FINAL VERSION OF COMPETANCY BASED CURRICUUM FOR ANATOMY FOR FIRST BHMS COURSE

Subject- Human Anatomy

Subject Code: Hom UG-AN

1. PREAMBLE

Anatomy is a study of the structural organization and development of man from gross to cellular aspects along with exploring the interrelationship of different tissues, organs and systems.

An important aspect for the homoeopathic student to grasp is the essentially holistic approach emphasized by Hahnemann. From that perspective, study of anatomy is not a study of isolated organs, parts or tissues but that of a hierarchical system which is intimately interconnected and functions with a purpose of striking balance when in a state of adaptation. The subtle ways in which this balance is lost through a malfunctioning of the vital force needs to be appreciated. This can occur when anatomy is taught with applied anatomy in the background.

While anatomy explores the structural organization of man, physiology gives us an understanding of the functional organization of the human being. These subjects, which are in reality the two sides of the coin, need to be taught interdependently. This enables the student to develop an insight into the essential interconnection of both in normal health and how both these alter when the disease process gets initiated in the system. This will also reduce the number of teaching hours due to avoiding duplication of information. While the clinical integration is taking place, homoeopathic connection is emphasized when the relevance of the Homoeopathic subjects being taught in the 1st year (Philosophy, Materia Medica, Pharmacy and Repertory), is simultaneously brought to the forefront and hence student-centered teaching of the first BHMS year be achieved.

Advances in the understanding of tissues and cell structures which subsume functions of the organs and systems can afford a fertile area for exploring the action of drugs of Materia medica.

2. PROGRAMME OUTCOMES

At the end of BHMS program, a student should;

1. Develop the competencies essential for primary health care in clinical diagnosis and treatment of diseases through the judicious application of homoeopathic principles.
2. Recognize the scope and limitation of homoeopathy and to apply the Homoeopathic Principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community.
3. Discern the relevance of other systems of medical practice for rational use of cross referral and life saving measures, so as to address clinical emergences.
4. Develop capacity for critical thinking and research aptitude as required for evidence based homoeopathic practice.
5. Demonstrate aptitude for lifelong learning and develop competencies as and when conditions of practice demand.
6. Be competent enough to practice homoeopathy as per the medical ethics and professionalism.
7. Develop the necessary communication skills to work as a team member in various healthcare setting and contribute towards the larger goals of national policies such as school health, community health, environmental conservation.
8. Identify and respect the socio-demographic, psychological, cultural, environmental & economic factors that affect health and disease and plan homoeopathic intervention to achieve the sustainable development Goal.

3. COURSE OUTCOMES

At the end of the I BHMS course, I BHMS student should be able to;

1. Discuss the evolution of life and the developmental anatomy and genetics of human.
2. Explain the ethics of Anatomy, such as Anatomy act, Body donation & receiving procedure and its legal aspects, develop respect to the human cadaver.
3. Differentiate the structural organization of man from micro to macro and its evolution from embryo.

4. Correlate the structural organization of man with functional organization and its applied aspect.
5. Apply anatomy knowledge to achieve vertical integration with clinical subjects.
6. Correlate structural organization of man with Homeopathic Philosophy and concept of man, Homoeopathic Materia Medica, Repertory and Pharmacy.
7. Correlate structural organization in interpreting different investigations.

4. TEACHING HOURS

Sl. No.	Subject	Theoretical Lecture	(Non – Lecture hours) Practical / Tutorials / Seminars / Clinical Postings
01	Anatomy	325 hrs.	330hrs.

Theory (hrs)	**Non-lecture (hrs)**	
325	**Practical**	**Non-lecture activities**
	250	**80**
Total – 655 hours		

a. TEACHING HOURS (THEORY)

Paper-I

Sl. No	List of Topics	Term	Teaching Hours
1	General Anatomy	I	32
2	Head, Neck & Face	II	50
3	Central Nervous System	II	30
4	Upper Extremities	I	35
5	Embryology	I	20

Paper-II			
Sl. No	**List of Topics**	**Term**	**Teaching Hours**
1	Thorax	II	28
2	Abdomen & Pelvis	III	70
3	Lower Extremities	III	40
4	Histology	I	20

b. TEACHING HOURS (PRACTICAL)

Sl. No	List of Topics	Term	Teaching Hours
1	Head, Neck & Face	II	56
2	Central Nervous System	II	16
3	Upper Extremities	I	34
4	Thorax	II	30
5	Abdomen & Pelvis	III	50
6	Lower Extremities	III	40
7	Histology	I	24

5. COURSE CONTENT: Syllabus Planning

a. Theory:

a. Syllabus should start with revision of some of important topics of BIOLOGY (To connect Biology to Medical Science), origin of Earth and Environment, Origin of LIFE-Evolution of Human Lives.

b. The complete course of Human Anatomy should be subdivided in number of modules according to topics/regions/systems.

c. Syllabus of other subjects of same course should be planned out where the maximum integration (Vertical & Horizontal) of topics is possible.

d. Theory/Practical/Tutorial/Case based learning should be arranged in parallel.

e. Each module should be planned according to the need of system-Co-relation with Homoeopathy & time dimension (number of hours).

f. At the end of each module knowledge should be assessed by arranging joint seminars (application of classroom knowledge to practical understanding).

g. The curriculum includes the following;

1. Anatomy Act.
2. Body donation procedure and its legal aspects.
3. Develop respect to the human cadaver, empathy towards diseased and sense of gratification for the voluntary body donors and their families.
4. Anatomy and Ethics.

b. Practical

a. Dissection of whole Human Body, Demonstration of dissected parts and small group discussions.

b. Identification of histological slides, related to tissue & organs.

c. Students shall maintain Practical/Dissection & Histology record.

THEORY

Sl. No.	Topics	No. of hours	Term
1.	**GENERAL ANATOMY**		**I**
	1. Modern concepts of cell and its components; cell division, types with their significance	2	
	2. Basic tissues	2	
	3. Genetics i. DNA & RNA ii. Chromosomes iii. Genes iv. Inheritances	6	

Sl. No.	Topics	No. of hours	Term
	v. Genetic basis of diseases and Integration with homoeopathic concept of miasmatic influence		
	4. Basics of General Anatomy- i. Definition and subdivisions of Anatomy ii. History of Anatomy iii. Anatomical terms of position & movement iv. Skin, superficial and deep fasciae v. Muscles vi. Bones vii. Joints viii. Blood vessels ix. Lymphatic system x. Nerves xi. Glands: types and classification	 1 1 2 2 2 2 2 2 2 2 2 2	
	5. Revision	2	
	Total Hours	**32**	
2.	**DEVELOPMENTAL ANATOMY (EMBRYOLOGY)**		**I**
	1. Introduction 2. Spermatogenesis 3. Oogenesis 4. Fertilization 5. Cleavage and implantation 6. Bilaminar germ disc formation 7. Gastrulation: Germ layers & Derivatives	1 1 1 1 2 2 3 1	

Sl. No.	Topics	No. of hours	Term
	8. Intraembryonic mesoderm derivatives: Somites 9. Ossification 10. Notochord 11. Folding of the embryonic: formation of primitive gut 12. Placenta 13. Revision	1 1 1 2 1 2	
	Total Hours	**20**	
3.	**HISTOLOGY (General)**		**I**
	1. Introduction	1	
	2. Epithelial tissue	2	
	3. Connective tissue	2	
	4. Cartilage	1	
	5. Bone	1	
	6. Muscle	2	
	7. Nervous tissue	1	
	8. Skin	2	
	9. Lymphoid organs	2	
	10. Blood vessels	2	

Sl. No.	Topics	No. of hours	Term
	11. Glands	2	
	12. Revision	2	
	Total Hours	**20**	
4.	**UPPER EXTREMITY**		**I**
	1. Introduction	1	
	2. Pectoral region and axilla	2	
	3. Mammary Gland	2	
	4. Brachial plexus	2	
	5. Axillary artery	1	
	6. Back and Intermuscular spacesaround scapula	2	
	7. Shoulder Joint	2	
	8. Musculocutaneous and axillary nerves	1	
	9. Arm and cubital fossa; brachial artery	2	
	10. Fore arm: Muscles, nerves and blood vessels (Superficial and Deep Flexors and Extensors)	4	
	11. Radial artery	1	
	12. Ulnar artery	1	

Sl. No.	Topics	No. of hours	Term
	13. Median nerve	2	
	14. Ulnar nerve	1	
	15. Radial nerve	2	
	16. Elbow joint and radio-ulnar articulations	2	
	17. Wrist joint	1	
	18. Flexor and extensor retinacula	1	
	19. Palmar aponeurosis and spaces in palmar spaces	2	
	20. Venous drainage of upper extremity	1	
	21. Revision	2	
	Total Hours	**35**	
5.	**LOWER EXTREMITY**		**III**
	1. Introduction	1	
	2. Lumbar plexus and femoral nerve	2	
	3. Front of thigh	2	
	4. Femoral Triangle and Femoral artery	2	
	5. Median compartment of thigh and obturator nerve	2	

Sl. No.	Topics	No. of hours	Term
	6. Gluteal region	2	
	7. Sacral plexus and sciatic nerve, tibial and common peroneal nerves	4	
	8. Back of the thigh Popliteal fossa	2	
	9. Hip joint	2	
	10. Front of the leg and dorsum of the foot: Anterior tibial artery, deep peroneal nerve	4	
	11. Back of the leg: Tibial nerve and posterior tibial artery	3	
	12. Side of the leg: Superficial peroneal nerve	2	
	13. Retinacula around the ankle	1	
	14. Sole of foot	2	
	15. Knee Joint	2	
	16. Ankle joint	1	
	17. Arches of foot	2	
	18. Venous drainage of lower extremity	2	
	19. Revision	2	
	Total Hours	**40**	
6.	**THORAX**		**II**

Sl. No.	Topics	No. of hours	Term
	1. Introduction	1	
	2. Trachea	1	
	3. Pleura	1	
	4. Lungs	3	
	5. Mediastinum	2	
	6. Pericardium and Heart	4	
	7. Blood supply of heart	2	
	8. Superior mediastinum: Arch of aorta	1	
	9. Superior mediastinum: Superior Vena cava	1	
	10. Inferior Vena Cava	1	
	11. Posterior mediastinum: Azygous vein & Thoracic duct	2	
	12. Posterior mediastinum: Oesophagus & Descending thoracic aorta	2	
	13. Diaphragm	1	
	14. Systemic embryology: Development of Heart and lung	3	
	15. Systemic histology: Trachea and Lung	1	
	16. Revision	2	
	Total Hours	**28**	

Sl. No.	Topics	No. of hours	Term
7.	**ABDOMEN, PELVIS & PERINEUM**		**III**
	1. Introduction	1	
	2. Anterior Abdominal wall	2	
	3. Peritoneum	2	
	4. Stomach	2	
	5. Liver	2	
	6. Gall bladder and Extrahepatic biliary apparatus	2	
	7. Spleen	1	
	8. Duodenum	1	
	9. Pancreas	2	
	10. Jejunum and Ileum, Superior mesenteric artery	2	
	11. Caecum & appendix	2	
	12. Large intestine	2	
	13. Portal venous system	2	
	14. Kidney	2	
	15. Supra renal glands	1	

Sl. No.	Topics	No. of hours	Term
	16. Abdominal aorta	1	
	17. Posterior abdominal wall	1	
	18. Urinary bladder	2	
	19. Ureter	1	
	20. Prostate gland	2	
	21. Ovary	1	
	22. Uterus	2	
	23. Fallopian tube	1	
	24. Scrotum and testis	2	
	25. Vas deferens	1	
	26. Rectum	1	
	27. Anal canal	1	
	28. Walls of pelvis including pelvic diaphragm	2	
	29. Perineum: superficial and deep perineal pouches	3	
	30. Ischiorectal fossa	1	
	31. Systemic embryology: Development of digestive system	4	
	32. Systemic embryology: Development of urogenital organs	2	

