



Sumandeep Homoeopathic Medical College & Hospital

A Constituent Institute of Sumandeep Vidyapeeth Deemed to be University

An Institution Deemed to be University u/s 3 and 12B of UGC Act 1956

Accredited by NAAC with a CGPA of 3.61 on Four Point Scale at 'A++' Grade in Second Cycle

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At and Post: Piparia, Taluka: Waghodia, District: Vadodara, Gujarat State, INDIA. Pin Code: 391760. Phone: +91 2668 245262 / 64 / 66, Ext No:3101
E-mail Id: principalshmch@sumandeepvidyapeethdu.edu.in, info@sumandeepvidyapeethdu.edu.in | Website: www.sumandeepvidyapeethdu.edu.in

COMPETENCY BASED DYNAMIC CURRICULUM FOR FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by
National Commission for Homoeopathy whichever is earlier)

(Anatomy, Histology and Embryology)



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FINAL VERSION OF COMPETANCY BASED CURRICULUM FOR ANATOMY **FOR FIRST BHMS COURSE**

Subject- Human Anatomy

Subject Code: Hom UG-AN



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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.



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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 emergencies.
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.



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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.



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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



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4	Histology	I	20
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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



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5. COURSE CONTENT: Syllabus Planning

a. Theory:

- 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.
- The complete course of Human Anatomy should be subdivided in number of modules according to topics/regions/systems.
- Syllabus of other subjects of same course should be planned out where the maximum integration (Vertical & Horizontal) of topics is possible.
- Theory/Practical/Tutorial/Case based learning should be arranged in parallel.
- Each module should be planned according to the need of system-Co-relation with Homoeopathy & time dimension (number of hours).
- At the end of each module knowledge should be assessed by arranging joint seminars (application of classroom knowledge to practical understanding).
- The curriculum includes the following;
 - Anatomy Act.
 - Body donation procedure and its legal aspects.
 - Develop respect to the human cadaver, empathy towards diseased and sense of gratification for the voluntary body donors and their families.
 - Anatomy and Ethics.

b. Practical

- Dissection of whole Human Body, Demonstration of dissected parts and small group discussions.
- Identification of histological slides, related to tissue & organs.
- 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	



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	3. Genetics i. DNA & RNA ii. Chromosomes	6	
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Sl. No.	Topics	No. of hours	Term
	iii. Genes iv. Inheritances 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	
	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 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 1 2 2 3 1 1 1 1 2 1 2	
	Total Hours	20	



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3.	HISTOLOGY (General)	I
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Sl. No.	Topics	No. of hours	Term
	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	
	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 spaces around 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	



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	11. Radial artery	1	
	12. Ulnar artery	1	



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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	
	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	



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	12. Side of the leg: Superficial peroneal nerve	2	
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Sl. No.	Topics	No. of hours	Term
	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
	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	



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	15. Systemic histology: Trachea and Lung	1	
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Sl. No.	Topics	No. of hours	Term
	16. Revision	2	
	Total Hours	28	
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	
	16. Abdominal aorta	1	
	17. Posterior abdominal wall	1	
	18. Urinary bladder	2	
	19. Ureter	1	
	20. Prostate gland	2	
	21. Ovary	1	



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	22. Uterus	2	
	23. Fallopian tube	1	



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Sl. No.	Topics	No. of hours	Term
	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. Ischioanal fossa	1	
	31. Systemic embryology: Development of digestive system	4	
	32. Systemic embryology: Development of urogenital organs	2	
	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	



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	6. Front of the neck: Anterior triangle and its subdivisions	3	
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Sl. No.	Topics	No. of hours	Term
	7. Deep cervical fascia	1	
	8. Back of the neck: Suboccipital triangle	1	
	9. Contents of vertebral canal	1	
	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	
	27. Common & Internal carotid artery	1	
	28. External carotid artery	2	
	29. Vertebral artery	1	
	30. Internal Jugular vein	1	



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	31. Systemic histology: Thyroid gland, Pituitary gland and Tongue	3	
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Sl. No.	Topics	No. of hours	Term
	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	
	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	



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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	
	4. Humerus	2	
	5. Radius	2	
	6. Ulna	2	



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	7. Articulated hand	2	
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Sl. No.	Topics	No. of hours	Term
	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	
	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	



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	11. Back of neck	2	
	12. Cranial cavity & Contents of vertebral canal	4	



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Sl. No.	Topics	No. of hours	Term
	13. Deep dissection of neck	2	
	14. Orbit & Eyeball	2	
	15. Ear	2	
	16. Parotid region	2	
	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		
4.	CENTRAL NERVOUS SYSTEM		II
	1. Introduction	2	
	Demonstration		
	2. Parts of the brain	4	
	3. Spinal cord	2	
	4. Ventricles (model)	2	
	5. Radiology of brain	2	
	Systemic Histology		
	6. Nervous tissue: Cerebrum & Cerebellum	2	



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	7. Revision	2	
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Sl. No.	Topics	No. of hours	Term
	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	
	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	



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	4. Tibia	2	
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Sl. No.	Topics	No. of hours	Term
	5. Fibula	2	
	6. Articulated Foot	2	
	7. Surface Marking	2	
	Dissection		
	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	
	6. Surface Marking	4	
	Dissection		
	7. Anterior abdominal wall	2	
	8. External genitalia of Male	2	



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	9. Abdominal cavity: Positions & Relations of viscera, Peritoneum, Greater & Lesser sac	2	
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Sl. No.	Topics	No. of hours	Term
	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	
	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



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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.



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4.	Integrated Teaching	15	<p>A] Horizontal Integration</p> <p>Physiology: Any topic related to Physiology can be conducted. E.g.: Anatomy: Physiology Seminar on Respiratory System.</p> <p>Homoeopathic Subjects: Any topic related to Homoeopathic Materia Medica, Repertory, Organon of Medicine. E.g.:</p> <p>a) Integrated lecture with HMM - Homoeopathic drugs related to organs of Abdomen.</p> <p>b) Integrated lecture with Repertory – Rubrics related to structures of Thorax.</p> <p>c) Integrated lecture with Organon – Miasmatic influence on heredity.</p> <p>d) Integrated lecture with Homoeopathic Pharmacy - Action of Homoeopathic drugs on cellular level.</p> <p>B] Vertical Integration</p> <p>Gynecology – E.g.: Any topic related on female reproductive System.</p> <p>Surgery – E.g.: Integrated lecture on radiology.</p> <p>Medicine – E.g.: Embryological basis of major congenital anomalies of heart</p>
5.	Case Based Learning	10	<p>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.</p>



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6.	Self-Directed Learning	15	Self-Directed Learning can be conducted for any topic of Anatomy. E.g.: Functional
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			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.



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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



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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.



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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.



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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)

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 homoeopathy



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5. hic drugs indicated for particular tissue/organ involvement.
6. Practice Ethics related to

the learning of Anatomy.

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Hom UG-AN-1.1	Problem formulation/ Integration of Information Knowledge/	General Anatomy	K	Concept of cell as structural and functional unit of the body	<ol style="list-style-type: none"> 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 	Cognitiv e	Level 1 (Remem ber/ recall)	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 1. Describe the structure and location 2. Mention the characteristics 3. Function of each of the basic tissues 	Cognitiv e	Level 1 (Remem ber/ recall)	<ol style="list-style-type: none"> 1. MK 2. MK 3. MK 	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce		Physiology (H)



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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)
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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	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 (Remem ber/ 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 (Remem ber/ recall)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)



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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)
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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	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 (underst and/inter pret)	1. DK 2. DK 3. NK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V) Organon (H)	



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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	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	-	



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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	Cognitiv e	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	Cognitiv e	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
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Hom UG- AN- 14.vi	Problem formulation/ Integration of	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)
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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	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)

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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)



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

to;



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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.



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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)



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Hom UG-AN-2.4 & 2.5	Problem formulation/ Integration of Knowledge/	E	K & KH	Fertilization	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 1. MK 2. MK 3. MK 4. DK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-



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Hom UG- AN- 2.7			K	Gastrulation	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 1. MK 2. MK 3. MK 4. DK 5. DK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
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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	-



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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)



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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.



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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. M K 2. M K 3. M K	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. M K 2. M K 3. M K	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. M K 2. M K 3. M K	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)



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Hom UG-AN-3.4	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Histology	K	Cartilage	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 1. M K 2. M K 3. M K 4. M K 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-3.5			K	Bone	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 1. M K 2. M K 3. M K 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)



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Hom UG- AN- 3.6			K	Muscle	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 1. M K 2. M K 3. M K 4. M K 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
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Hom UG- AN- 3.7	Problem formulation	Histology	K	Nervous tissue	<ol style="list-style-type: none"> 1. Describe nerve 2. Describe T S of peripheral nerve 3. Describe L S of peripheral nerve 	Cognitive	Level 1 (Remem ber)	<ol style="list-style-type: none"> 1. MK 2. MK 3. MK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)



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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
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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.



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



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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.



