestive, respiratory, reproductive and urinary systems of wild ruminants             | <b>1</b>                           |
| <b>10.</b>     | Anatomy of skeletal, digestive, respiratory, reproductive and urinary systems of wild primates              | <b>1</b>                           |
| <b>11.</b>     | Anatomy of skeletal system of Cervidae family   | <b>1</b>                           |
| <b>12.</b>     | Anatomy of digestive, respiratory, reproductive and urinary systems of Cervidae family                      | <b>1</b>                           |
| <b>13.</b>     | Anatomy of cardio-vascular system of wild animals   | <b>1</b>                           |
| <b>14.</b>     | Anatomy of nervous system of wild animals   | <b>1</b>                           |
| <b>15.</b>     | Anatomy of sense organs of wild animals   | <b>1</b>                           |
| <b>16.</b>     | Anatomy of wild birds   | <b>1</b>                           |
| <b>17.</b>     | Application of wild life anatomy in forensic veterinary medicine  | <b>1</b>                           |
| <b>18.</b>     | Clinical anatomy of captive wild animals  | <b>1</b>                           |