Sl. No.	Topics	No. of hours	Term
	33. Systemic histology: Digestive system	4	
	34. Systemic histology: Urinary system & supra renal gland	2	
	35. Systemic histology: Male reproductive system	2	
	36. Systemic histology: Female reproductive system	2	
	37. Revision	6	
	Total Hours	**70**	
8.	**HEAD, NECK & FACE**		**II**
	1. Introduction	1	
	2. Scalp	2	
	3. Face: muscles, nerves and blood vessels	2	
	4. Lachrymal apparatus	1	
	5. Side of the neck: Posterior triangle	1	
	6. Front of the neck: Anterior triangle and its subdivisions	3	
	7. Deep cervical fascia	1	
	8. Back of the neck: Suboccipital triangle	1	
	9. Contents of vertebral canal	1	

Sl. No.	Topics	No. of hours	Term
	10. Parotid gland	1	
	11. Submandibular gland	1	
	12. Muscles of mastication	1	
	13. Temporomandibular joint	1	
	14. Thyroid gland	2	
	15. Cranial cavity: Dura mater, Dural venous sinuses & Pituitary gland	3	
	16. Contents of the orbit	1	
	17. Extraocular muscles	1	
	18. Oral cavity	1	
	19. Soft palate and palatine tonsil	1	
	20. Tongue	1	
	21. Pharynx	2	
	22. Larynx	2	
	23. Nose and paranasal air sinuses	2	
	24. Ear: EAC & middle ear, inner ear	2	
	25. Eustachian tube	1	
	26. Eyeball	2	

Sl. No.	Topics	No. of hours	Term
	27. Common & Internal carotid artery	1	
	28. External carotid artery	2	
	29. Vertebral artery	1	
	30. Internal Jugular vein	1	
	31. Systemic histology: Thyroid gland, Pituitary gland and Tongue	3	
	32. Systemic embryology: Pharyngeal arches: derivatives	1	
	33. Revision	3	
	Total Hours	**50 hrs**	
9.	**CENTRAL NERVOUS SYSTEM: BRAIN**		**II**
	1. Introduction	1	
	2. Meninges & CSF	1	
	3. Spinal cord	1	
	4. Medulla oblongata	1	
	5. Pons	1	
	6. Cerebellum	1	
	7. Fourth ventricle	1	

Sl. No.	Topics	No. of hours	Term
	8. Mid-brain	1	
	9. Diencephalon: Thalamus & Hypothalamus	2	
	10. Third Ventricle	1	
	11. Lateral Ventricle	1	
	12. Cerebrum: external features	2	
	13. Functional areas of cerebral cortex	1	
	14. Basal ganglia	1	
	15. White matter of cerebrum: Corpus callosum & Internal capsule	2	
	16. Blood supply of brain	2	
	17. Cranial nerves	6	
	18. Systemic embryology: Development of Brain	2	
	19. Revision	2	
	Total Hours	**30**	

Total – 325 hrs

PRACTICAL

Sl. No.	Topics	No. of hours	Term
1.	**GENERAL HISTOLOGY**		**I**
	1. Epithelial tissue: Simple & Stratified	4	
	2. Connective tissue: Loose/Areolar & Adipose	2	
	3. Connective tissue: Cartilages	2	
	4. Connective tissue: Compact bone (L.S, T.S) and Spongy bone	2	
	5. Muscle tissue: Skeletal (L.S, T.S), Smooth and Cardiac	2	
	6. Nervous tissue: Peripheral nerve (T.S) & Nerve fibre (L.S)	2	
	7. Skin: Thick & Thin	2	
	8. Lymphoid organs: Lymph node, Spleen, Thymus & Tonsil	4	
	9. Blood vessels: Large artery, Medium sized artery & Large vein	2	
	10. Glands: Serous, Mucous & Mixed	2	
	Total Hours	24	
2.	**UPPER EXTREMITY**		**I**
	1. Introduction	2	
	Osteology		
	2. Clavicle	2	
	3. Scapula	2	

Sl. No.	Topics	No. of hours	Term
	4. Humerus	2	
	5. Radius	2	
	6. Ulna	2	
	7. Articulated hand	2	
	8. Surface Markings in upper extremity	2	
	Dissection		
	9. Pectoral region	2	
	10. Axilla	2	
	11. Back & Shoulder	2	
	12. Arm: Front & Cubital fossa and Back of the arm	2	
	13. Front of Forearm & palm of hand	4	
	14. Back of Forearm & Dorsum of Hand	2	
	15. Joints of upper extremity	2	
	16. Radiology of upper extremity	2	
	Total Hours	**34**	
3.	**HEAD, NECK & FACE**	**II**	
	1. Introduction	2	

Sl. No.	Topics	No. of hours	Term
	Osteology		
	2. Skull	6	
	3. Mandible	2	
	4. Hyoid bone	2	
	5. Cervical vertebrae: Typical & Atypical	2	
	6. Surface Markings in head, neck & face.	2	
	Dissection		
	7. Scalp	2	
	8. Face	2	
	9. Posterior triangle of neck	2	
	10. Anterior triangle of neck	2	
	11. Back of neck	2	
	12. Cranial cavity & Contents of vertebral canal	4	
	13. Deep dissection of neck	2	
	14. Orbit & Eyeball	2	
	15. Ear	2	
	16. Parotid region	2	

Sl. No.	Topics	No. of hours	Term
	17. Temporal & infratemporal region	2	
	18. Sub mandibular region	2	
	19. Mouth, Tongue & Pharynx	2	
	20. Nose & Larynx	2	
	21. Temporo-Mandibular joint & joints of Neck	2	
	22. Radiological anatomy of Head, Neck and Face	2	
	Systemic Histology-		
	23. Thyroid gland (including parathyroid)	2	
	24. Pituitary gland	2	
	25. Revision	2	
	Total Hours	**56**	
4.	**CENTRAL NERVOUS SYSTEM**		**II**
	1. Introduction	2	
	Demonstration		
	2. Parts of the brain	4	
	3. Spinal cord	2	

Sl. No.	Topics	No. of hours	Term
	4. Ventricles (model)	2	
	5. Radiology of brain	2	
	Systemic Histology		
	6. Nervous tissue: Cerebrum & Cerebellum	2	
	7. Revision	2	
	Total Hours	**16**	
5.	**THORAX**		**II**
	1. Introduction	2	
	Osteology		
	2. Sternum. Ribs: Typical & Atypical	2	
	3. Thoracic vertebrae: Typical & Atypical	2	
	Surface Marking	4	
	Dissection		
	4. Anterior Thoracic wall, Intercostal space & contents	2	
	5. Pleura & Lungs	4	
	6. Contents of superior mediastinum & Pericardium	2	
	7. Heart: External features	2	

Sl. No.	Topics	No. of hours	Term
	8. Interior of Heart with valves of heart	2	
	9. Contents of posterior Mediastinum	2	
	10. Radiological anatomy	2	
	Systemic Histology		
	11. Trachea & Lung	2	
	12. Revision	2	
	Total Hours	**30**	
6.	**LOWER LIMB**		**III**
	1. Introduction	2	
	Osteology		
	2. Hip Bone	2	
	3. Femur & Patella	2	
	4. Tibia	2	
	5. Fibula	2	
	6. Articulated Foot	2	
	7. Surface Marking	2	
	Dissection		

Sl. No.	Topics	No. of hours	Term
	8. Front of thigh	4	
	9. Medial side of thigh	2	
	10. Gluteal region	2	
	11. Back of thigh & Popliteal fossa	2	
	12. Front of Leg & Dorsum of Foot	2	
	13. Leg: Medial, Lateral & Back of Leg	4	
	14. Sole of Foot	4	
	15. Joints of the lower extremity	2	
	16. Radiology lower extremity	2	
	17. Revision	2	
	Total Hours	**40**	
7.	**ABDOMEN & PELVIS**		**III**
	1. Introduction	2	
	2. **Osteology**		
	3. Lumbar Vertebrae	2	
	4. Sacrum and joints	2	
	5. Articulated Pelvis: Male & female	2	

Sl. No.	Topics	No. of hours	Term
	6. **Surface Marking**	4	
	Dissection		
	7. Anterior abdominal wall	2	
	8. External genitalia of Male	2	
	9. Abdominal cavity: Positions & Relations of viscera, Peritoneum, Greater & Lesser sac	2	
	10. Stomach & Spleen	2	
	11. Small intestine (Jejunum & Ileum) & Large intestine	2	
	12. Duodenum & Pancreas	2	
	13. Liver, Gall bladder & blood vessels of Digestive system	2	
	14. Kidney & Suprarenal gland	2	
	15. Posterior Abdominal wall & Diaphragm	2	
	16. Walls of the pelvis & Pelvic cavity : position & relations of viscera, Perineum	2	
	17. Urinary bladder, Urethra & Prostate	2	
	18. Ovary, Uterus, Fallopian tubes, Vagina	2	
	19. Sigmoid colon, Rectum & Anal canal	2	

Sl. No.	Topics	No. of hours	Term
	20. **Radiological anatomy**	2	
	Systemic Histology		
	21. Digestive system: Basic structure of GIT	2	
	22. Digestive system: Liver & Gall bladder, Pancreas	2	
	23. Urinary system: Kidney, Ureter & Suprarenal gland	2	
	24. Male Reproductive system: Testis & Prostate	2	
	25. Female Reproductive system: Ovary & Uterus	2	
	Total Hours	**50**	
Total Practical hours		**250 Hours**	

Non-Lecture activities

Sl. No	Non-Lecture Teaching Learning methods	Time Allotted per Activity (in Hours)
1.	Seminars/ Workshops	10
2.	Group Discussions	10
3.	Problem based learning	10

4.	Integrated Teaching	15
5.	Case Based Learning	10
6.	Self-directed Learning	15
7.	Tutorials, Assignments and projects	10
	Sub total	80
8.	Practical	250
	Total	**330**

Description of Non-Lecture Activities

Sl. No	Non-Lecture Teaching Learning methods	Time Allotted per Activity (in Hours)	Topics
1.	Seminars/ Workshops	10	Seminars: Guest Seminars, Student Seminars of Fast Learners can be conducted on any topic of Anatomy. E.g.: Shoulder joint, Liver etc. Workshop: Workshop can be arranged on important topics of Anatomy. E.g.: Abdomen, Thorax, CNS etc.
2.	Group Discussions	10	Group discussions can be conducted during practical hours on any topic of Practical and dissection. E.g.: Heart, Lungs, actions of joints etc.
3.	Problem based learning	10	Problem based learning can be conducted on any applied anatomy topic. E.g.: Bell's palsy, Frozen shoulder, Varicose veins etc.
4.	Integrated Teaching	15	**A] Horizontal Integration**

			Physiology: Any topic related to Physiology can be conducted. E.g.: Anatomy: Physiology Seminar on Respiratory System. Homoeopathic Subjects: Any topic related to Homoeopathic Materia Medica, Repertory, Organon of Medicine. E.g.: a) Integrated lecture with HMM - Homoeopathic drugs related to organs of Abdomen. b) Integrated lecture with Repertory – Rubrics related to structures of Thorax. c) Integrated lecture with Organon –Miasmatic influence on heredity. d) Integrated lecture with Homoeopathic Pharmacy - Action of Homoeopathic drugs on cellular level. **B] Vertical Integration** Gynecology – E.g.: Any topic related on female reproductive System. Surgery – E.g.: Integrated lecture on radiology. Medicine – E.g.: Embryological basis of major congenital anomalies of heart
5.	Case Based Learning	10	Case Based Learning can be conducted on any clinical topic of anatomy by presenting a case scenario with the help of Simulation or Audiovisual aid in the classroom. E.g.: A case of Bell's Palsy for the topic Facial Nerve, A case of Wrist drop for the topic Radial Nerve etc.

6.	Self-Directed Learning	15	Self-Directed Learning can be conducted for any topic of Anatomy. E.g.: Functional areas of cerebrum, Actions of Facial muscles.
7.	Tutorials, Assignments, Projects	10	Tutorials, Assignments, projects can be conducted on any topic of anatomy at the end of the topic.

6. TEACHING LEARNING METHODS

General Instructions

(a) Instructions in anatomy should be so planned as to present a general working knowledge of the structure of the human body both at micro and macro level and should correlate with function. Topics/syllabus should be planned out in parallel with other subjects for better understanding & to achieve integration.

(b) The amount of detail which a student is required to memorise should be reduced to the minimum but should connect to syllabus of other subjects and applied anatomy.

(c) Major emphasis should be laid on functional anatomy of the living subject rather than on the static structures of the cadaver and on general anatomical positions and broad relations of the viscera, muscles, blood vessels, nerves and lymphatics and study of the cadaver is the only means to achieve this.