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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	U	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)



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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	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)
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HomUG -AN-4.4	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information	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. M 2. K 3. M 4. K 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. M 2. K 3. M 4. K 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)



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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. M K 2. M K 3. M K 4. DK	Lecture	MCO, SAQ.	MCO, 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.



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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	L	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	<ol style="list-style-type: none"> Describe Contents of the regions of lower extremity Recall the attachments, nerve supply and actions of the muscles in the regions Describe the main joint, blood vessels and nerves in the region. Identify the surface land marks in the region for surface marking 	Cognitive	Level 1 (Remember/recall)	<ol style="list-style-type: none"> MK MK MK 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	<ol style="list-style-type: none"> Describe the origin, extent, parts, branches and distribution of main arteries Describe superficial and deep plantar arches Describe the venous drainage of lower extremity Describe their applied anatomy 		Level 1 (Remember/recall)	<ol style="list-style-type: none"> MK MK MK MK 	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H)



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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	<ol style="list-style-type: none"> Describe the formation, course and relations of main nerves of the lower extremity Mention their branches and their distribution Describe the applied anatomy 	Cognitive	Level 1 (Remember/recall)	<ol style="list-style-type: none"> MK MK DK 	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H) Medicine (V) Surgery (V)
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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. M K 2. M K 3. M K 4. M K 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. M K 2. M K 3. M K 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)



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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	Integra ted Lectur e	Viva voce		Homoeop athic Materia Medica (H), Repertory (H).
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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) / Vertical(V)
Hom UG-AN-6.1 & 6.2	Problem formulation/ Integration of Information Knowledge/	Thorax	K	Introduction & Trachea	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 1. MK 2. MK 3. MK 4. DK 5. DK 	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H) Medicine (V)



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Hom UG- AN- 6.4			K	Lungs	<ol style="list-style-type: none"> Describe the external features of the lung Compare the features of right and left lungs State the blood supply and nerve supply Explain the broncho-pulmonary segments and their applied aspect 	Cognitive	Level 1 (Remember/recall)	<ol style="list-style-type: none"> MK DK DK MK 	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H) Medicine (V)
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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)



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Hom UG-AN-6.8	Problem formulation/ Integration of Knowledge/ Skills/Information gathering/Practical Information	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)



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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	<ol style="list-style-type: none"> Describe the morphology and relations of the oesophagus Mention constrictions in its course Mention the blood supply and nerve supply Describe the extent, branches and relations of descending thoracic aorta Describe the applied anatomy 	Cognitive	Level 1 (Remember/recall)	<ol style="list-style-type: none"> MK MK MK MK DK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG-AN-6.12			K	Diaphragm	<ol style="list-style-type: none"> Describe the attachments, nerve supply and actions of diaphragm Mention the major openings in the diaphragm and structures passing through it. Describe the nerve and blood supply Describe its applied anatomy 	Cognitive	Level 1 (Remember/recall)	<ol style="list-style-type: none"> MK MK MK DK DK 	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)



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Hom UG- AN- 6.13			K	Systemic embryology: Development of Heart and lung	<ol style="list-style-type: none"> Describe the formation of primitive heart tube Describe the formation of the atria and ventricles of the heart Explain the embryological basis of major congenital anomalies of heart 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) / Vertical(V)
Hom UG- AN- 6.14	Problem formulation/Integration of Knowledge/ Information gathering/Practical	Thorax	K	Systemic histology: Trachea and Lung	<ol style="list-style-type: none"> Describe the microscopic structure of trachea and lung Correlate with their functions 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)



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Hom UG- AN- 6.15			K	Structures of Thorax.	1. Enumerate the homoeopathic drugs related to thorax. 2. Enumerate the rubrics related to thorax.	Cognitiv e	Level 1 (Remem ber/ recall)	NK	Integrated lecture	Viva Voce	-	Homoeopat hic Materia Medica (H), Repertory. (H)
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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
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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. DK 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)



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Hom UG-AN-7.4	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	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 through porta hepatis 3. Describe the blood and nerve supply of liver 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)



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Hom UG-AN-7.7	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Abdomen, Pelvis & Perineum	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)



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Hom UG-AN-7.10	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Abdomen, Pelvis & Perineum	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)



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Hom UG-AN-7.13	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	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)



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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 (Remem ber) & Level 2 (underst and)	1. MK 2. DK 3. DK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Surgery (V)
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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)



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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 (Remem ber) & Level 2 (underst and)	1. MK 2. MK 3. DK DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)
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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 (Remem ber) & Level 2 (underst and)	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 (Remem ber) & Level 2 (underst and)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)



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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 (Remem ber) & Level 2 (underst and)	1. MK 2. MK 3. NK 4. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Obstetrics and Gynecology (V)
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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	Abdomen, 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 (Remem ber) & Level 2 (underst and)	1. MK 2. MK 3. NK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Obstetrics and Gynecology (V)



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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 (Remem ber) & Level 2 (underst and)	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 (Remem ber) & Level 2 (underst and)	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/	bdomen, 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	Cogniti ve	Level 1 (Remember) & Level 2 (understand)	1. MK 2. DK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)



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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	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)



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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)



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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	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 1. MK 2. MK 3. DK 	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)



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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	Integrate d lecture	Viva Voce	-	Homoeopat hic Materia Medica (H), Repertory. (H)
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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 anatomy 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.



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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-8.1 and 8.2	Problem formulation/ Integration of Information Knowledge/	Head, Neck and Face	K	Introduction & Scalp	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 1. MK 2. MK 3. MK 	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)



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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)



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Hom UG-AN-8.7	Knowledge/ Skills/Information Integration of Problem formulation/ gathering/Practical Information	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)



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Hom UG-AN-8.10	Problem formulation/ Integration of Knowledge/ Skills/Information gathering/Practical 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)



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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)



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Hom UG-AN-8.16	Problem formulation/ Integration of Knowledge/ Skills/Information gathering/Practical Information	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)



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Hom UG-AN-8.19	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	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.LA Q Viva Voce	Physiology (H) Medicine (V)



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Hom UG-AN-8.22	Problem formulation/ Integration of Knowledge/ Skills/Information gathering/Practical Information	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)



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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 carotid artery	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)



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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)



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Hom UG-AN-8.31	Problem formulation/ Integration of Knowledge/ Information	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)



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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.



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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)



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Hom UG- AN- 9-3			K	Spinal cord	<ol style="list-style-type: none"> Describe the morphology of spinal cord Describe the structure in T.S Mention the main contents of gray and white matter of SC Mention the blood supply of spinal cord Describe the applied anatomy 	Cognitive	Level 1 (Remember/recall)	<ol style="list-style-type: none"> DK DK DK DK DK 	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
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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) / Vertical(V)
Hom UG- AN- 9-4	Problem formulation/ Integration of Knowledge/ Information	CENTRAL NERVOUS SYSTEM:	K	Medulla oblongata	<ol style="list-style-type: none"> Describe the external features Describe the internal structures in the transverse sections Describe the blood supply Describe the applied anatomy 	Cognitive	Level 1 (Remember/recall)	<ol style="list-style-type: none"> MK DK DK MK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG- AN- 9-5			K	Pons	<ol style="list-style-type: none"> Describe the external features Describe the structures in the transverse section Describe the blood supply Describe the applied anatomy 	Cognitive	Level 1 (Remember/recall)	<ol style="list-style-type: none"> MK MK DK DK 	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)



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Hom UG- AN- 9.6			K	Cerebellum	<ol style="list-style-type: none"> Describe the location and external features Describe the division and connections of cerebellum Enumerate cerebellar peduncles Name intra cerebellar nuclei Describe the blood supply Describe the applied anatomy 	Cognitive	Level 1 (Remember/recall)	<ol style="list-style-type: none"> MK MK DK DK DK DK 	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H) Medicine (V)
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Hom UG- AN- 9.7	Problem formulation/	CENTRAL	K	Fourth ventricle	<ol style="list-style-type: none"> Describe the boundaries of the ventricle Explain the features Mention the structures in the floor of IV Ventricle Describe the applied anatomy 	Cognitive	Level 1 (Remember/recall)	<ol style="list-style-type: none"> MK MK MK DK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)



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Hom UG- AN- 9.8			K	Mid-brain	<ol style="list-style-type: none"> Describe the external features Describe the structures in the transverse section Describe the blood supply Describe the applied anatomy 	Cognitive	Level 1 (Remember/recall)	<ol style="list-style-type: none"> MK MK DK DK 	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
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Hom UG- AN- 9.9			K	Diencephalon: Thalamus & Hypothalamu s	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	Cognitiv e	Level 1 (Remem ber/ recall)	1. DK 2. DK 3. DK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
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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	Cognitiv e	Level 1 (Remem ber/ 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		K	Lateral Ventricle	1. Describe the boundaries of the ventricle 2. Explain the features 3. Describe the applied anatomy	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)



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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)
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Hom UG- AN- 9.13	formulation/ Knowledge/ of	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		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)



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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)
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Hom UG- AN- 9.16	Problem	CENTRAL	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)



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Hom UG- AN- 9.17			K	Cranial nerves	<ol style="list-style-type: none"> Describe the origin, course, branches and distribution of major cranial nerves Describe applied anatomy 	Cognitive	Level 1 (Remember/recall)	<ol style="list-style-type: none"> MK MK MK 	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
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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.