(d) Students should know the basic applied anatomy & should not be burdened with minute anatomical details which have no clinical significance.

(e) Only such details which have professional or general educational value for the Homoeopathic medical students need to be focused.

(f) Normal radiological anatomy may also form part of practical or clinical training and the structure of the body should be presented linking functional aspects.

(g) A good part of theoretical lectures on anatomy can be transferred to tutorial classes with the demonstrations/ Projection / Dissection.

(h) Case based learning should be conducted for the students on various clinical conditions with the help of case scenario, simulation or Audiovisual aids as a Non-Lecture activity.

(i) Seminars and group discussions to be arranged periodically with view of presenting these subjects in an integrated manner.

(j) More stress on demonstrations and tutorials should be given. Emphasis should be laid on the general anatomical positions and broad relations of the viscera, muscles, blood vessels, nerves and lymphatics.

(k) There should be joint seminars with the departments of Physiology and Biochemistry, Repertory, HMM, Philosophy and Pharmacy which should be organized wherever necessary as per the topic.

(l) There should be a close correlation in the teaching of gross Anatomy, Histology, Embryology and Genetics and the teaching of Anatomy, Physiology including Biochemistry along with Homoeopathic subjects shall be integrated.

Though dissection of the entire body is essential for the preparation of the student for his clinical studies, the burden of dissection can be reduced and much saving of time can be affected with considerable reduction of the number of topographical details while following the above points.

The purpose of dissection is to give the student an understanding of the body-Structure from Macro to Micro correlate to its function- Functional anatomy to integrate with Physiology and the dissection should be designed to achieve this goal.

Dissection should be preceded by a course of lectures on the general structure of the organ or the system under discussion and then its function. In this way anatomical and physiological knowledge can be presented to students in an integrated form and the instruction of the whole course of anatomy and physiology made interesting, lively practical or clinical. Syllabus of all the subjects of First BHMS course should be structured to run parallel, horizontally & vertically as far as possible to achieve maximum integration.

Students should be able to identify anatomical specimens and structures displayed in the dissection. Teaching and Demonstration methods should be supported with latest software/Practical/Charts/slides/Working or 3D Diagrams, Audio-Visual/ Multimedia presentation/Simulation to train clinical application.

The Teaching Learning activities in Anatomy requires change in structure & process in order to be more skill based & providing hands on experience.

The Teaching Learning methods with respect to Anatomy may be covered in the following manner:

a. **Class Room Lectures** – Oral Presentation, Board Work, Power point Presentation. **Tutorials** on the topics covered.

b. **Assignments –** For Slow Learners

c. **Practical Class** – Demonstration, Dissection, Surface Marking, Histology, Radiology

d. **Student Activities –** Working out the Assignments, Projects, PowerPoint presentations as assigned

e. **Case based Learning & Problem Based Learning (CBL & PBL)** for students to understand the application of knowledge of Anatomy with Clinical subjects.

f. **DOAP (Demonstration – Observation – Assistance – Performance)** For Clinical Anatomy.

7. CONTENT MAPPING (COMPETENCY TABLE)

1. General Anatomy
2. Developmental anatomy (Embryology)
3. Regional anatomy (Upper and Lower Extremities, Thorax, Abdomen, Pelvis & Perineum, Head, Neck & Face and Brain)

   3.1 Each of the region will be studied under the following headings

   (a) Osteology
   (b) Syndesmology and Arthrology (Joints)
   (c) Myology
   (d) Angiology
   (e) Neurology
   (f) Splanchnology (Viscera/Organ)
   (g) Histology
   (h) Surface anatomy
   (i) Applied anatomy
   (j) Radiographic anatomy
   (k) Correlation with homoeopathic subjects

Semester - I

1. **Topic: General Anatomy**

Learning Outcomes (LO): At the end of general anatomy, I-BHMS student must;

1. Describe the structure of a cell, its components and their function.
2. Recall the terminologies used in Anatomy.
3. Classify bones, muscles, joints and nerves
4. Mention the homoeopathic drugs indicated for particular tissue/organ involvement.
5. Practice Ethics related to the learning of Anatomy.

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Summative Assessment	Integration Horizontal (H) / Vertical(V)

Hom UG-AN-1.1	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	General Anatomy	K	Concept of cell as structural and functional unit of the body	1. Define cell 2. Name the components of cell 3. Mention their functions of cell organelle 4. Mention the types of cell division **5.** explain their significance	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-1.2			K	Understanding of the four basic tissues that make up organs and systems	1. Describe the structure and location 2. Mention the characteristics 3. Function of each of the basic tissues	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-1.3. i			K	Understand role of DNA in carrying the genetic code and RNA in gene expression	1. Describe the structure of DNA and RNA 2. List the functions of DNA and RNA	Cognitive	Level 1 (Remember/ recall)	1. DK 2. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Sl. No.	**Generic Competency**	**Subject Area**	**Millers: K/KH/ SH/D**	**Specific Competency**	**Specific learning objectives:** At the end of the session student should be able to	**Bloom's Domain**	**Guilbert's level**	**Must know/ Desire to know/ Nice to know**	**Teaching Learning Method/Media**	**Formative Assessment**	**Summative Assessment Summative Assessment**	**Integration Horizontal/ Vertical**

Hom UG-AN-1.3. ii	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	General Anatomy	K	Describe the role of chromosomes in transfer or genetic material & role in cell division	1. Definition and number 2. Karyotyping 3. Barr body 4. Chromosomal abnormalities	Cognitive	Level 1 (Remember/ recall)	1. MK 2. DK 3. NK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG-AN-1.3. iii			K	Explain the concept of Gene as unit of inheritance	1. Definition 2. Functions 3. Types and location	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG-AN-1.3. iv			KH	Describe the types of inheritance and their role in hereditary diseases	1. Definition 2. Define autosomal inheritance 3. Define sex linked inheritance 4. Define mitochondrial inheritance	Cognitive	Level 2 (Remember/ recall)	1. MK 2. DK 3. DK 4. NK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-1.3. v	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	General Anatomy	KH	Describe the genetic basis of diseases	1. Mention the types of genetic abnormalities 2. Describe the genetic basis of Down's syndrome 3. Explain miasmatic influence on heredity	Cognitive	Level 2 (understand/interpret)	1. DK 2. DK 3. NK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V) Organon (H)
Hom UG-AN-1.4.i			K	Definition and subdivisions of anatomy	1. Definition of anatomy 2. List the subdivisions of anatomy 1. Recall the methods of study in each sub division of anatomy	Cognitive	Level 1 (Remember)	1. MK 2. DK 3. DK 4.	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-
Hom UG-AN-1.4. ii			K	History of Anatomy	1. Recall the evolution of anatomy as a science 2. Enumerate the major contributors and their work	Cognitive	Level 1 (Remember)	1. NK 2. NK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-1.4.iii	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	General Anatomy	K & KH	Anatomical Terms of position & movement	1. Define anatomical terms of position and movement 2. Apply the anatomical terms 3. Demonstrate the movements	Cognitive & Psychomotor	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK	Lecture Demonstration Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-
Hom UG-AN-1.4.iv			K	Skin, Superficial and Deep fasciae	1. Describe the structure, appendages of skin 2. Mention the functions of skin 3. Describe superficial fascia and its distribution 4. Describe deep fascia and its functions	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. DK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-1.4. v			K & KH	Muscles	1. Classify muscles 2. Classify skeletal muscles based on fascicular architecture and their blood and nerve supply 3. Explain the actions of skeletal muscles	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. DK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-14.vi	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	General Anatomy	K & KH	Bones	1. Describe the structure and functions of bones 2. Classify bones 3. Describe the parts of growing long bone 4. Explain the blood supply of long bone	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-1.4.vii			K	Joints	1. Define joints 2. Classify joints 3. Describe the structure of synovial joint 4. Classify synovial joints 5. Mention the blood and nerve supply of joints	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK 4. DK 5. DK 5.	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-1.4. viii			K	Blood vessels	1. Describe the types of blood vessels 2. Explain anastomosis & arteriovenous anastomosis 3. Describe the types of blood circulation 4. Describe foetal circulation	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-14. ix	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	General Anatomy	K	Lymphatic system	1. Define the lymphatic system and mention its functions 2. Enumerate the components of lymphatic systems 3. Define mucosa associated lymphatic tissue and bronchus associated lymphatic tissue	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-1.4x			K & KH	Nerves	1. Classify nervous system 2. Describe neuron & neuroglia 3. Describe the formation of typical spinal nerve 4. Differentiate sympathetic and parasympathetic nervous systems	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-1.4. xi			K & KH	Glands	1. Define a gland 2. Describe exocrine and endocrine glands 3. Classify exocrine glands 4. Classify endocrine glands	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Hom UG-AN-1.5			K	Cell, Tissues, organs, Organ System	Describe the action of Homoeopathic drugs on cellular level.	Cognitive	Level 1 (Remember/ recall)	NK	Integrated lecture	Viva Voce	-	Pharmacy , Homoeopathic Materia Medica (H),

2. Topic: Developmental Anatomy (Embryology)

Learning Outcomes (LO): At the end of embryology, I-BHMS student should be able to;

1. Describe evolution of life on earth and the developmental anatomy and genetics.
2. Explain the structural organization of man from micro to macro and its evolution from embryo.
3. Explain the evolution of different organs and systems from the embryo.
4. Enumerate the homoeopathic drugs indicated for particular genetic or developmental defect.

Embryology

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-2.1	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Embryology	K & KH	Introduction to embryology	1. Define embryology 2. Enumerate the parts of male and female reproductive systems 3. Correlate meiosis with gametogenesis 4. Describe menstrual cycle	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Obstetrics and Gynecology (V)
Hom UG-AN-2.2			K & KH	Spermatogenesis	1. Define spermatogenesis 2. Describe the process of spermatogenesis 3. Describe spermiogenesis 4. Describe the structure of spermatozoon	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-2.3			K & KH	Oogenesis	1. Define Oogenesis 2. Describe the process of oogenesis 3. Describe formation of graafian follicle 4. Compare spermatogenesis and oogenesis	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Obstetrics and Gynecology (V)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-2.4 & 2.5	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Embryology	K & KH	Fertilization	1. Define fertilization 2. Describe the process of fertilization 3. Describe the process of cleavage and formation of blastocyst 4. Explain the clinical correlation with IVF	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. NK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-2.6			K	Formation of bilaminar germ disc	1. Describe the formation of amniotic cavity and yolk sac 2. Describe the formation of bilaminar germ disc 3. Describe the formation of extraembryonic mesoderm 4. Define chorion and amnion	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-
Hom UG-AN-2.7			K	Gastrulation	1. Define Gastrulation 2. Describe the formation of prochordal plate 3. Describe the formation of primitive streak 4. Describe the formation of germ layers 5. Mention derivatives of each germ layer	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-2.8	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Embryology	K	Intra embryonic mesoderm and formation of somites	1. Describe the parts of intra embryonic mesoderm 2. Describe the formation of somites and their derivatives 3. Define Sclerotome, myotome and dermatome	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-2.9			K	Ossification	1. Define ossification 2. Mention the types of ossification 3. Describe intramembranous ossification 4. Describe endochondral ossification	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-2.10			K	Notochord	1. Describe the formation of notochord 2. Mention the function and fate of notochord 3. Describe the formation of neural tube	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-2.11	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Embryology	K	Folding of the embryonic disc and formation of primitive gut tube	1. Explain the sagittal folding of embryo 2. Explain the transverse folding of embryo 3. Describe the parts of primitive gut tube	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-
Hom UG-AN-2.12			K	Placenta	1. Define amnion and chorion 2. Define decidua 3. Describe the formation of placenta 4. Mention the functions of placenta	Cognitive	Level 1 (Remember)	1. DK 2. DK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-
Hom UG-AN-2.13			K	Stages of development	1. Describe the Development of embryo and layers of suppression. 2. Enumerate the homoeopathic drugs indicated for particular genetic or developmental defect	Cognitive	Level 1 (Remember/ recall)	1. NK	Integrated lecture	Viva Voce	-	Organon (H), Homoeopathic Materia Medica (H)

3. Topic: General Histology

Learning Outcomes (LO): At the end of embryology, I-BHMS student should be able to;

1. Describe microscopic structure of the basic tissues and clinically relevant structures.
2. Correlate the histological features with their functions.
3. Explain the possible changes in cells, tissues and organs due to injury or disease.

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-3.1	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	**Histology**	K & KH	Introduction to histology	1. Define histology 2. Describe parts of microscope 3. Explain the use of microscope	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-3.2			K	Epithelial tissue	1. Define epithelium 2. Mention the characteristics of epithelial tissue 3. Classify epithelia	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-3.3			K & KH	Connective tissue	1. Define connective tissue 2. Mention the characteristics of connective tissue 3. Classify connective tissue	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. M 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-3.4	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Histology	K	Cartilage	1. Classify cartilages 2. Describe the microscopic structure of hyaline cartilage 3. Describe the microscopic structure of fibro cartilage 4. Describe the microscopic structure of elastic cartilage	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-3.5			K	Bone	1. Describe haversian system 2. Describe the microscopic structure of L S and T S of compact bone 3. Describe the microscopic structure of spongy bone	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-3.6			K	Muscle	1. Classify muscle tissue 2. Describe the microscopic structure of L S and T S of skeletal muscle 3. Describe the microscopic structure of smooth muscle 4. Describe the microscopic structure of cardiac muscle	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-3.7	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Histology	K	Nervous tissue	1. Describe nerve 2. Describe T S of peripheral nerve 3. Describe L S of peripheral nerve	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-3.8			K	Skin	1. Describe microscopic structure of thin skin 2. Describe microscopic structure of thick skin 3. Describe appendages of skin	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-3.9			K	Lymphoid organs	1. Mention lymphoid organs 2. Describe the microscopic structure of lymph node, 3. Describe the microscopic structure of tonsil 4. Describe the microscopic structure of thymus 5. Describe the microscopic structure of spleen	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK 4. MK 5. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-3.10	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Histology	K	Blood vessels	1. Classify blood vessels 2. Describe the microscopic structure of large artery 3. Describe the histology of medium sized artery 4. Describe the microscopic structure of large vein	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-3.11			K	Glands	1. Classify glands based on type of secretion 2. Describe the microscopic structure of serous gland 3. Describe the microscopic structure of mucous gland 4. Describe the microscopic structure of mixed gland	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

4.Topic: Upper Extremities

Learning Outcomes (LO): At the end of Upper Extremities, I-BHMS student should be able to;

1. Describe the anatomy of the bones of the upper extremities, their blood supply and applied anatomy.
2. Describe anatomy of the joints of the upper extremities, their blood supply, action and applied anatomy.
3. Describe the muscles of the upper extremities, their origin, insertion, nerve supply, action and applied anatomy.
4. Explain anatomy of the vessels and nerves of the upper extremities, their course, muscles they supply, relations and applied anatomy.
5. Describe the anatomy of mammary gland with its applied anatomy.
6. Describe the anatomy of axilla.
7. Enumerate homoeopathic drugs and rubrics indicated for particular involvement of bones, muscles, joints, nerves, blood vessels.

Sr No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
HomUG-AN-4.2, 4.6, 4.9, 4.10, 4.18 and 4.19	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Upper Extremity	K & KH	Anatomic al features of Pectoral region and axilla Back and Intermuscular spaces around scapula Arm and cubital fossa Fore arm Flexor and extensor retinacula Palmar aponeurosis and spaces in palmar spaces	1. Describe the contents of the regions of upper extremity 2. Recall the attachments, nerve supply and actions of the muscles in the regions 3. Describe the main joint, blood vessels and nerves in the region. 4. Identify the surface land marks in the region for surface marking	Cogniti ve	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. MK	Lectu re	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
HomUG-AN-4.4, 4.5 4.9 to 4. 12 & 4.20			K	Main blood vessels of the upper limb: Axillary artery, brachial artery Radial artery and ulnar artery and superficial veins of upper extremity	1. Describe the origin, extent, parts, branches and distribution of main arteries 2. Describe superficial and deep palmar arches 3. Describe the venous drainage of upper extremity 4. Describe their applied anatomy		Level 1 (Remem ber/ recall)	5. MK 1. MK 2. MK 3. MK	Lectu re	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H)
HomUG-AN-4.8, 4.10, 4.13 to 4.15			K	Describe the Anatomy of nerves of Upper extremity Median nerve, Ulnar nerve, Radial nerve, Musculocutaneous nerve and Axillary nerve	1. Describe the formation, course and relations of main nerves of the upper extremity 2. Mention their branches and their distribution 3. Describe the applied anatomy	Cogniti ve	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK	Lectu re	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H) Medicine (V) Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
HomUG-AN-4.4	Problem formulation/ Integration of Knowledge/ Information gathering/Practical	Upper Extremity	K	Describe the anatomy of Brachial plexus	1. Define nerve plexus 2. Enumerate the root value of Brachial plexus 3. Mention the stages of formation of Brachial plexus 4. Name the branches of Brachial plexus 5. Enlist the deformities due to injuries to Brachial plexus	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology H)
HomUG-AN-4.3			K	Describe the anatomy of Breast (Mammary gland)	1. Define location & extent of breast 2. Describe structure of breast 3. Describe the relations, blood supply and nerve supply 4. Explain the lymphatic drainage of breast 5. Describe applied anatomy of breast	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)

HomUG-AN-4.7, 4.16 &4.17			K	Describe the Anatomy of joints of Upper extremity Shoulder, Elbow, Radio-ulnar and wrist joints	1. Enumerate the joints of upper extremity 2. Describe the articulating surfaces, ligaments, blood and nerve supply of joints of upper extremity 3. Describe the movements of joints upper extremity 4. Describe the applied anatomy of joints of upper extremity	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)
HomUG-AN-4.18			K	Structures of upper extremity	1. Enumerate the homoeopathic drugs related to structures of upper extremity. 2. Enumerate the rubrics related to structures of upper extremity.	Cognitive	Level 1 (Remember/ recall)	NK	Integrated Lecture	Viva voce		Homoeopathic Materia Medica (H), Repertory (H).

5. Topic: Lower Extremity

Learning Outcomes (LO): At the end of Lower Extremities, I-BHMS student should be able to;

1.Describe the anatomy of the bones of the lower extremities, their blood supply, and applied anatomy.

2. Describe the anatomy of the joints of the lower extremities, their blood supply, action and applied anatomy.

3. Describe the anatomy of the muscles of the lower extremities, their origin, insertion, nerve supply, action and applied anatomy.

4. Describe the anatomy of the vessels and nerves of the lower extremities, their course, muscles they supply, relations and applied anatomy.

5. Enumerate the homoeopathic drugs indicated for particular involvement of bones, muscles, joints, nerves, blood vessels.

Sr. No	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
HomUG-AN-5.3 to 5.6, 5.8, 5.10 To 5.14	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Lower Extremity	K & KH	Front of the thigh, Femoral triangle, Medial side of thigh, Gluteal region, Back of the thigh and popliteal fossa, Front of the thigh and dorsum of the foot, Back & side of the leg, retinacula and sole of the foot	1. Describe Contents of the regions of lower extremity 2. Recall the attachments, nerve supply and actions of the muscles in the regions 3. Describe the main joint, blood vessels and nerves in the region. 4. Identify the surface land marks in the region for surface marking	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
HomUG-AN-5.4, 5.8 5.10 to 5.11, 5.14 & 5.18			K	Main blood vessels of the upper extremity: Femoral artery, Popliteal artery, Anterior tibial & Posterior tibial and Dorsalis pedis artery	1. Describe the origin, extent, parts, branches and distribution of main arteries 2. Describe superficial and deep plantar arches 3. Describe the venous drainage of lower extremity 4. Describe their applied anatomy		Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H)
HomUG-AN-5.2, 5.5,5.7, 5.10 to 5.12, 5.14			K	Describe morphology nerves of lower extremity Femoral, obturator, Sciatic, common peroneal and Tibial nerves	1. Describe the formation, course and relations of main nerves of the lower extremity 2. Mention their branches and their distribution 3. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H) Medicine (V) Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN- 5.2 & 5.7	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Lower Extremity	K	Describe the anatomy of Lumbar & Sacral plexuses	1. Define nerve plexus 2. Enumerate the root value of the plexuses 3. Describe the formation of the plexuses 4. Name the branches of sacral and lumbar plexus 5. Enlist the deformities due to injuries to lumbar & sacral plexuses	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology H)
HomUG-AN-5.9, 5.15 to 5.17			K	Describe the Anatomy of joints of Lower extremity Hip, Knee and Ankle Arches of the foot	1. Describe the articulating surfaces, ligaments, blood and nerve supply of joints of lower extremity 2. Describe the movements of joints lower extremity 3. Describe the applied anatomy of joints of lower extremity 4. Describe the formation of arches of foot 5. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)
Hom UG-AN- 5.18			K	Structures of lower extremity	1. Enumerate the homoeopathic drugs related to structures of lower extremity. 2. Enumerate the rubrics related to structures of lower extremity.	Cognitive	Level 1 (Remember/ recall)	NK	Integrated Lecture	Viva voce		Homoeopathic Materia Medica (H), Repertory (H).

6. Topic: Thorax

Learning Outcomes (LO): At the end of Thorax, I-BHMS student should be able to;

1. Describe the parts of Respiratory and Cardiovascular system with their applied anatomy.

2. Enumerate the homoeopathic drugs and rubrics related to thorax.

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert' s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG-AN-6.1 & 6.2	Problem formulation/ Integration of Information Knowledge/	Thorax	K	Introduction & Trachea	1. Describe the Boundaries and content of thoracic cage 2. Describe the morphology of trachea 3. Mention the Blood supply and nerve supply 4. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. DK 3. DK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-6.3			K	Pleura	1. Define pleura 2. Mention the layers 3. Describe the parts of parietal pleura 4. Mention its blood and nerve supply 5. Describe its applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK 5. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H) Medicine (V)

Hom UG-AN-6.4			K	Lungs	1. Describe the external features of the lung 2. Compare the features of right and left lungs 3. State the blood supply and nerve supply 4. Explain the broncho-pulmonary segments and their applied aspect	Cognitive	Level 1 (Remember/ recall)	1. MK 2. DK 3. DK 4. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H) Medicine (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I / Vertical(V)
Hom UG-AN-6.5	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Thorax	K	Mediastinum	1. Define mediastinum 2. Describe the boundaries of mediastinum 3. Mention the contents of each mediastinum 4. Describe its applied aspect	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H)
Hom UG-AN-6.6			K	Pericardium and Heart	4. Describe the morphology of the pericardium 5. Describe the external features of the heart 6. Describe the internal features of the chambers of heart 7. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	4. MK 5. MK 6. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H)
Hom UG-AN-6.7			K	Blood supply of heart	1. Mention the arteries and veins supplying the heart 2. Describe the course and distribution of right and left coronary arteries 3. Describe the course and drainage of coronary sinus 4. Describe the applied aspect	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ LAQ. Viva Voce	Physiology (H) Medicine (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I / Vertical(V)
Hom UG-AN-6.8	Problem formulation/ Information gathering/Practical Skills/Information Integration of Knowledge/	Thorax	K	Superior mediastinum: Arch of aorta	1. Describe the extent, course, convexities of arch of aorta 2. Mention the relations 3. Name the branches 4. Describe the applied aspect	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-6.9			K	Superior mediastinum: Superior Vena cava	1. Describe the formation of SVC 2. Describe its course and relations 3. Name the tributaries 4. Describe it applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Surgery (V)
Hom UG-AN-6.10			K	Posterior mediastinum: Azygous vein & Thoracic duct	1. Describe the origin, course and tributaries of azygos vein 2. Mention the relations 3. Describe the origin, course and tributaries of thoracic duct 4. Mention the relations of thoracic duct 5. Describe their applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. DK 2. DK 3. DK 4. DK 5. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D)	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) / Vertical(V)
Hom UG-AN-6.11	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Thorax	K	Posterior mediastinum: Oesophagus & Descending thoracic aorta	1. Describe the morphology and relations of the oesophagus 2. Mention constrictions in its course 3. Mention the blood supply and nerve supply 4. Describe the extent, branches and relations of descending thoracic aorta 5. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-6.12			K	Diaphragm	1. Describe the attachments, nerve supply and actions of diaphragm 2. Mention the major openings in the diaphragm and structures passing through it. 3. Describe the nerve and blood supply 4. Describe its applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK 5. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Hom UG-AN-6.13			K	Systemic embryology: Development of Heart and lung	1. Describe the formation of primitive heart tube 2. Describe the formation of the atria and ventricles of the heart 3. Explain the embryological basis of major congenital anomalies of heart 4. Describe formation of lung	Cognitive	Level 1 (Remember/ recall)	6. DK 7. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Sl. No.	**Generic Competency**	**Subject Area**	**Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D)**	**Specific Competency**	**Specific learning objectives**: At the end of the session student should be able to	**Bloom's Domain**	**Guilbert s level**	**Must know (MK) / Desire to know (DK) / Nice to know (NK)**	**Teaching Learning Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal (H) I/ Vertical(V)**
Hom UG-AN-6.14	Problem formulation/ Integration of Knowledge/ Information gathering/Practical	Thorax	K	Systemic histology: Trachea and Lung	1. Describe the microscopic structure of trachea and lung 2. Correlate with their functions 3. Explain the applied aspect and correlate with histopathology	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Pathology (V)