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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	Histology	K	Histological & functional Correlation basic tissues and organs of the body	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 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.



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



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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) /	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	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 2.1 to 2.7	Problem formulation/ Integration of Knowledge/ Information	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	D e	Spotting/OSPE/Practical Performance	P l	S u



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Hom UG- AN- 2.8 to 2.14			K	Dissection/ Demonstration	<ol style="list-style-type: none"> Describe the important surface land marks in the region Identify major muscles, blood vessels and nerves including fascial structures of clinical importance Identify articular surfaces of major joints 	Cognitive Psychomotor	Level 1 (Remember / Recall)	<ol style="list-style-type: none"> MK MK NK DK 			
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					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.



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Hom UG- AN- 3.1 to 3.6	Problem formulation/ Integration of Knowledge/ Information gathering/PracticalSkills/ Information management/ synthesis	Upper Extremity	K	Osteology of Head, Neck & Face	<ol style="list-style-type: none"> Describe the general features of the skull, hyoid bone, cervical vertebrae & mandible Describe the major attachments on mandible Mention clinically significant ossification features Draw the surface marking of the major structures in the regions using surface landmarks 	Cognitive	Level 1 (Remember / Recall)	<ol style="list-style-type: none"> MK MK NK DK 	Demonstration	Spotting/OSPE/Practical Performance	Practical / Check	Surgery (V)
Hom UG- AN- 3.7 to 3.21			K	Dissection/ Demonstration	<ol style="list-style-type: none"> Describe the important surface land marks in the region Identify major viscera, muscles, blood vessels and nerves including fascial structures of clinical importance Identify articular surfaces of major joints Correlate features and normal functioning of joints 	Cognitive Psychomotor	Level 1 (Remember / Recall)	<ol style="list-style-type: none"> MK MK NK DK 				



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Hom UG- AN- 3.22			K	Radiological anatomy of	1. Describe the normal appearance and relationship of bones and joints in a normal	Cognitive	Level 1 (Remember / Recall)	1. MK				
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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
				Head, Neck & Face	radiograph (X-ray) of the region							



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4. 1 to 4.5	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information	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)
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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.



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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				



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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	Upper Extremity	K	Osteology of lower extremity	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 1. MK 2. MK 3. NK 4. DK 	Demonstration	Spotting/OSPE/Practical Performance	Practical/ Check list	Surgery (V)



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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 4. Correlate features and normal functioning of joints	Cognitive Psychomotor	Level 1 (Remember / Recall)	5. MK 6. MK 7. NK 8. DK				
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.



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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	Upp	K	Osteology of Abdomen & Pelvis	<ol style="list-style-type: none"> Describe the general features of the lumbar vertebra, Sacrum & Pelvis Describe the major attachments on sacrum Mention clinically significant ossification features Draw the surface marking of the major structures in the regions using surface landmarks 	Cognitive Psychomotor	Level 1 (Remember / Recall)	<ol style="list-style-type: none"> MK MK NK DK 	Dem onst	Spotting/OSPE/Practical Performance	Prac tical/	Surg ery
Hom UG-AN-7.7 to 7.22			K	Dissection/ Demonstration	<ol style="list-style-type: none"> Describe the important surface land marks in the region Identify the abdominal viscera and describe major surface & internal features Identify pelvic viscera and describe their features and relations 	Cognitive Psychomotor	Level 1 (Remember / Recall)	<ol style="list-style-type: none"> MK MK NK DK 				



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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				
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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



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9. ASSESSMENT

Assessment Summary -

Number of papers and Mark Distribution

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

Scheme of Assessment (formative and Summative)

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



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



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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.



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	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	10	Yes	Yes	No
B	Upper Extremities	I	25	Yes	Yes	Yes
C	Embryology	I	15	Yes	Yes	No
D	Head, Neck and Face	II	30	Yes	Yes	Yes
E	Central nervous System	II	20	Yes	Yes	Yes



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Paper-II

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Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	Lower Extremities	III	30	Yes	Yes	Yes
B	Thorax	II	30	Yes	Yes	Yes
C	Abdomen, Pelvis & Perineum	III	30	Yes	Yes	Yes
D	Histology	I	10	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 mark each All compulsory Must know part: 7 MCQ	<ol style="list-style-type: none"> 1. Theme A 2. Theme A 3. Theme B 4. Theme B 5. Theme C 6. Theme C 7. Theme D 8. Theme D 9. Theme E 10. Theme E



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	Desirable to know: 2 MCQ. Nice to know: 1 MCQ	
Q2	Short answer Questions (SAQ) ten Questions 5 Marks Each All compulsory Must know part: 7 SAQ Desirable to know: 2 SAQ Nice to know: 1 SAQ	<ol style="list-style-type: none"> 1. Theme A 2. Theme B 3. Theme B 4. Theme C 5. Theme C 6. Theme D 7. Theme D 8. Theme D 9. Theme E 10. Theme E
Q3	Long answer Questions (LAQ) four Questions 10 marks each All compulsory All questions on must know No Questions on Nice to know and Desirable	<ol style="list-style-type: none"> 1. Theme B 2. Theme D 3. Theme D 4. Theme E



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to know



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Paper-II

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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	<ol style="list-style-type: none"> 1. Theme A 2. Theme A 3. Theme A 4. Theme B 5. Theme B 6. Theme C 7. Theme C 8. Theme C 9. Theme D 10. Theme D
Q2	Short answer Questions (SAQ) ten Questions 5 Marks Each All compulsory Must know part: 7 SAQ Desirable to know: 2 SAQ	<ol style="list-style-type: none"> 1. Theme A 2. Theme A 3. Theme A 4. Theme B 5. Theme B 6. Theme C 7. Theme C 8. Theme C 9. Theme D 10. Theme D



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	Nice to know: 1 SAQ	
Q3	<p>Long answer Questions (LAQ)</p> <p>four Questions</p> <p>10 marks each</p> <p>All compulsory</p> <p>All questions on must know</p> <p>No Questions on Nice to know and Desirable to know</p>	<ol style="list-style-type: none"> 1. Theme A 2. Theme B 3. Theme C 4. 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



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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)

20 marks



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a) Identification of X-Ray and its view – 1 mark b) Identification of features – 4 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)

Sr. No	Professional Course	1 st term (1-6 Months)		2 nd Term (7-12 Months)		3 rd Term (13-18 Months)	
1	First	1 st PA	1 ST TT	2 nd PA	2 ND TT	3 rd PA	UE



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	Professional BHMS	20 Marks Practical/Viva	100 Marks Practical/ Viva	20 Marks Practical/Viva	100 Marks Practical/ Viva	20 Marks Practical/Viva	
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r 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 $PA_1+PA_2+PA_3/3$	TT1 Practical/ Viva (100 Marks)	TT2 Practical/ Viva (100 Marks)	Terminal Test Average $TT_1+TT_2/200*20$	Final Internal Assessment Marks
A	B	C	D	E	F	G	$D+G/2$

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



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10. List of recommended books –

Standard Books

- Garg K, B.D. Chaurasia's Human Anatomy Regional & Applied, Dissection & Clinical. Upper limb & Thorax.
- Garg K, B.D. Chaurasia's Human Anatomy Regional & Applied, Dissection & Clinical. Lower limb & Abdomen
- Garg K, B.D. Chaurasia's Human Anatomy Regional & Applied, Dissection & Clinical. Head, Neck & Brain.
- Singh V. General Anatomy
- Singh V. Anatomy of Head, Neck & Brain
- Singh V. Anatomy of Upper limb & Thorax
- Singh V. Anatomy of Abdomen & Lower limb
- Singh V. Anatomy of Clinical embryology
- Garg K, Indira Bahl, Mohini Kaul. Textbook of Histology
- Halim A. Surface and Radiological Anatomy
- Khurana A, Khurana I, Garg K B.D. Chaurasia's Dream Human Embryology
- Loukas M, Benninger B, Tubbs R S. Gray's Clinical Photographic Dissector of Human Body
- Romanes G J. Cunningham's Manual of Practical Anatomy. Upper & Lower limb
- Romanes G J. Cunningham's Manual of Practical Anatomy. Abdomen & Pelvis
- Romanes G J. Cunningham's Manual of Practical Anatomy. Head & Neck

Reference books

- Eroschenko VP. Di'fiore's Atlas of Histology with functional correlation
- Gunasegaran JP. Text book of Histology & Practical Guide
- Hansen JT. Netter's Atlas of Human Anatomy. South Asian Ed
- Mescher AL. Junquera's Basic Histology Text & Atlas
- Mortan DA, Peterson KD, Albretine K. H. Gray's Dissection Guide for Human Anatomy
- Romanes GJ. Cunningham's Textbook of Anatomy
- Ross & Wilson. Anatomy and Physiology in Health and Illness
- Singh, Inderbir. Human Embryology



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- Sinnathamby
*CS. Snell's Clinical Anatomy
for Medical Students.*



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Practice

- Tortora GJ & Derrickson B. *Anatomy & Physiology*.