Hom UG-AN-6.15			K	Structures of Thorax.	1. Enumerate the homoeopathic drugs related to thorax. 2. Enumerate the rubrics related to thorax.	Cognitive	Level 1 (Remember/ recall)	NK	Integrated lecture	Viva Voce	-	Homoeopathic Materia Medica (H), Repertory. (H)

7.Topic: Abdomen

Learning Outcomes (LO): At the end of Abdomen, I-BHMS student should be able to;

1. Describe the anatomy of the abdomen and pelvic organs with their applied anatomy.

2. Enumerate the homoeopathic drugs and rubrics indicated for involvement of the abdominal and pelvic organs.

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-7.1	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Abdomen, Pelvis & Perineum	K	Introduction	1. Describe the regions of abdominal cavity 2. Name the contents of abdominal cavity and pelvic cavity 3. Describe perineum	Cognitive	Level 1 (Remember	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-7.2			K & KH	Anterior abdominal wall	1. Describe the muscles of anterior abdominal wall and their actions 2. Describe the boundaries and contents of inguinal canal 3. Explain the applied anatomy of inguinal canal	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

Hom UG-AN-7.3			K & KH	Peritoneum	1. Define peritoneum 2. Describe greater sac, lesser sac and epiploic foramen 3. Describe the folds of peritoneum 4. Describe recto-uterine pouch and hepatorenal pouch 5. Define mesoappendix, transverse mesocolon and sigmoid mesocolon	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

Sl. No.	**Generic Competency**	**Subject Area**	**Millers: K/KH/ SH/D**	**Specific Competency**	**Specific learning objectives:** At the end of the session student should be able to	**Bloom's Domain**	**Guilbert's level**	**Must know/ Desire to know/ Nice to know**	**Teaching Learning Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal/ Vertical**
Hom UG-AN-7.4	Problem formulation/ Integration of Knowledge/ Information	Abdomen, Pelvis & Perineum		Stomach	1. Describe the morphology of stomach 2. Describe the relations of stomach 3. Describe the interior of stomach 4. Describe the blood and nerve supply of stomach 5. Explain the applied anatomy of stomach	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Surgery (V)

rHom UG-AN-7.5			K & KH	Liver	1. Describe the morphology of liver 2. Describe the ligaments of liver 3. through porta hepatis 4. Describe the blood and nerve supply of liver 5. Explain the applied anatomy of liver	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Surgery (V)
Hom UG-AN-7.6			K & KH	Extra hepatic biliary apparatus	1. Mention the parts of extra hepatic biliary apparatus 2. Describe the morphology of gall bladder and its interior 3. Describe the blood and nerve supply of gall bladder 4. Describe the formation of bile duct 5. Describe the applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK 5. MK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Surgery (V)

Sl. No.	**Generic Competency**	**Subject Area**	**Millers: K/KH/ SH/D**	**Specific Competency**	**Specific learning objectives:** At the end of the session student should be able to	**Bloom's Domain**	**Guilbert's level**	**Must know/ Desire to know/ Nice to know**	**Teaching Learning Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal/ Vertical**
Hom UG-AN-7.7	Problem formulation/ Integration of Knowledge/	domen, Pelvis &	K & KH	Spleen	1. Describe the morphology of spleen 2. Describe the ligaments of spleen 3. Describe the functions of spleen and its applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. NK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Surgery (V)

Hom UG-AN-7.8			K & KH	Duodenum	1. Describe the morphology of duodenum 2. Describe interior of duodenum 3. Describe the blood and nerve supply of duodenum 4. Describe the applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. NK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Surgery (V)
Hom UG-AN-7.9			K & KH	Pancreas	1. Describe the morphology of pancreas 2. Describe duct system of pancreas 3. Describe the blood and nerve supply and applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. NK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Surgery (V)

Sl. No.	**Generic Competency**	**Subject Area**	**Millers: K/KH/ SH/D**	**Specific Competency**	**Specific learning objectives:** At the end of the session student should be able to	**Bloom's Domain**	**Guilbert's level**	**Must know/ Desire to know/ Nice to know**	**Teaching Learning Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal/ Vertical**
Hom UG-AN-7.10	Problem formulation/ [illegible]	Abdomen, Pelvis & [illegible]	K & KH	Jejunum, Ileum and Superior mesenteric artery	1. Mention the characteristics of small intestine 2. State the differences between jejunum and ileum 3. Describe the origin, branches and distribution of superior mesenteric artery	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. NK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Surgery (V)

Hom UG-AN-7.11			K & KH	Caecum and appendix	1. Mention the morphology of caecum and vermiform appendix 2. Describe their relations, blood and nerve supply 3. Describe the applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. NK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)
Hom UG-AN-7.12			K & KH	Large intestine	1. Mention the parts of large intestine 2. Mention the characteristics of large intestine 3. Mention the differences between large and small intestines Describe the applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. DK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

Sl. No.	**Generic Competency**	**Subject Area**	**Millers: K/KH/ SH/D**	**Specific Competency**	**Specific learning objectives:** At the end of the session student should be able to	**Bloom's Domain**	**Guilbert's level**	**Must know/ Desire to know/ Nice to know**	**Teaching Learning Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal/ Vertical**
Hom UG-AN-7.13	Problem formulation/ Integration of Knowledge/	Abdomen, Pelvis & Perineum	K & KH	Portal venous system	1. Define portal vein 2. Describe its formation, course and relations 3. Mention the tributaries 4. Mention the sites of portacaval anastomosis and its applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)

Hom UG-AN-7.14			K & KH	Kidney	1. Describe the morphology of kidney 2. Mention the relations of the kidneys 3. Describe the structure of kidney in coronal section 4. Describe the blood supply of kidneys 5. Explain the applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. DK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Surgery (V)
Hom UG-AN-7.15			K & KH	Supra renal glands	1. Describe the morphology of supra renal glands 2. Mention their relations 3. Mention the functions 4. Describe the blood supply of supra renal glands 5. Explain the applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. DK 3. DK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Surgery (V)

Sl. No.	**Generic Competency**	**Subject Area**	**Millers: K/KH/ SH/D**	**Specific Competency**	**Specific learning objectives: At the end of the session student should be able to**	**Bloom's Domain**	**Guilbert's level**	**Must know/ Desire to know/ Nice to know**	**Teaching Learning Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal/ Vertical**

Hom UG-AN-7.16	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Abdomen, Pelvis & Perineum	K & KH	Abdominal aorta	1. Describe the origin and extent of abdominal aorta 2. Mention the relations 3. Name the branches 4. Describe the course and distribution of coeliac trunk 5. Describe the course and distribution of coeliac trunk	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. DK 3. MK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)
Hom UG-AN-7.17			K & KH	Posterior abdominal wall and Inferior vena cava	1. Name the structures in the posterior abdominal wall 2. Describe the origin, course relations and tributaries of inferior vena cava 3. Describe the applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. DK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)
Hom UG-AN-7.18			K & KH	Urinary bladder	1. Describe the morphology of urinary bladder 2. Describe the relations of urinary bladder 3. Describe the ligaments of urinary bladder 4. Describe the applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. DK DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-7.19	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Abdomen, Pelvis & Perineum	K & KH	Ureter	1. Describe the extent and parts of ureter 2. Describe the course and relations 3. Describe the applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)
Hom UG-AN-7.20			K & KH	Prostate gland	1. Describe the morphology of prostate gland 2. Describe the relations of prostate gland 3. Describe the applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)
Hom UG-AN-7.21			K & KH	Ovary	1. Describe the morphology of ovary 2. Describe the relations of ovary 3. Name the ligaments of ovary 4. Mention the blood supply of ovary 4. Describe the applied anatomy of ovary	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. NK 4. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Obstetrics and Gynecology (V)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-7.22	Problem formulation/ Integration of Knowledge/ Information gathering/Practical	bdomen, Pelvis & Perineum	K & KH	Uterus	1. Describe the morphology of uterus 2. Describe the relations of Uterus 3. Name the ligaments and supports of uterus 4. Mention the blood supply of uterus 5. Describe the applied anatomy of uterus	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. NK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Obstetrics and Gynecology (V)
Hom UG-AN-7.23			K & KH	Fallopian tube	1. Describe the morphology of fallopian tube 2. Describe the relations of fallopian tube 3. Describe the applied anatomy of fallopian tube	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Obstetrics and Gynecology (V)
Hom UG-AN-7.24			K & KH	Scrotum and Testis	1. Describe the morphology of scrotum 2. Mention its blood and nerve supply 3. Describe the morphology of testis 4. Describe the applied anatomy of testis	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. DK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-7.25	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Abdomen, Pelvis & Perineum	K & KH	Vas deferens	1. Mention the extent of ductus deferens, its course and relations 2. Mention its blood and nerve supply 3. Describe the applied anatomy of vas deferens	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. DK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)
Hom UG-AN-7.26			K & KH	Rectum	1. Describe the morphology of rectum and its relations 2. Mention its blood and nerve supply 3. Describe the applied anatomy of rectum	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)
Hom UG-AN-7.27			K & KH	Anal canal	1. Describe the morphology of anal canal and its relations 2. Mention its blood and nerve supply 3. Describe the applied anatomy of anal canal	Cognitive	Level 1 (Remember) & Level 2 (understand)	5. MK 6. MK 7. MK 8. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-7.28	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Abdomen, Pelvis & Perineum	K & KH	Wall of pelvis including pelvic diaphragm	1. Describe the structures that form the walls and pelvic diaphragm 2. Describe the main blood vessels and nerves pelvis and perineum 3. Describe their applied aspect	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. DK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)
Hom UG-AN-7.29			K & KH	Perineum: superficial and deep perineal pouches	1. Define perineum and mention its sub divisions 2. Describe the boundaries and contents of superficial and deep perineal pouches 3. Describe the applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)
Hom UG-AN-7.30			K & KH	Ischiorectal fossa	1. Describe the morphology of ischiorectal fossa 2. Mention the contents 3. Describe the applied anatomy of anal canal	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-7.31 & 7.32	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Abdomen, Pelvis & Perineum	K & KH	Systemic embryology: Development of Digestive system and Urogenital system	1. Explain the process of formation of primitive and development of digestive system including liver and pancreas 2. Explain the process of development of kidney, urinary bladder and ureter 3. Explain the process of formation of male and female gonads and reproductive organs.	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. DK 2. DK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)
Hom UG-AN-7.33 to 7.36			K & KH	Systemic histology: Microscopic structure of Digestive, urinary, reproductive systems and Supra renal gland	1. Describe the microscopic structure of digestive, urinary, reproductive systems and supra renal gland 2. Correlate with their functions 3. Explain the applied aspect and correlate with histopathology	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

Hom UG-AN-7.37			K	Structures of Abdomen & Pelvis.	1.Enumerate the homoeopathic drugs related to Structures of Abdomen & Pelvis. 2. Enumerate the rubrics related to Structures of Abdomen & Pelvis.	Cognitive	Level 1 (Remember/ recall)	NK	Integrated lecture	Viva Voce	-	Homoeopathic Materia Medica (H), Repertory. (H)

8.Topic: Head Neck Face & Special Senses

Learning Outcomes (LO): At the end of Head Neck & Face, I-BHMS student should be able to;

1. Describe the anatomy of the bones of the Head Neck &Face, their blood supply, and applied anatomy.
2. Describe the anatomy of the joints of the Head Neck & Face, their blood supply, action and applied anatomy.
3. Explain the anatomy of the muscles of the Head Neck & Face, their origin, insertion, nerve supply, action and applied anatomy.
4. Describe the atomy of the vessels and nerves of the Head Neck & Face, their course, muscles they supply, relations and applied anatomy.
5. Describe the triangles of the Neck with its applied anatomy.
6. Identify a particular bone of Head Neck & Face on X-Ray.
7. Describe the structure of the special senses organs with its applied anatomy.
8. Enumerate the homoeopathic drugs and rubrics related to structures of HNF.

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D)	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I / Vertical(V)
Hom UG-AN-8.1 and 8.2	Problem formulation/ Integration of Information Knowledge/	Head, Neck and Face	K	Introduction & Scalp	1. Mention the main areas of the head and neck region 2. Describe the layers of the scalp 3. Enumerate the blood and nerves supplying the scalp 4. Describe the applied anatomy of scalp	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)
Hom UG-AN-8.3			K	Face – Muscle, Nerve and Blood vessels	1. Name the muscles of facial expression 2. Mention the blood and nerve supply of face 3. Explain related applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I / Vertical(V)
Hom UG-AN-8.4	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Head, Neck and Face	K	Lachrymal apparatus	1. Mention the components of lachrymal apparatus 2. Describe the location and function of each of the components of lachrymal apparatus 3. Describe their applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)
Hom UG-AN-8.5			K	Side of the neck: Posterior triangle	1. Define triangles of neck 2. Describe the boundaries and contents of posterior triangle 3. Describe applied aspect	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)
Hom UG-AN-8.6			K	Front of the neck and Anterior triangle	1. Describe the sub divisions of anterior triangle 2. Describe the boundaries and contents of carotid triangle and digastric triangle 3. Describe the principal neurovascular bundle of the neck 4. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. Dk 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG-AN-8.7	Knowledge/ Skills/Information Integration of Problem formulation/ Information gathering/Practical	Head, Neck and Face	K	Deep Cervical fascia	1. Describe the parts of deep cervical fascia 2. Describe the attachments and modifications 3. Explain applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)
Hom UG-AN-8.8			K	Back of the neck: suboccipital triangle	1. Describe the features of the back of the neck 2. Describe the boundaries and contents of occipital triangle	Cognitive	Level 1 (Remember/ recall)	1. MK 2. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)
Hom UG-AN-8.9			K	Content of the Vertebral Canal	1. List the contents of the vertebral canal 2. Describe the meninges of the spinal cord 3. Describe the internal vertebral plexus of veins and their applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. DK 2. DK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG-AN-8.10	Problem formulation/ Information gathering/Practical Skills/Information	Head, Neck and Face	K	Parotid Gland	1. Describe the surfaces, border and relations of parotid gland 2. Mention the blood and nerve supply of the parotid gland 3. List the structures inside the parotid gland and parotid duct 4. Describe the clinical aspect	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ. Viva Voce	Surgery (V)
Hom UG-AN-8.11			K	Submandibular gland	1. Describe the morphology of submandibular gland 2. Mention its blood and nerve supply 3. Describe the applied aspect	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)
Hom UG-AN-8.12			K	Muscles of Mastication	1. Name the muscles of mastication 2. Describe their attachments, nerve supply and actions 3. Describe related applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I / Vertical(V)
Hom UG-AN-8.13	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Head, Neck and Face	K	Temporo-Mandibular Joint	1. Describe the articulation of TM joint 2. Enumerate the ligaments of the joint 3. Describe the relations 4. Explain the movements of the joint 5. Describe its applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)
Hom UG-AN-8.14			K	Thyroid Gland	1. Describe the location, external features and relations 2. Describe the blood and nerve supply 3. Describe its development 4. Explain the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)
Hom UG-AN-8.15			K	Cranial cavity: Dura mater, Dural venous sinuses & Pituitary gland	1. Describe the contents of cranial cavity 2. Describe morphology of pituitary gland and its clinical importance 3. Describe the folds of dura mater 4. Classify dural venous sinuses 5. Explain anatomy and clinical importance of cavernous sinus	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK 5. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D)	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I / Vertical(V)
Hom UG-AN-8.16	Problem formulation/ Information gathering/Practical Skills/Information Integration of Knowledge/	Head, Neck and Face	K	Contents of the Orbit	1. Name the contents of orbit 2. Describe the fasciae around eye ball 3. Describe the course and distribution of ophthalmic nerve 4. Describe blood vessels in the orbit 5. Describe the connections and distribution of ciliary ganglion	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V) Medicine (V)
Hom UG-AN-8.17			K	Extra Ocular Muscles	1. Name the extra ocular muscles 2. Describe their attachments, nerve supply and actions 3. Discuss the clinical anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-8.18			K	Oral cavity	1. Describe the parts and structure of tooth 2. Explain blood and nerve supply of tooth 3. Describe applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. DK 2. DK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I / Vertical(V)
Hom UG-AN-8.19	Problem formulation/ Information gathering/Practical Skills/Information Integration	Head, Neck and Face	K	Soft palate and palatine tonsil	1. Describe the structure, muscles, blood and nerve supply of soft palate 2. Define Waldayer's lymphatic ring 3. Describe the features, blood and nerve supply of palatine tonsil 4. Describe the applied anatomy of palatine tonsil	Cognitive	Level 1 (Remember/ recall)	1. MK 2. NK 3. MK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (H)
Hom UG-AN-8.20			K	Tongue	1. Describe the parts, features of the tongue 2. Describe the blood and nerve supply of tongue 3. Describe applied anatomy of tongue	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-8.21			K	Pharynx	1. Describe the parts of the pharynx and their features 2. Describe the constrictors of pharynx 3. Describe the blood and nerve supply 4. Describe its applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ.LAQ Viva Voce	Physiology (H) Medicine (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I / Vertical(V)
Hom UG-AN-8.22	Knowledge/ Integration of Skills/Information Problem formulation/ Information gathering/Practical	Head, Neck and Face	K	Larynx	1. Describe the cartilages of larynx 2. Describe the interior of larynx 3. Describe its blood and nerve supply 4. Explain its applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H)
Hom UG-AN-8.23			K	Nose and paranasal air cavities	1. Describe the features, blood and nerve supply of nasal septum and lateral wall of the nose 2. Describe the features, blood and nerve supply of paranasal air sinuses 3. Describe its applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Surgery (V)
Hom UG-AN-8.24			K	Ear: middle ear cavity	1. Mention the parts of the ear 2. Describe the parts, boundaries and contents of middle ear cavity 3. Describe features of ear ossicles 4. Describe the applied anatomy of middle ear cavity	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V) Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I / Vertical(V)
Hom UG-AN-8.25	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information	Head, Neck and Face	K	Eustachian tube	1. Describe the parts of the auditory tube 2. Describe its relations 3. Mention the blood and nerve supply 4. Describe its clinical anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)
Hom UG-AN-8.26			K	Eyeball	1. Describe the structure and location 2. Mention the characteristics 3. Function of each of the basic tissues	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ.Viva Voce	Physiology (H)
Hom UG-AN-8.27			K	Common & Internal carotidartery	1. Describe the origin, course relations and branches of CCA 2. Describe the origin, parts, course relations and distribution of ICA 3. Describe their applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. DK 2. DK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I / Vertical(V)
Hom UG-AN-8.28	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Head, Neck and Face	K	External carotid artery	1. Describe the origin, parts, course relations and distribution of ECA 2. Describe the course, relations and distribution of facial, lingual, maxillary and superficial temporal arteries 3. Describe their applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H)
Hom UG-AN-8.29			K	Vertebral artery and middle meningeal artery	1. Describe the parts, course, relations and branches of vertebral artery 2. Describe the parts, course, relations and branches of middle meningeal artery 3. Describe its applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-8.30			K	Internal Jugular vein	1. Describe the formation of IVC 2. Describe the course and relations of IVC 3. Name the tributaries 4. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. DK 2. DK 3. DK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG-AN-8.31	Problem formulation/ Integration of Information Knowledge/	Head, Neck and Face	K	Systemic histology: Thyroid gland, Pituitary gland and Tongue	1. Describe the microscopic structure of thyroid gland, pituitary gland and tongue 2. Correlate with their functions 3. Explain the applied aspect and correlate with histopathology	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Pathology (V)
Hom UG-AN-8.32			K	Systemic embryology: Pharyngeal arches: derivatives	1. Describe the formation of pharyngeal arches 2. Name the derivatives of pharyngeal arches 3. Describe the formation of tongue and thyroid gland	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ, Viva Voce	Physiology (H)
Hom UG-AN-8.33			K	Structures of HNF	1. Enumerate the homoeopathic drugs related to the structures of HNF 2. Enumerate the rubrics related to the structures of HNF.	Cognitive	Level 1 (Remember/ recall)	NK	Integrated Lecture	Viva voce	-	Homoeopathic Materia Medica (H), Repertory (H)

9.Topic- Brain- CNS System

Learning Outcomes (LO): At the end of CNS, I-BHMS student should be able to;

1. Describe the structure of Brain and CNS with their applied anatomy.
2. Classify nervous system and identify the parts of the brain and their features and internal structure.
3. Describe the origin and course of cranial nerves.
4. Enumerate the homoeopathic drugs and rubrics related to the structures of CNS.

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG-AN-9.1	Problem formulation/ Integration of Information Knowledge/	CENTRAL NERVOUS SYSTEM: BRAIN	K	Introduction	1. Describe the parts of the nervous system 2. Mention the parts of the brain 3. Describe the structure of neuron and neuroglia 4. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ. Viva Voce	Physiology (H)
Hom UG-AN-9.2			K	Meninges & CSF	1. Describe the layers of meninges 2. Define Cisterns 3. Describe the ventricles 4. Describe the formation, circulation and functions of the CSF 5. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK 5. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Hom UG-AN-9.3			K	Spinal cord	1. Describe the morphology of spinal cord 2. Describe the structure in T.S 3. Mention the main contents of gray and white matter of SC 4. Mention the blood supply of spinal cord 5. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. DK 2. DK 3. DK 4. DK 5. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Sl. No.	**Generic Competency**	**Subject Area**	**Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D**	**Specific Competency**	**Specific learning objectives:** At the end of the session student should be able to	**Bloom's Domain**	**Guilbert s level**	**Must know (MK) / Desire to know (DK) / Nice to know (NK)**	**Teaching Learning Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal (H) I/ Vertical(V)**
Hom UG-AN-9.4	Problem formulation/ Integration of Knowledge/ Information	CENTRAL NERVOUS SYSTEM:	K	Medulla oblongata	1. Describe the external features 2. Describe the internal structures in the transverse sections 3. Describe the blood supply 4. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. DK 3. DK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG-AN-9.5			K	Pons	1. Describe the external features 2. Describe the structures in the transverse section 3. Describe the blood supply 4. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Hom UG-AN-9.6			K	Cerebellum	1. Describe the location and external features 2. Describe the division and connections of cerebellum 3. Enumerate cerebellar peduncles 4. Name intra cerebellar nuclei 5. Describe the blood supply 6. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK 4. DK 5. DK 6. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H) Medicine (V)

Sl. No.	**Generic Competency**	**Subject Area**	**Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D**	**Specific Competency**	**Specific learning objectives:** At the end of the session student should be able to	**Bloom's Domain**	**Guilbert s level**	**Must know (MK) / Desire to know (DK) / Nice to know (NK)**	**Teaching Learning Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal (H) I/ Vertical(V)**
Hom UG-AN-9.7	Problem formulation/ Integration of Knowledge/ Information	CENTRAL NERVOUS SYSTEM:	K	Fourth ventricle	1. Describe the boundaries of the ventricle 2. Explain the features 3. Mention the structures in the floor of IV Ventricle 4. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG-AN-9.8			K	Mid-brain	1. Describe the external features 2. Describe the structures in the transverse section 3. Describe the blood supply 4. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ.Viva Voce	Physiology (H) Medicine (V)