- Standing
Susan. *Gray's Anatomy The
Anatomical Basis of Clinical*



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COMPETENCY BASED DYNAMIC CURRICULUM FOR FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by
National Commission for Homoeopathy whichever is earlier)



(Homoeopathic Materia Medica)

Subject- Homoeopathic Materia Medica

Subject code: HomUG-HMM-I

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1. PREAMBLE

Homoeopathic Materia Medica is the study of the action of drugs on healthy human being as a whole taking into consideration individual susceptibility and its reaction to various circumstances and time. A good prescription by a homoeopath mainly depends upon the case receiving, processing and a sound knowledge of Homoeopathic Materia Medica.

Each drug in Materia Medica not only has its own personality with its mental and physical constitution but also has its own affinity to an area, direction, spread, tissue, organ, system. Study of a drug in context of altered sensation, function and structure covers the pathology caused by it, which is also expressed in the pathogenesis of the drugs. Materia Medica also has symptoms from toxicological and clinical proving. All this knowledge is of utmost importance in order to apply the remedies in various clinical conditions. This can be achieved only by integrating the study of Materia Medica with other parallel subjects taught during the course.

Apart from the source books of Materia Medica there are different types of Materia Medica constructed on different philosophical backgrounds by different authors. Materia Medica also forms the platform of various repertories. Therefore, it becomes very important for a student of homoeopathy to learn the plan and construction of all the basic Materia Medica in order to understand their practical utility in practice.

It is also important to keep in mind that the end point of the teaching of HMM is not to burden the student with information of more number of remedies but to equip with an approach which will help to develop the vision towards self-guided study and apply the knowledge in practice.

This self-directed learning can ultimately lead to a critical approach of studying Materia Medica hence empowering evidence based practice and initiate the process of lifelong learning. Exploring Materia Medica is an endless journey as newer illnesses will keep on emerging and newer drugs or undiscovered facets of existing drugs will be needed to explore for managing these situations.



2. PROGRAM OUTCOMES:

At the end of BHMS program, a student must

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 emergencies
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 BHMS I course, the students should be able to-

1. Define the homoeopathic Materia Medica.
2. Understand the philosophy of homoeopathic Materia Medica.
3. Describe evolution, sources and construction of different types of Homoeopathic Materia Medica.
4. Enumerate the scope and limitations of Homoeopathic Materia Medica.
5. Evolve the portrait and symptomatology of a particular drug using the knowledge of pharmacy, psychology, anatomy, physiology and Organon of medicine.
6. Observe the symptoms of a particular medicine in a clinical set-up with emphasis on individualizing symptoms.

Learning Objectives

1. To define the homoeopathic Materia Medica and grasp the basic concept with philosophy of it based on Hahnemannian directions.
2. To discuss different sources and types of homoeopathic Materia Medica.
3. To understand the drug in context of its pharmacological data, constitution, temperament, sphere of action, pathogenesis, both mental and physical generals, particular symptoms, characteristic/ individualising symptoms, general and particular modalities, relationship with other remedies including doctrine of signature.
4. To study and understand the bio-chemic system of medicine.
5. To identify the symptoms of a sick individual corresponding to the symptoms of a particular drug.
6. To develop an insight into scopes and limitations of homoeopathic Materia Medica.



4. TEACHING HOURS

Distribution of Teaching Hours:

Homoeopathic Materia Medica		
Year	Teaching hours- Lectures	Teaching hours- Non-lectures
1 st BHMS	120	75

4. A. Teaching Hours Theory:

S. no.	List of Topics	Hours
1.	Definition and introduction of Materia Medica	3
2.	Types of Homoeopathic Materia Medica	3
3.	Sources of Homoeopathic Materia Medica	4
4.	Study of drug picture (term I)	32
5.	Study of drug picture (term II)	33
6.	Theory of Bio chemic salts	2
7.	Individual bio chemic salts	14
8.	Study of drug picture (term III)	28
9.	Scope and Limitation of HMM	1
	Total	120

4.B. Teaching Hours Non-lecture:

Sr. No	A Study Setting	B Term	C Teaching Hours
1	OPD/IPD/Classroom	II & III	75

Non-Lecture Activities (Practical)-

Sr. No	Non Lecture Teaching Learning methods	Time Allotted per Activity (Hours)



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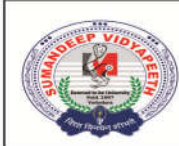
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1	Group Discussions	5
2	Problem based learning	5
3	Tutorials	10
4	Case Based Learning (live case)	55
	Total	75



5. COURSE CONTENTS BHMS I (Theory)

1. Introductory Lectures

- Definition and introduction of basic Materia Medica. Contrast between Materia Medica and Homoeopathic Materia Medica.
- Sources, types, construction, scope and limitation of Homoeopathic Materia Medica
- Theory of biochemic system of medicine, its comparison with Homoeopathy and study of **12 biochemic tissue salts** with their physico-chemical reaction.

2. Homoeopathic medicines:

1. Aconite	18. CalcareaPhos	35. Hypericum
2. Aethusa Cynapium	19. Calendula	36. Ignatia
3. Allium Cepa	20. Carbo Veg	37. Ipecac
4. Aloe Soc	21. Chamomilla	38. Ledum Pal
5. Ammonium Carb	22. Cina	39. Lycopodium
6. Ammonium Mur	23. Cinchona	40. Natrum Carb
7. Antim Crude	24. Cocculus	41. Natrum Mur
8. Antim Tart	25. Coffea Cruda	42. Nux Vomica
9. Apis Mel	26. Colchicum	43. Podophyllum
10. Arnica Montana	27. Colocynth	44. Pulsatilla
11. Ars Alb	28. DioscoriaVillosa	45. Rhus Tox
12. Arum Triph	29. Croton Tig	46. Ruta
13. Baryta Carb	30. Drossera	47. Silicea
14. Belladonna	31. Dulcamara	48. Spongia
15. Borax	32. Euphrasia	49. Sulphur
16. Bryonia Alba	33. Gelsemium	50. Symphytum
17. Calc Carb	34. HeparSulph	

3. Biochemic tissue salts:

1. Calc Flour	5. Kali Mur	9. Nat Mur*
2. Calc Phos*	6. Kali Phos	10. Nat Phos
3. Calc Sulph	7. Kali Sulph	11. Nat Sulph
4. FerrPhos	8. Mag Phos	12. Silicea*

**Also included in the list of Homoeopathic medicines, hence total no. of medicines shall remain 59 for BHMS I.*



Contents for Term I:

I. Introductory Lectures

- Definition and introduction of basic Materia Medica, contrast between Materia Medica and Homoeopathic Materia Medica
- Sources, types and construction of Homoeopathic Materia Medica

II. Homoeopathic medicines:

1. Arnica montana	8. Natrum Mur
2. Bryonia	9. Rhus tox
3. Baryta carb	10. Ruta
4. Calc Carb	11. Silicea
5. Calendula	12. Sulphur
6. Hypericum	13. Symphytum
7. Ledum pal	

Contents for Term II:

I. Homoeopathic medicines:

1. Aconite nap	11. Colchicum
2. Aloes soc	12. Colocynth
3. Apis mellifica	13. Dioscorea
4. Arsenic Alb	14. Dulcamara
5. Belladonna	15. Gelsemium
6. Cina	16. Ignatia
7. Chamomila	17. Lycopodium
8. Carbo veg	18. Nux vomica
9. Cinchona	19. Podophyllum



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10. Cocculus

20. Pulsatilla nig.

II. Theory of biochemic system of medicine, its comparison with Homoeopathy

III. Study of 5 **biochemic tissue salts** with their physico-chemical reaction:

1. Calc Flour
2. Calc Phos
3. Calc Sulph
4. Natrum Phos
5. Natrum sulph

Contents for Term III:

I. Homoeopathic medicines:

1. Aethusa cyn	9. Coffea cruda
2. Allium cepa	10. Croton tig
3. Ammon Carb	11. Drosera
4. Ammon Mur	12. Euphrasia
5. Antim Crud	13. Hepar Sulph
6. Antim Tart	14. Ipecacuanha
7. Arum triph	15. Natrum carb
8. Borax	16. Spongia

II. Study of 5 **biochemic tissue salts** with their physico-chemical reaction:

1. FerrPhos
2. Kali Mur
3. Kali Phos
4. Kali Sulph
5. Mag Phos

III. Scope and limitations of Homoeopathic Materia medica



6. TEACHING LEARNING METHODS

Lectures (Theory)	Non-lectures (Practical)
Lectures	Clinical demonstration
Small group discussion	Problem based discussion
Integrated lectures	Case Study
Assignments	
Library reference	

Different teaching-learning methods must be apply for understanding holistic and integrated Materia Medica. There has to be classroom lectures, small group discussions, case discussion where case based learning (CBL) and problem based learning (PBL) are specially helpful. In the applied Materia Medica, case discussion (CBL-PBL) method is beneficial for students. Audio visual (AV) methods for classroom teaching may be an innovative aid in order to demonstrate the related graphics and animations etc. In case of clinical demonstration – DOAP (Demonstration – Observation – Assistance – Performance) is very well applicable.