Hom UG-AN-9.9			K	Diencephalon: Thalamus & Hypothalamus	1. Name the parts of diencephalon 2. Describe the nuclei of thalamus and its functions 3. Describe the nuclei and functions of hypothalamus 4. Explain clinical significance	Cognitive	Level 1 (Remember/ recall)	1. DK 2. DK 3. DK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Sl. No.	**Generic Competency**	**Subject Area**	**Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D**	**Specific Competency**	**Specific learning objectives:** At the end of the session student should be able to	**Bloom's Domain**	**Guilbert s level**	**Must know (MK) / Desire to know (DK) / Nice to know (NK)**	**Teaching Learning Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal (H) I/ Vertical(V)**
Hom UG-AN-9.10	formulation/ Knowledge/	CENTRAL NERVOUS SYSTEM:	K	Third Ventricle	1. Describe the boundaries of the ventricle 2. Explain the features 3. Name the structures in the floor of III Ventricle 4. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG-AN-9.11	Problem Integration of		K	Lateral Ventricle	1. Describe the boundaries of the ventricle 2. Explain the features 3. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Hom UG-AN-9.12			K	Cerebrum: external features	1. Describe the external features 2. Name major sulci and Gyri 3. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. DK 2. DK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Sl. No.	**Generic Competency**	**Subject Area**	**Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D**	**Specific Competency**	**Specific learning objectives:** At the end of the session student should be able to	**Bloom's Domain**	**Guilbert s level**	**Must know (MK) / Desire to know (DK) / Nice to know (NK)**	**Teaching Learning Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal (H) I/ Vertical(V)**
Hom UG-AN-9.13	formulation/ Knowledge/	CENTRAL NERVOUS SYSTEM:	K	Functional areas of cerebral cortex	1. Mention the functional area and their importance 2. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG-AN-9.14	Problem Integration of		K	Basal ganglia	1. Name the basal ganglia 2. Describe their location and blood supply 3. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Hom UG-AN-9.15			K	White matter of cerebrum: Corpus callosum & Internal capsule	1. Classify white matter of cerebrum 2. Describe the parts of corpus callosum 3. Describe the parts and composition of internal capsule 4. Mention the blood supply of internal capsule	Cognitive	Level 1 (Remember/ recall)	4. DK 5. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Sl. No.	**Generic Competency**	**Subject Area**	**Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D**	**Specific Competency**	**Specific learning objectives:** At the end of the session student should be able to	**Bloom's Domain**	**Guilbert s level**	**Must know (MK) / Desire to know (DK) / Nice to know (NK)**	**Teaching Learning Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal (H) I/ Vertical(V)**
Hom UG-AN-9.16	formulation/ Knowledge/	CENTRAL NERVOUS SYSTEM:	K	Blood supply of brain	1. Mention the blood supply to the brain 2. Explain the formation, branches and distribution of circle of Willis 3. Describe the applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG-AN-9.17	Problem Integration		K	Cranial nerves	1. Describe the origin, course, branches and distribution of major cranial nerves 2. Describe applied anatomy	Cognitive	Level 1 (Remember/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Hom UG-AN-9.18			K	Systemic embryology: Development of Brain	1. Describe the formation and fate of neural tube 2. List the derivatives of neural crest 3. Describe the formation of eye ball 4. Describe the formation of pituitary gland	Cognitive	Level 1 (Remember/ recall)	1. DK 2. DK 3. Dk 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG-AN-9.19			K	Structures of CNS	1. Enumerate the homoeopathic drugs related to the structures of CNS. 2. Enumerate the rubrics related to the structures of CNS.	Cognitive	Level 1 (Remember/ recall)	NK	Integrated Lecture	Viva voce	-	Homoeopathic Materia Medica (H), Repertory (H)

PRACTICAL:

Topic – Histology

Learning Outcome- At the end of Histology, I-BHMS student should be able to;

1. Describe a particular organ and tissue through its histological features.

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) / Knows How (KH)/ Shows How (SH)/ Does (D)	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-1.1-1.10 3.23 3.24 4.6 5.11 7.24 to 7.29	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Histology	K	Histological & functional Correlation basic tissues and organs of the body	1. Identify the tissue/organ under microscope 2. Draw & label a schematic diagram to indicate the microscopic structure 3. Discuss Its characteristic features 4. Correlate the microscopic structure with its normal function	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. MK 4. DK	DOPS session	Spotting/OSPE/Practical Performance	Practical performance / Checklist	Physiology (H) Pathology (V)

Upper Extremities

Learning Outcomes (LO): At the end of Upper Extremity, I-BHMS student should be able to;

1. Describe the anatomy of the bones of the upper extremity, their blood supply, and applied anatomy.

2. Describe the anatomy of the joints of the upper extremity, their blood supply, action and applied anatomy.

3. Describe the anatomy of the muscles of the upper extremity, their origin, insertion, nerve supply, action and applied anatomy.

4. Describe the anatomy of the vessels and nerves of the upper extremity, their course, muscles they supply, relation and applied anatomy.

5. Identify a particular bone and joint of upper extremity on X-Ray.

6. Trace the course of the vessels and nerves of the upper extremity on the cadaver.

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) / Knows How (KH)/ Shows How	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-2.1 to 2.7	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Upper Extremity	K	Osteology of upper extremity	1. Describe the laterality and general features of the bone 2. Describe the major attachments 3. Describe ossification 4. Describe the applied anatomy 5. Draw the surface marking of the major structures in the regions using surface landmarks	Cognitive	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	Demonstration	Spotting/OSPE/Practical Performance	Practical/ Check list	Surgery (V)
Hom UG-AN-2.8 to 2.14			K	Dissection/ Demonstration	1. Describe the important surface land marks in the region 2. Identify major muscles, blood vessels and nerves including fascial structures of clinical importance 3. Identify articular surfaces of major joints	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK				

					4. Correlate features and normal functioning of joints							
Hom UG-AN-2.15			K	Radiological anatomy of upper extremity	1. Describe the normal appearance and relationship of bones and joints in a normal radiograph (X-ray) of the region	Cognitive	Level 1 (Remember / Recall)	1. MK				

Topic: Head Neck Face

Learning Outcomes (LO): At the end of Head Neck & Face, I-BHMS student should be able to;

1. Describe the anatomy of the bones of the Head Neck & Face, their blood supply and applied anatomy.

2. Describe the anatomy of the joints of the Head Neck & Face, their blood supply, action and applied anatomy.

3. Describe the anatomy of the muscles of the Head Neck & Face, their origin, insertion, nerve supply, action and applied anatomy.

4. Describe the anatomy of the vessels and nerves of the Head Neck & Face, their course, muscles they supply, relation and applied anatomy.

5. Identify individual bones of Head Neck & Face on X-Ray.

6. Demonstrate the projection of structures of Head, Neck & Face on the cadaver.

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) / Knows How (KH)/ Shows How (SH)/ Does (D)	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-3.1 to 3.6	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Upper Extremity	K	Osteology of Head, Neck & Face	1. Describe the general features of the skull, hyoid bone, cervical vertebrae & mandible 2. Describe the major attachments on mandible 3. Mention clinically significant ossification features 4. Draw the surface marking of the major structures in the regions using surface landmarks	Cognitive	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	Demonstration	Spotting/OSPE/Practical Performance	Practical/ Check list	Surgery (V)
Hom UG-AN-3.7 to 3.21			K	Dissection/ Demonstration	1. Describe the important surface land marks in the region 2. Identify major viscera, muscles, blood vessels and nerves including fascial structures of clinical importance 3. Identify articular surfaces of major joints 4. Correlate features and normal functioning of joints	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK				
Hom UG-AN-3.22			K	Radiological anatomy of Head, Neck & Face	1. Describe the normal appearance and relationship of bones and joints in a normal	Cognitive	Level 1 (Remember / Recall)	1. MK				

					radiograph (X-ray) of the region							

Topic- Brain- CNS System

Learning Outcomes (LO): At the end of CNS, I-BHMS student should be able to;

1. Describe the anatomy of the Brain and its applied anatomy.
2. Classify CNS and describe the parts of brain.

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) / Knows How (KH)/ Shows How (SH)/ Does (D)	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
4. 1 to 4.5	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Central Nervous System	K	Describe normal features of brain and spinal cord	1. Identify parts of brain on a specimen/model 2. Describe normal location and relationship of brain and spinal cord 3. Describe its applied anatomy	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. DK	DOAP session	Spotting/OSPE/Practical Performance	Practical performance / Checklist	Physiology (H) Pathology (V)

Topic: Thorax

Learning Outcomes (LO): At the end of Thorax, I-BHMS student should be able to;

1. Describe the anatomy of the Respiratory and Cardiovascular system with their applied anatomy.
2. Identify the organs of the Respiratory and Cardiovascular system.
3. Explain features of X-ray thorax.
4. Demonstrate surface projection of thoracic organs.

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) / Knows How (KH)/ Shows How (SH)/ Does (D)	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical

Hom UG-AN-5.1 to 5.3	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Upper Extremity	K	Osteology of Thorax	1. Describe the general features of the sternum, ribs and thoracic vertebrae 2. Describe the major attachments on mandible 3. Mention clinically significant ossification features 4. Draw the surface marking of the major structures in the regions using surface landmarks	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	Demonstration	Spotting/OSPE/Practical Performance	Practical/ Check list	Surgery (V)
Hom UG-AN-5.4 to 5.9			K	Dissection/ Demonstration	1. Describe the important surface land marks in the region 2. Describe the morphology of lung and its relations. 3. Describe the external features of heart and interior of its chambers 4. Identify major contents of superior and posterior mediastina	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK				
Hom UG-AN-5.10			K	Radiological anatomy of Thorax	1. Interpret normal chest radiograph in conventional P-A view	Cognitive	Level 1 (Remember / Recall)	1. MK				

Topic: Lower Extremities

Learning Outcomes (LO): At the end of Lower Extremity, I-BHMS student should be able to;

1. Describe the anatomy of the bones of the Lower extremity, their blood supply and applied anatomy.

2. Describe the anatomy of the joints of the Lower extremity, their blood supply, action and applied anatomy.

3. Describe the anatomy of the muscles of the Lower extremity, their origin, insertion, nerve supply, action and applied anatomy.

4. Describe the anatomy of the vessels and nerves of the Lower extremity, their course, muscles they supply, relations and applied anatomy.

5. Identify a particular bone and joint of Lower extremity on X-Ray.

6. Trace the course of the vessels and nerves of the Lower extremity on the cadaver.

Sl. No.	Generic Competency	Subject Area	Millers: Knows (K) / Knows How (KH)/ Shows How (SH)/ Does (D)	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN-6.1 to 6.7	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Upper Extremity	K	Osteology of lower extremity	1. Describe the laterality and general features of the bones of the region 2. Describe the major attachments 3. Mention clinically important ossification features 4. Draw the surface marking of the major structures in the regions using surface landmarks	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	Demonstration	Spotting/OSPE/Practical Performance	Practical/ Check list	Surgery (V)
Hom UG-AN-6.8 to 6.15			K	Dissection/ Demonstration	1. Describe the important surface land marks in the region 2. Identify major muscles, blood vessels and nerves including fascial structures of clinical importance 3. Identify articular surfaces of major joints	Cognitive Psychomotor	Level 1 (Remember / Recall)	5. MK 6. MK 7. NK 8. DK				

					4. Correlate features and normal functioning of joints							
Hom UG-AN-6.16			K	Radiological anatomy of Lower extremity	2. Describe the normal appearance and relationship of bones and joints in a normal radiograph (X-ray) of the region	Cognitive	Level 1 (Remember / Recall)	1. MK				

Topic: Abdomen

Learning Outcomes (LO): At the end of Abdomen, I-BHMS student should be able to;

1. Describe the anatomy of the Abdominal and pelvic organs with their applied anatomy.

2. Identify the abdominal and pelvic organs in dissection.

3. Explain features of plain X-ray abdomen and pelvis.

4. Demonstrate surface projection of Abdominal and pelvic organs.

Sl. No.	**Generic Competency**	**Subject Area**	**Millers: Knows (K) / Knows How (KH)/ Shows How (SH)/ Does (D)**	**Specific Competency**	**Specific learning Objectives:** At the end of the session student should be able to	**Bloom's Domain**	**Guilbert's level**	**Must know/ Desire to know/ Nice to know**	**Teaching Learning Method/ Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal/ Vertical**

Hom UG-AN-7.1 to 7.6	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Upper Extremity	K	Osteology of Abdomen & Pelvis	1. Describe the general features of the lumbar vertebra, Sacrum & Pelvis 2. Describe the major attachments on sacrum 3. Mention clinically significant ossification features 4. Draw the surface marking of the major structures in the regions using surface landmarks	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	Demonstration	Spotting/OSPE/Practical Performance	Practical/ Check list	Surgery (V)
Hom UG-AN-7.7 to 7.22			K	Dissection/ Demonstration	1. Describe the important surface land marks in the region 2. Identify the abdominal viscera and describe major surface & internal features 3. Identify pelvic viscera and describe their features and relations	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK				
Hom UG-AN-7.23			K	Radiological anatomy of Abdomen & Pelvis	1. Interpret a normal radiograph (X-ray) of the abdomen and pelvis in different commonly used views	Cognitive	Level 1 (Remember / Recall)	1. MK				

8. Practical Topics (Non-Lecture Activities)

Sl. No	Non-Lecture Teaching Learning methods	Time Allotted per Activity (in Hours)
9.	Seminars/ Workshops	10
10.	Group Discussions	10
11.	Problem based learning	10
12.	Integrated Teaching	15
13.	Case Based Learning	10
14.	Self-Directed Learning	15
15.	Tutorials, Assignments & projects	10
	Sub total	80
16.	Practical	250
	Total	**330**

9. ASSESSMENT

Assessment Summary - Number of papers and Mark Distribution

Sl. No.	Course Code	Papers	Theory	Practical	Viva Voce	Internal Assessment-Practical	Electives Grade Obtained		Grand Total
1.	Hom UG-AN	2	200	100	80	20			400

Scheme of Assessment (formative and Summative)

Sl. No	Professional Course	1st term (1-6 Months)	2nd Term (7-12 Months)	3rd Term (13-18 Months)	
1.	First Professional BHMS	1st PA + 1ST TT	2nd PA+2ND TT	3rd PA	UE
		1st PA – 4th month 1st TT – 6th month	2nd PA – 9th month 2nd TT – 12th month	3rd PA - 14th month	17th month

PA: Periodical Assessment; TT: Term Test; UE: University Examinations

Evaluation Methods for Assessment

Sl. No	Evaluation Criteria
1.	Theory, Practical, Viva voce Performance
2.	Theory: MCQs, SAQs and LAQs (MEQ - Modified Essay Questions/Structured Questions)

I. Theory Question Paper Layout

Paper-1 (100 marks) General Anatomy, Head, face and neck, Central nervous System, Upper extremities and Embryology.		
1.	**MCQ**	**10 marks**
2.	**SAQ**	**40 marks**

3.	**LAQ**	**50 marks**
Paper-2 (100 marks) Thorax, Abdomen, Pelvis, Lower extremities and Histology (micro anatomy).		
1.	**MCQ**	**10 marks**
2.	**SAQ**	**40 marks**
3.	**LAQ**	**50 marks**

I. Distribution of marks (Theory)

Paper-I						
Sl. No	**A**	**B**	**C**	**D**		
				Type of Questions and marks allotted "Yes" can be asked. "No" should not be asked.		
	List of Topics	**Term**	**Marks**	**MCQ** (1 Mark)	**SAQ** (5 Marks)	**LAQ** (10 Marks)
1.	General Anatomy	I	Refer Next Table	Yes	Yes	No
2.	Head, Neck & Face	II		Yes	Yes	Yes
3.	Central Nervous System	II		Yes	Yes	Yes
4.	Upper Extremities	I		Yes	Yes	Yes
5.	Embryology	I		Yes	Yes	No

Paper-II						
Sl. No	**A**	**B**	**C**	**D**		
				Type of Questions and marks allotted "Yes" can be asked. "No" should not be asked.		
	List of Topics	**Term**	**Marks**	**MCQ** (1 Mark)	**SAQ** (5 Marks)	**LAQ** (10 Marks)
1.	Thorax	II	Refer Next Table	Yes	Yes	Yes
2.	Abdomen, Pelvis & Perineum	III		Yes	Yes	Yes
3.	Lower Extremities	III		Yes	Yes	Yes
4.	Histology	I		Yes	Yes	No

Theme table

Paper-I

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	General Anatomy	I	12	Yes	Yes	No
B	Upper Extremities	I	27	Yes	Yes	Yes
C	Embryology	I	12	Yes	Yes	No
D	Head, Neck and Face	II	32	Yes	Yes	Yes
E	Central nervous System	II	17	Yes	Yes	Yes

Paper-II

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	Lower Extremities	III	27	Yes	Yes	Yes
B	Thorax	II	28	Yes	Yes	Yes
C	Abdodmen, Pelvis & Perineum	III	37	Yes	Yes	Yes
D	Histology	I	8	Yes	Yes	No

Question paper Blue Print

Paper-I

A **Question Serial Number**	**B** **Type of Question**	**Question Paper Format** **(Refer table 4 F II Theme table for themes)**
Q1	Multiple choice Questions (MCQ) 10 Questions	1. Theme A 2. Theme A 3. Theme B 4. Theme B 5. Theme C 6. Theme C

	1 mark each All compulsory Must know part: 7 MCQ Desirable to know: 2 MCQ. Nice to know: 1 MCQ	7. Theme D 8. Theme D 9. Theme E 10. Theme E
Q2	Short answer Questions (SAQ) eight Questions 5 Marks Each All compulsory Must know part: 6 SAQ Desirable to know: 2 SAQ	1. Theme A 2. Theme A 3. Theme B 4. Theme C 5. Theme C 6. Theme D 7. Theme D 8. Theme E
Q3	Long answer Questions (LAQ) Five Questions 10 marks each All compulsory All questions on must know No Questions on Nice to know and Desirable to know	1. Theme B 2. Theme B 3. Theme D 4. Theme D 5. Theme E

Paper-II

A Question Serial Number	B Type of Question	Question Paper Format (Refer table II Theme table for themes)
Q1	Multiple choice Questions (MCQ) 10 Questions 1 mark each All compulsory Must know part:7 MCQ Desirable to know: 2 MCQ. Nice to know: 1 MCQ	1. Theme A 2. Theme A 3. Theme B 4. Theme B 5. Theme B 6. Theme C 7. Theme C 8. Theme D 9. Theme D 10. Theme D
Q2	Short answer Questions (SAQ) eight Questions 5 Marks Each All compulsory Must know part: 7 SAQ Desirable to know: 2 SAQ Nice to know: 1 SAQ	1. Theme A 2. Theme A 3. Theme A 4. Theme B 5. Theme C 6. Theme C 7. Theme C 8. Theme D
Q3	Long answer Questions (LAQ) five Questions 10 marks each All compulsory All questions on must know No Questions on Nice to know and Desirable to know	1. Theme A 2. Theme B 3. Theme B 4. Theme C 5. Theme C

II. Scheme of Practical and Viva voce Examination and distribution of marks (Practical 100 marks – Viva voce 80 marks + Internal assessment 20 marks: Total 200 marks)

Scheme of Practical Examination	
1. **Spotters: 4** (5 marks each) A. Histology Slide – 2 (5 marks each) a) Identification – 1 mark b) Draw and label – 2 marks c) Two identification features – 2 marks B. Radiology – 2 X-RAYS (5 marks each) a) Identification of X-Ray and its view – 1 mark b) Identification of features – 4 marks	**20 marks**
2. Osteology - Bones of Upper Extremity, Lower Extremity, Skull, Ribs and Vertebrae.	**20 marks**
3.Viscera - Organs from Thorax, Abdomen and CNS.	**20 marks**
4. Knowledge of dissected parts - Dissected Specimens of Upper and Lower Extremities.	**20 marks**
2. Surface marking	**10 marks**
3. Journal – Practical record of Anatomy including Histology and dissection card.	**10 marks**

Total	**100 Marks**

Viva voce Max. Marks - 80 + Internal assessment marks – 20	
Total marks	**100 marks**

9B - Scheme of Assessment (formative and Summative)

Sr. No	**Professional Course**	**1st term (1-6 Months)**			**2nd Term (7-12 Months)**			**3rd Term (13-18 M**	
1	First Professional BHMS	1st PA	1ST TT		2nd PA	2ND TT		3rd PA	UE
		20 Marks Practical/Viva	100 Marks Theory	100 Marks Practical/ Viva	20 Marks Practical/Viva	100 Marks Theory	100 Marks Practical/ Viva	20 Marks Practical/Viva	

For Internal assessment, Only Practical/Viva marks will be considered. Theory marks will not be counted)

Method of Calculation of Internal Assessment Marks for Final University Examination:

PA1 Practical/Viva (20 Marks)	PA2 Practical/Viva (20 Marks)	PA3 Practical/Viva (20 Marks)	Periodical Assessment Average PA1+PA2+PA3 /3	TT1 Practical/ Viva (100 Marks)	TT2 Practical/ Viva (100 Marks)	Terminal Test Average TT1+ TT2/ 200*20	Final Internal Assessment Marks
A	**B**	**C**	**D**	**E**	**F**	**G**	**D+G/2**

PA- Periodical Assessment, **TT-** Terminal Test, **UE**- University Examination

10. List of recommended books –

Standard Books

- Garg K, *B.D.Chaurasia's Human Anatomy Regional & Applied, Dissection & Clinical. Upper limb & Thorax*. CBS Publishers & Distributors Pvt Ltd, New Delhi.
- Garg K, *B.D. Chaurasia's Human Anatomy Regional & Applied, Dissection & Clinical. Lower limb &Abdomen*.CBS Publishers & Distributors Pvt Ltd, New Delhi
- Garg K, *B.D. Chaurasia's Human Anatomy Regional & Applied, Dissection & Clinical. Head, Neck &Brain.*CBS Publishers & Distributors Pvt Ltd, New Delhi
- Singh V. *General Anatomy*. Elsevier; New Delhi

- Singh V. *Anatomy of Head, Neck & Brain*. Elsevier; New Delhi.
- Singh V. *Anatomy of Upper limb & Thorax*. Elsevier; New Delhi
- Singh V. *Anatomy of Abdomen & Lower limb*. Elsevier; New Delhi
- Singh V. *Anatomy of Clinical embryology*. Elsevier; New Delhi
- Garg K, Indira Bahl, Mohini Kaul. *Textbook of Histology*. Ed. 5. CBS Publishers & Distributors Pvt Ltd, New Delhi
- Halim A. *Surface and Radiological Anatomy*. CBS Publishers & Distributors Pvt Ltd, New Delhi
- Khurana A, Khurana I, Garg K *B.D. Chaurasia's Dream Human Embryology*, CBS Publishers & Distributors Pvt Ltd, New Delhi
- Loukas M, Benninger B, Tubbs R S. *Gray's Clinical Photographic Dissector of Human Body.* Elsevier; Philadelphia
- Romanes G J. *Cunningham's Manual of Practical Anatomy. Upper & Lower limb*. Oxford Medical Publisher; Oxford
- Romanes G J. *Cunningham's Manual of Practical Anatomy. Abdomen & Pelvis*. Oxford Medical Publisher; Oxford
- Romanes G J. *Cunningham's Manual of Practical Anatomy. Head & Neck*. Oxford Medical Publisher; Oxford

Reference books

- Eroschenko VP. *Di'fiore's Atlas of Histology with functional correlation*. Lippincot, William, Wilkins; London
- Gunasegaran JP. *Text book of Histology & Practical Guide*. Elsevier; New Delhi.
- Hansen JT. *Netter's Atlas of Human Anatomy*. South Asian Ed. Elsevier; New Delhi
- Mescher AL. *Junqueria's Basic Histology Text & Atlas*. Lange; New York
- Mortan DA, Peterson KD, Albretine K. H. *Gray's Dissection Guide for Human Anatomy.*Elsevier; London
- RomanesGJ.*Cunningham's Textbook of Anatomy*. Oxford Medical Publisher; Oxford
- Ross &Wilson.*Anatomy and Physiology in Health and Illness*. Elsevier; London
- Singh, Inderbir. *Human Embryology*. Jaypee; New Delhi
- Sinnathamby CS. *Snell's Clinical Anatomy for Medical Students*. Lippincot, William, Wilkins; London
- Standring Susan. *Gray's Anatomy The Anatomical Basis of Clinical Practice*. Elsevier; London
- Tortora GJ &Derrickson B. *Anatomy & Physiology*. New Delhi: Wiley; New Delhi.

9. LIST OF CONTRIBUTORS

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