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7. CONTENT MAPPING (COMPETENCIES TABLE)

Topic 1- Definition and introduction of Materia Medica

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/ Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG-HMM-I-1.1	Information Gathering	Definition and introduction of materia medica	Knows	Knowledge of fundamentals of HMM	Define the basic MM and HMM	Cognitive	Remember/ recall	Must Know	Lecture	MCQ, SAQ, Viva Voce	SAQ, Viva voce	Horizontal Integration with Organon of Medicine
HomUG-HMM-I-1.2	Integration of information				Explain what sign and symptoms are with examples		Understand					
HomUG-HMM-I-1.3					Contrast between MM and HMM							
HomUG-HMM-I-1.4					Discuss the history of MM with emphasis on Hahnemannian directions							



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Sr. No.	Generic Competency	Subject Area	Millers Level: Does/ Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral



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Topic 2- Types of Materia Medica

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/ Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG-HMM-I-2.1	Information Gathering	Types of Materia Medica	Knows	Identify various types of HMM	Describe various types of HMM	Cognitive	Remember/ recall	Must Know	Lecture, small group discussion, demonstration	MCQ, SAQ, Viva Voce	SAQ, Viva voce	Horizontal Integration with Organon of Medicine and Pharmacy
HomUG-HMM-I-2.2	Integration of information				Enumerate types of HMM		Understand					
HomUG-HMM-I-2.3					Classify Homoeopathic Materia Medica as per its types.							



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HomUG-HMM-I-2.4			Knows how		Discuss the characteristics of each type of HMM based on practical utility.			Desirable to know				
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Topic 3- Sources of Homoeopathic Materia Medica

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments - Horizontal/ Vertical/ Spiral
HomUG-HMM-I-3.1	Information Gathering	Sources of HMM	Knows	Identify various sources of HMM	Describe the sources of HMM	Cognitive	Remember / recall	Must know	Lecture, Small Group discussion, Demonstration	MCQ, SAQ, Viva Voce	SAQ, LAQ, Viva voce	Horizontal Integration with Organon of Medicine, Homoeopathic pharmacy
HomUG-HMM-I-3.2	Integration of information				Understand the concept of source books of HMM		Understand					Vertical and spiral integration with FMT
HomUG-HMM-I-3.3					List the source books of HMM							
HomUG-HMM-I-3.4					Discuss the plans and construction of source							



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					books of HMM							
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Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments - Horizontal/ Vertical/ Spiral
HomUG-HMM-I-3.5	Information Gathering	Sources of HMM	Knows	Identify various sources of HMM	Enumerate different types of proving as sources of HMM	Cognitive	Remember / recall	Must know	Lecture, Small Group discussion, Demonstration	MCQ, SAQ, Viva Voce	SAQ, LAQ, Viva voce	Horizontal Integration with Organon of Medicine, Homoeopathic pharmacy
HomUG-HMM-I-3.6	Integration of information		Knows how		Describe various proving sources of HMM		Understand					
HomUG-HMM-I-3.7			Understand the basic concept of various types proving as source of HMM									
HomUG-HMM-I-3.8			Insight into structure of various		Differentiate the construction						Desirable to know	SAQ, Viva voce



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				HMM	of different							
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					source books of HMM							
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Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments - Horizontal/ Vertical/ Spiral
HomUG-HMM-I-3.9	Information Gathering	Source s of HMM	Knows how	Identify various sources of HMM	Understand the construction of various HMM as a compilation based on the source books.	Cognitive	Remember / recall	Nice to know	Lecture, Small Group discussion, Demonstration	Viva voce	Viva voce	Horizontal Integration with Organon of Medicine, Homoeopathic pharmacy
HomUG-HMM-I-3.10	Integration of information				Draw the time line of Homoeopathic Materia Medica based on their		Understand					



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					history, evolution and philosophy							
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Topic 4- Homoeopathic Medicines

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Department s- Horizontal/ Vertical/ Spiral
HomUG-HMM-I-4.1	Information Gathering Integration of information Problem formulation Practical Skills	Homoeopathic medicines included in: Term I, II and III	Knows, Knows how, Shows how	1. Evolve the symptomatology of a particular drug 2. Observe the symptoms of a particular medicine in a clinical set-up	Describe the drug picture of homoeopathic medicines with following details- pharmacological data, constitution, temperament, sphere of action, doctrine of signature, pathogenesis, both mental and physical generals, particular symptoms, characteristic/ individualizing symptoms, general and particular modalities, relationship	Cognitive, Psychomotor	Remember/ recall Understand Interpret	Must Know	Lecture, Small Group discussion, Demonstration (clinical classes in OPD), Problem based learning	MCQ, SAQ, LAQ, Practical, Viva Voce	SAQ, LAQ, Practical, Viva voce	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of medicine. Longitudinal and spiral with all allied subjects in BHMS



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Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Department s- Horizontal/ Vertical/ Spiral
HomUG-HMM-I-4.2	Information Gathering Integration of information Problem formulation	Homoeopathic medicines included in: Term I, II and III	Knows, Knows how, Shows how	1. Evolve the symptomatology of a particular drug 2. Observe the symptoms of a particular medicine in a clinical set-up	.Formulate the drug picture/ symptomatology of a particular drug using the knowledge of pharmacy, psychology, anatomy, physiology and organon of medicine. Understand the symptomatology of a particular medicine in regard to a particular system/organ of the body.	Cognitive, Psychomotor	Remember/ recall Understand Interpret	Must Know	Lecture, Small Group discussion, Demonstration (clinical classes in OPD), Problem based learning	MCQ, SAQ, LAQ, Practical, Viva Voce	SAQ, LAQ, Practical, Viva voce	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of medicine. Longitudinal and spiral with all allied subjects in BHMS
HomUG-HMM-I-4.3	Practical Skills											



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Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Department s- Horizontal/ Vertical/ Spiral
HomUG-HMM-I-4.4	Information Gathering	Homoeopathic medicines included in: Term I, II and III	Knows, Knows how, Shows how	Evolve the symptomatology of a particular drug	Identify the symptom similarity of a patient with a particular medicine in a clinical set up	Cognitive, Psychomotor	Remember/ recall Understand Interpret	Must Know	Lecture, Small Group discussion, Demonstration (clinical classes in OPD), Problem based learning	MCQ, SAQ, LAQ, Practical, Viva Voce	SAQ, LAQ, Practical, Viva voce	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of medicine. Longitudinal and spiral with all allied subjects in BHMS
HomUG-HMM-I-4.5	Problem formulation				State the relationship of a medicine with other medicines							
HomUG-HMM-I-4.6	Practical Skills		Knows how	Observe the symptoms of a particular medicine in a clinical set-up	Understand the relationship status of a medicine and its background	Cognitive	Remember/ recall Understand	Desirable to know	Lecture, Small Group discussion,	MCQ, Viva Voce	Viva voce	



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HomU G- HMM- I-4.7			Knows how		Observe the variations in symptomatology of a particular medicine in most commonly used HMM of	Cognitive	Remember/ recall Understand	Nice to know	Lecture, Small Group discussion, Demonstration	Viva Voce	Viva voce	
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					eminent authors							
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Topic 5- Theory of Bio chemic tissue salts, its comparison with homoeopathy and study of 12 tissue remedies with their physico-chemical reaction:

Sr.No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG-HMM-I-5.1	Information Gathering,	Theory of Bio chemic tissue salts	Knows	Describe the Theory of Bio chemic tissue salts	Describe the Theory of Bio chemic tissue salts	Cognitive	Remember/ recall Understand	Must Know	Lecture, Small Group discussion	MCQ. Viva, Quiz Assignment	SAQ, MCQ	Horizontal Pharmacy, Biochemistry and Physiology Spiral Can compare the drug pathogenesis with
HomUG-HMM-I-5.2	synthesis and application of knowledge in class room				compare and contrast Homoeopathic system of medicine with Bio chemic tissue salts							



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Sr.No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG-HMM-I-5.3					co-relate the importance of knowledge of Biochemistry in better understanding of Bio chemic tissue salts							Homoeopathic medicines Vertical Can explore the utility of Biochemic salts in treating deficiencies in Medicine, OBG etc
HomUG-HMM-I-5.4					List the 12 Bio chemic tissue salts							



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Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments - Horizontal/ Vertical/ Spiral
HomUG-HMM-I-5.5	Information Gathering Integration of information Problem formulation	12 Biochemical medicines included in: Term II and III	Knows, Knows how, Shows how	1.Describe individual Biochemic tissue salts 2.Evolve the symptom-tology of a particular drug	<i>In addition to the competencies for homoeopathic medicines,</i> Describe individual Bio chemic tissue salts	Cognitive, Psychomotor	Remember / recall Understand Interpret	Must Know	Lecture, Small Group discussion, Demonstration (clinical classes in OPD), Problem based learning	MCQ, SAQ, LAQ, Practical, Viva Voce	SAQ, LAQ, Practical, Viva voce	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of medicine. Longitudinal and spiral with all allied subjects in BHMS
HomUG-HMM-I-5.6	Practical Skills			3.Observe the symptoms of a particular medicine in a clinical set-up	Explain the pathogenesis and symptomology of each Bio chemic tissue salts as per Dr, Wilhelm H. Schuessler.							



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HomUG-HMM-I-5.7					Justify the portrait of each tissue salt in correlation with the knowledge of Biochemistry.							
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Topic 6- Scope and limitation of homoeopathic Materia Medica:

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG-HMM-I-6.1	Information Gathering	Scope and Limitations of HMM	Knows	Must be able to comprehend the scope and limitations of Homoeopathic Materia Medica	List the scope and limitations of HMM	Cognitive	Remember/ recall	Must Know	Lecture. Small group discussion	LAQ SAQ Viva,	LAQ SAQ Viva,	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of medicine.
HomUG-HMM-I-6.2	Integration of information		Knows how		Discuss the scope and limitations of HMM		Understand	Must Know	Case Based learning Problem Based Learning			



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HomUG- HMM-I- 6.3			Knows		Discuss the solutions		Understand	Nice to know				Longitudinal and spiral with all allied
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					to overcome the limitations of HMM							subjects in BHMS
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8. ASSESSMENT

Assessment Summary

8A- Number of papers and Mark Distribution

Sr. No.	Course Code	Papers	Theory	Practical (Assignment+ Spotting)	Viva Voce	Internal Assessment- Practical*	Grand Total
1	HomUG-HMM-I	1	100	20+10= 30	60	10	200

**Note- For Internal assessment, only Viva marks obtained in three PAs and two TTs will be considered as explained in table 8B-1 and to be calculated as per the table 8B-2 given below. Theory marks shall not be taken into account for this purpose.*

8B-I - Scheme of Assessment (formative and Summative)

Sr. No	Professional Course	1 st term (1-6 Months)			2 nd Term (7-12 Months)			3 rd Term (13-18 Months)	
1	First Professional BHMS	First PA + 1 ST TT			2 nd PA+2 ND TT			3 rd PA+UE	
		1 st PA	1 st TT		2 nd PA	2 nd TT		3 rd PA	UE
		10 marks practical/viva	50 marks theory	50 marks viva	10 marks practical/viva	50 marks theory	50 marks viva	10 marks practical/viva	As per table 8A



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PA: Periodical Assessment to be done only through practical/viva; TT: Term Test shall include both theory and viva; UE: University Examinations shall include both theory and viva as per table 8A

8B-II- Method of calculation of internal assessment marks for final university examination:

PA1 Practical/Viva (10 Marks)	PA2 Practical/Viva (10 Marks)	PA3 Practical/Viva (10 Marks)	Periodical Assessment Average $PA1+PA2+PA3/3$	TT1 Practical/ Viva (50 Marks)	TT2 Practical/ Viva (50 Marks)	Terminal Test Average $TT1+TT2/10$	Final Internal Assessment Marks
A	B	C	$D= A+B+C/3$	E	F	$G=E+F/10$	$D+G/2$

8C - Paper Layout

Summative assessment:

Theory- 100 marks

MCQ	10 marks
SAQ	50 marks



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LAQ

40 marks



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8 D- I - Distribution of Theory exam

Sr. No	Paper			D Type of Questions “Yes” can be asked. “No” should not be asked.		
				MCQ (1 Mark)	SAQ (5 Marks)	LAQ (10 Marks)
	A List of Topics	B Term	C Marks			
1	Definition and introduction of basic materia medica and HMM; compare HMM and other Materia Medica	I	Refer Next Table	Yes	Yes	No
2	Sources, types, construction, scope and limitation of Homoeopathic Materia Medica	I,III		Yes	Yes	Yes
3	Theory of Biochemic system of medicine, its comparison with Homoeopathy and study of 12 Biochemic tissue salts with their physico-chemical reaction	II		Yes	Yes	Yes
4	Drug Picture- 50 Homoeopathic Medicines	II & III		Yes	Yes	Yes



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8D– II - Theme table

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	Definition and introduction of basic materia medica and HMM; compare HMM and other Materia Medica	I	7	Yes	Yes	No
B	Sources, types, construction, scope and limitation of Homoeopathic Materia Medica	I,III	17	Yes	Yes	Yes
C	Theory of Biochemic system of medicine, its comparison with Homoeopathy and study of 12 Biochemic tissue salts with their physico-chemical reaction	II & III	22	Yes	Yes	Yes
D	Drug Picture- 50 Homoeopathic Medicines	I,II& III	54	Yes	Yes	Yes

8E- Question paper Blue print

Question Serial Number	Type of Question	Question Paper Format (Refer table 8D- II Theme table for themes)
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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	<ol style="list-style-type: none">1. Theme A2. Theme A3. Theme B4. Theme B5. Theme C6. Theme C7. Theme D8. Theme D9. Theme D10. Theme D
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Q2	Short answer Questions (SAQ) ten 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 B 3. Theme C 4. Theme C 5. Theme D 6. Theme D 7. Theme D 8. Theme D 9. Theme D 10. Theme D
Q3	Long answer Questions (LAQ) Four 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 C 3. Theme D 4. Theme D



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8F - Distribution of Practical Exam



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Practical & Viva-100 marks

Viva voce	60 marks
Practical (Assignment)*	20 marks
Practical (Spotting)	10 marks
Internal assessment**	10 marks (viva/ clinical assessment)

*Assignment shall comprise of compilation of complete drug-portrait of 6 polychrest remedies and 4 biochemic salts

** Method of calculation explained in table no. 8B-II



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9. LIST OF RECOMMENDED REFERENCE BOOKS:

- Allen HC, 2005, Keynotes Rearranged and Classified with Leading Remedies of the Materia Medica and Bowel Nosodes, Reprint edition, B.Jain Publishers, New Delhi
- Choudhuri NM, 2006, A Study On Materia Medica Enriched with real case studies, Reprint revised edn, B.Jain Publishers, New Delhi
- Kent JT, 2015, Lectures On Homoeopathic Materia Medica, Reprint edn, B.Jain Publishers, New Delhi
- Burt W, 2009, Physiological Materia Medica, Third edn, B.Jain Publishers, New Delhi
- Boericke W, Dewey W, 2016, The Twelve Tissue Remedies By Schessler, Reprint edn, B.Jain Publishers, New Delhi
- All source books may be referred whenever required.



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10. LIST OF CONTRIBUTORS

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COMPETENCY BASED DYNAMIC CURRICULUM FOR FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by National Commission for Homoeopathy whichever is earlier)

(HOMOEOPATHIC REPERTORY and CASE TAKING)

HOMOEOPATHIC REPERTORY and CASE TAKING (I PROFESSIONAL BHMS)

1. COURSE CODE: HomUG-R-I

SUBJECT NAME: HOMOEOPATHIC REPERTORY and CASE TAKING

INDEX

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1. PREAMBLE

The Homoeopathic Materia Medica has expanded manifold since the proving of “Cinchona Bark” by Dr. Samuel Hahnemann and today we have over five thousand remedies in the Materia Medica. It is impossible for any human mind to memorise all the symptoms of each drug and to recall those symptoms while prescribing. Therefore, the need of indexing of these symptoms along with the drugs producing those symptoms were felt by Dr. Samuel Hahnemann himself and subsequently by other homoeopaths for prescribing at the bedside of the patient.

Homoeopathic Repertory is a Dictionary or Storehouse or an index to the huge mass of symptoms of the Homoeopathic Materia Medica. The repertory is organized in a practical form indicating the relative gradation of drugs. Repertories not only contain symptoms of proving but also clinical and pathological symptoms found in the Homoeopathic Materia Medica. Repertories serve as an instrument at the disposal of the physician for sifting through the maze of symptoms of the vast Homoeopathic Materia Medica.

Repertories aim at simplifying the work of the physician to find the indicated remedy by eliminating the non-indicated remedies. Repertorisation is not the end but a means to arrive to the simillimum and reference to Homoeopathic Materia Medica based on sound principles of Philosophy is the final court of appeal.

Each repertory has been compiled on the basis of distinct philosophy, structure and utility. In order to use these instruments effectively, one must understand thoroughly its conceptual base, construction and utility and limitations. Even though there are a number of repertories, the student at the under graduate level is expected to learn the philosophy and application of basic core repertories namely Kent, Boger’s Boenninghausen Characteristics and Repertory and Boenninghausen’s Therapeutic Pocket Book. The subject of Repertory must not be taught in isolation but must be taught in horizontal integration with Anatomy, Physiology in I BHMS; Pathology, Surgery, Gynaecology and Practice of Medicine in II BHMS; Surgery, Gynaecology, Practice of Medicine in III BHMS and Practice of Medicine in IV BHMS and vertically integrated with Homoeopathic Materia Medica and Organon and Homoeopathic Philosophy in all the years. Integrated teaching in all the years will help the student to grasp and understand the subjects better and connect repertory to all other subjects.

Similarly, case taking demands virtual integration of all the subjects taught from the Ist BHMS to IV BHMS in the consulting room or at the bedside. The physician can never say that he has learnt all that is to the case taking process. Every new patient has a new lesson to teach.

The advent of computerization and resulting software has opened up vast newer avenues to collate and correlate the vast information found in the Homoeopathic Materia Medica through the repertories. Continued exploration of these connections will generate new data, newer repertories and the newer application to existing or newer illnesses.

2.PROGRAMME OUTCOMES:

At the end of the course of the undergraduate studies, the homoeopathic physician must

1. Develop the knowledge, skills, abilities and confidence as a primary care homoeopathic practitioner to attend to the health needs of the community in a holistic manner
2. Correctly assess and clinically diagnose common clinical conditions prevalent in the community from time to time
3. Identify and incorporate the socio-demographic, psychological, cultural, environmental & economic factors affecting health and disease in clinical work
4. Recognize the scope and limitation of homoeopathy in order to apply Homoeopathic principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community
5. Be willing and able to practice homoeopathy as per medical ethics and professionalism.
6. Discern the scope and relevance of other systems of medical practice for rational use of cross referrals and role of life saving measures to address clinical emergencies
7. Develop the capacity for critical thinking, self-reflection and a research orientation as required for developing evidence based homoeopathic practice.
8. Develop an aptitude for lifelong learning to be able to meet the changing demands of clinical practice
9. Develop the necessary communication skills and enabling attitudes to work as a responsible team member in various healthcare settings and contribute towards the larger goals of national health policies such as school health, community health and environmental conservation.

3.COURSE OUTCOMES (CO):

At the end of course in Repertory, the Final BHMS student shall be able to

1. Describe the philosophical background, construction, utility and limitations of various repertories
2. Demonstrate case taking and show empathy with the patient and family during case taking
3. Demonstrate various steps for systematic case processing viz. analysis of case, evaluation of symptoms as per Homoeopathic principles to form Totality of symptoms
4. Choose the appropriate repertorial approach, Method and Technique to repertorize a case
5. Utilize Repertory as a tool to find out simillimum in all types of cases and in the study of Materia Medica
6. Integrate other subjects in understanding the construction and utility of repertories
7. Utilize different software for Repertorization, patient data management and record keeping.
8. Demonstrate aptitude to utilize repertory for research in Homoeopathy and lifelong learning

COURSE OUTCOMES OF REPERTORY FOR I BHMS

At the end of IBHMS, the student should be able to,

1. Define Repertory.
2. Explain the need and utility of repertory to find simillimum and in the study of Materia Medica
3. Define various terminologies used in repertory and explain their utility
4. Locate different rubrics related to anatomy, physiology and psychology in Kent's Repertory
5. Illustrate the construction of Kent's Repertory as per the Hahnemannian Anatomical schema

4. TEACHING HOURS

Total Number of Teaching Hours: 21			
Course Name	Lectures	Non-Lectures	Total
Homoeopathic Repertory and Case Taking (HomUG-R-I)	21	-	21

5. COURSE CONTENT(HomUG-R-I)

S. No	List of Topics	Lecture Hours
1	Introduction to Repertory, Definition and Meaning of Repertory <ul style="list-style-type: none"> ❖ General Introduction to Repertory ❖ Origin of Repertory ❖ Need of Repertory ❖ Definition of Repertory ❖ Meaning of REPERTORIUM 	3
2	Need and uses of repertory and repertorization <ul style="list-style-type: none"> ❖ Uses and Scopes of Repertory ❖ Limitations of Repertory ❖ Definition of Repertorization ❖ Introduction to Methods and Techniques of Repertorization 	3
3	Terminologies relevant to Repertory <ul style="list-style-type: none"> ❖ Repertory ❖ Rubric ❖ Gradation ❖ Cross Reference ❖ Synonym ❖ Repertorization ❖ Totality of Symptoms ❖ Repertorial Totality ❖ Potential Differential Field ❖ Conceptual Image 	3

	<ul style="list-style-type: none"> ❖ Case taking ❖ Analysis of a case ❖ Evaluation of a Case ❖ Longitudinal case Study ❖ Cross Section Study of a case ❖ General Repertory ❖ Regional Repertory ❖ Logico-Utilitarian Repertory ❖ Puritan Repertory 	
4	Schematic representation of chapters in Kent's repertory <ul style="list-style-type: none"> ❖ Introduction to Kent's Repertory ❖ Listing of Chapters in Kent's Repertory ❖ Correlation of Chapters in Kent's Repertory to Hahnemannian Anatomical Schema ❖ Chapters and Rubrics related to anatomical structures, physiological processes and psychology in Kent's Repertory 	6
5	Correlation of Anatomy, Physiology and Psychology with Repertory <ul style="list-style-type: none"> ❖ Introduction to correlation with Anatomy, Physiology and Psychology with Repertory ❖ Chapters and Rubrics related to Anatomical parts in Dr. Kent's Repertory ❖ Chapters and Rubrics related to Physiology in Dr. Kent's Repertory ❖ Rubrics related to emotions, intellect and memory in Mind chapter of Dr. Kent's Repertory 	6

6. Teaching Learning Methods

Theory	Practicals/ Clinics
Lectures	Clinical Bedside Teaching
Small Group Discussion	Integrated Clinics
Integrated Lectures	Case Study
Integrated Seminars	Rubric Banks
Assignments	
Rubric Banks	
Library Reference	

Competency	Subject Area	Miller's Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ Nice to know	T-L Methods	Formative Assessment	Summative Assessment

Unit 1- Introduction to Repertory, Definition and Meaning of Repertory

Learning Objectives	Introduction to Repertory	Knows	Get acquainted with tools required to search for remedy.	<i>Define</i> the term Repertory	Cognitive	Level I (Remember / recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	-----
		Knows		<i>Explain</i> the meaning of Repertory	Cognitive	Level I (Remember / recall)	Desirable to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	-----
		Knows		<i>Discuss</i> the origin of the word Repertory	Cognitive	Level II (Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	-----



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Knows

List three
uses and
three
limitations
of Repertory

Cognitive

Level I
(Remember
/ recall)

Must
Know

Lecture,
Integrated
teaching
(with
Materia
Medica)

Small
Group
discussion

MCQ,
SAQ, Viva
Voce

Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ Nice to know	T-L Methods	Formative Assessment	Summative Assessment
------------	--------------	--	---------------------	-----------------	---------------	------------------	--	-------------	----------------------	----------------------

IC 2: Need and uses of repertory and repertorisation

Learning Objectives	Need and uses of repertory and repertorisation	Knows	Get acquainted with tools required to search for remedy.	<i>Explain</i> the need of repertory	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	-----
		Knows		<i>Explain</i> the need of Repertorization to find a simillimum	Cognitive	Level II (Understand)	Desirable to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	-----
		Knows		<i>Describe</i> the uses of Repertory	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	-----
		Knows		<i>Describe</i> the limitations of Repertory	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	-----



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Knows

Discuss the use of Repertory as a tool to

Cognitive

Level II
(Understand)

Desirable to know

Lecture, Small Group discussion

MCQ, SAQ, Viva Voce

Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment
				select the remedy for a given case				on, Clinical Teaching		

IC 3: Terminologies relevant to Repertory

Understanding of terminology	Terminologies used in repertory	Knows	To understand the definition of various terminologies used in repertory in order to apply them for Repertorization	Define different terminology associated with repertory	Cognitive	Level I (Remember / recall)	Must know	Lecture, Small Group discussion,	MCQ, SAQ, Viva Voce	-----
		Knows		Explain the meaning and use of each terminology	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce	-----
		Knows		Apply the terminology in the process of Repertorization	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce	-----

IC 4: Schematic representation of chapters in Kent's repertory



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Learning Outcome	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment
Understanding of the arrangement of chapters in Kent's Repertory	Schematic representation of chapters in Kent's Repertory	Knows	To understand the arrangement of Chapters in Dr. Kent's Repertory	List the 37 chapters of Kent's Repertory in the proper order	Cognitive	Level I (Remember / recall)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	-----
		Shows how		Demonstrate the relation of chapters in Kent's Repertory to Anatomy and Physiology and mental rubrics to Psychology	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	-----
		Knows		Discuss the correlation of chapters in Kent's Repertory to the schematic representation of	Cognitive	Level II (Understand)	Desirable to know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	-----

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remedies in

eric peten	Subject Area	Millers Level: Does/Sho ws how/ Knows how/ Knows	Specific Competenc y	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formativ e Assessm ent	Sum ative Asse men
				Materia Medica						

tion of Anatomy, Physiology and Psychology with Repertory

hering gratio of rmati blem ing	Correlat ion of Anatom y, Physiolo gy and Psychol ogy with Reperto ry	Knows	To correlate the knowledge of Anatomy, physiology And Psychology in constructio n of Repertory and Rubrics	Apply the correlation of Anatomical Structures to Chapters and Rubrics in Kent's Repertory	Cognitive	Level II (Understan d)	Must know	Lecture, Small Group discussio n, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	-----
		Knows		Relate physiological Processes to the Chapters and Rubrics in Kent's Repertory	Cognitive	Level II (Understan d)	Must know	Lecture, Small Group discussio n, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	-----



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Knows

Apply the correlation of psychology in Mind Chapter and Rubrics in

Cognitive

Level II
(Understand)

Must know

Lecture, Small Group discussion, Clinical teaching

MCQ, SAQ, Viva Voce, OSPE



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Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ Nice to know	T-L Methods	Formative Assessment	Summative Assessment
				Kent's Repertory						
		Shows how		Locate rubrics related to Anatomy, Physiology and Psychology in Kent's repertory	Psychomotor	Level II (Control)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	-----



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		Knows		Apply rubrics related to Anatomy, Physiology and Psychology in understanding remedies in Materia Medica and Repertory	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	-----
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8.List of Practical Topics

S. No	Name of Topic	Activity/ Practical	TL Method
1	Basic Structure of Repertory showing arrangement of rubric of anatomy, physiology and psychology	Arrangement of Chapters and rubrics related to anatomical structures, physiology and psychology (Emotions, intellect and behaviour) in Kent's Repertory	Integrated BHMS



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9. List of Recommended Books

- ❖ Dhawale ML (2000) - Principles and Practice of Homoeopathy
- ❖ Hahnemann S (2017). Organon of Medicine 6th Edition
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COMPETENCY BASED DYNAMIC CURRICULUM FOR FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by National Commission for Homoeopathy whichever is earlier)

(Human physiology & Biochemistry)

Course- Human physiology & Biochemistry

Course code: Hom UG - PB

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1. PREAMBLE

Physiology studies the functional organization of man at several levels like atom, chemical, cells, tissues, organ systems and the whole body to understand fundamental mechanisms that operate in a living organism. The underlying goal is to explain the operations in a living organism.

Besides satisfying a natural curiosity about how humans function, the study of physiology is of central importance in medicine and related health sciences, as it underpins advances in our understanding of disease and our ability to treat it more effectively. It is also important from psychological and philosophical viewpoints, helping us to understand the different systems. Homoeopathic Philosophy postulates the force animating every cell as the Vital Force which helps in homoeostasis. When it is deranged due to web of causes, disease develops.

Homoeopath must understand Man in a holistic way which would help him to deliver the therapeutic action for the purpose of bringing about a cure. Understanding the structural organisation i.e., Anatomy along with psychological organisation go hand in hand. Their interplay maintains health and delivers optimum function for healthy living and progressing towards higher purpose as per Hahnemannian guidelines. Hence physiology needs to be integrated horizontally with Anatomy, Materia Medica, Organon of Medicine, Psychology & Pharmacy as well as vertically with Pathology, Surgery, Obstetrics & Gynaecology, Community Medicine, Practice of Medicine & Repertory for better grasp of health, disease and process of cure.

Advances in biochemical processes have been occurring at an astonishing pace. The action of homoeopathic medicines does occur at sub-cellular levels. Hence an in-depth understanding and correlation of the processes in health and disease can open up a whole new way of understanding Homoeopathic drugs and their far-reaching effects.

2.PROGRAMME OUTCOMES:

At the end of the course of the undergraduate studies, the homoeopathic physician must

- 1) Develop the knowledge, skills, abilities and confidence as a primary care homoeopathic practitioner to attend to the health needs of the community in a holistic manner
- 2) Correctly assess and clinically diagnose common clinical conditions prevalent in the community from time to time
- 3) Identify and incorporate the socio-demographic, psychological, cultural, environmental & economic factors affecting health and disease in clinical work
- 4) Recognize the scope and limitation of homoeopathy in order to apply Homoeopathic principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community
- 5) Be willing and able to practice homoeopathy as per medical ethics and professionalism.
- 6) Discern the scope and relevance of other systems of medical practice for rational use of cross referrals and role of life saving measures to address clinical emergencies
- 7) Develop the capacity for critical thinking, self reflection and a research orientation as required for developing evidence based homoeopathic practice.
- 8) Develop an aptitude for lifelong learning to be able to meet the changing demands of clinical practice
- 9) Develop the necessary communication skills and enabling attitudes to work as a responsible team member in various healthcare settings and contribute towards the larger goals of national health policies such as school health, community health and environmental conservation.

3. Course Outcomes (COs):

At the end of the course the student will be able to:

1. Discuss the Homoeopathic concept of health in relation to integrated body structure and functions.
2. Explain the normal functioning of the human body at all levels of organization.
3. Relate the concept of homeostasis with relevant ideas in Anatomy, Materia medica and Organon of Medicine at BHMS I level .
4. Elucidate the physiological aspects of normal growth and development with focus on evolution.
5. Correlate micro functions at cellular level with macro functions at organ-system level.
6. Use necessary communication skills required for history-taking of the patient & relating various clinical findings in the patient.
7. Perform experiments in haematology, clinical physiology & biochemistry as required for the study of physiological phenomena and for assessment of normal function.
8. Identify the normal values of haematology, clinical physiology & biochemistry.
9. Perform clinical – physiological examination under supervision.
10. Correlate knowledge of Organon & Materia Medica with Physiology.
11. Explain the integrated responses of the organ systems of the body to physiological and pathological stresses.

4. TEACHING HOURS

Sr No.	Subject	Theoretical Lecture	Practical / Tutorial / Seminar / Clinical Posting
01	PHYSIOLOGY & BIOCHEMISTRY	325 hrs.	330 hrs.

Theory Wise Teaching Hours Distribution – 325 Hours

Sr. No	Paper-I	
	List of System	Teaching Hours
1	General Physiology	20
2	Bio Physics Science	15
3	Skin & The Integumentary System	15
4	Body fluids & Immune mechanism	35
5	Nerve Muscle physiology	15
6	Cardiovascular system	20
7	Respiratory and Environmental Physiology	25
8	Renal Physiology	20
	Total	165
Sr. No	Paper-II	
	List of System	Teaching Hours
1	Central Nervous System	35
2	Endocrinology	30
3	Reproduction	15
4	Special Senses	20
5	Digestion and Nutrition	35
6	Biochemistry	25
	Total	160



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**Practical / Clinical Physiology / OPD
Wise Teaching Hours Distribution –**

330 Hours

Physiology – Practical – lab work			
No	Practical	Demonstration / Performance	Number of Teaching Hours
HAEMATOLOGY			
1	Study of the Compound Microscope	Performance	05
2.	Collection of Blood Samples	Performance	05
3	Estimation of Haemoglobin Concentration	Performance	05
4	Determination of Haematocrit	Demonstration	05
5	Hemocytometry	Performance	05
6	Total RBC Count	Performance	10
7	Determination of RBC Indices	Demonstration	05
8	Total Leucocytes Count (TLC)	Performance	10
9	Preparation And Examination Of Blood Smear	Performance	10
10	Differential Leucocyte Count (DLC)	Performance	10
11	Absolute Eosinophil Count	Demonstration	05
12	Determination of Erythrocyte Sedimentation Rate	Demonstration	05
13	Determination of Blood Groups	Performance	05
14	Determination of Bleeding Time and Coagulation Time	Performance	05
BIOCHEMISTRY			
1	Demonstration of Uses Of Instruments Or Equipment	Demonstration	05
2	Qualitative Analysis of Carbohydrates, Proteins And Lipids	Performance	10
3	Normal Characteristics of Urine	Performance	04
4	Abnormal Constituents of Urine	Performance	10
5	Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood	Performance	05
6	Liver Function Tests	Demonstration	04
7	Kidney Function Tests	Demonstration	04
8	Lipid Profile	Demonstration	04
9	<u>Interpretation and Discussion of Results of Biochemical Tests</u>	Demonstration	04
Total			140



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CLINICAL PHYSIOLOGY			
1	Case Taking & Approach to pt	Performance	05
2	General Concept Of Examination	Performance	10
3	Examination of muscles, joints,	Performance	10
4	Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination	Performance	15
5	Nervous System- Clinical Examination	Performance	15
6	Respiratory System- Clinical Examination, Spirometry, Stethography	Performance	15
7	Special Senses- Clinical Examination	Performance	15
8	Reproductive System- Diagnosis of Pregnancy	Performance	05
9	Gastrointestinal System- Clinical Examination	Performance	10
	Total		100
OPD – APPLIED PHYSIOLOGY			
1	OPD (Applied Physiology)	Demonstration & Performance	90
	TOTAL		90

Semester Wise Distribution of Theory, Practical, Clinical Physiology & OPDs

Sr. No	Theory, Practical, Clinical Physiology & OPDs
SEMESTER - 1	
Module 1. Organization of the human body	Theory : <ul style="list-style-type: none"> General physiology Bio Physics Science Skin & The integumentary System Clinical Physiology : <ul style="list-style-type: none"> Case Taking & Approach to Patient General concept of examination.
Module 2 Principals of Support System & Movements with transportation	Theory : <ul style="list-style-type: none"> Body Fluid & Immune Mechanism Nerve Muscles Physiology



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	<p>Practical :</p> <ul style="list-style-type: none"> • Study of the Compound Microscope • Collection of Blood Samples • Estimation of Haemoglobin Concentration • Determination of Haematocrit • Haemocytometry • Total RBC Count • Determination of RBC Indices • Total Leucocytes Count (TLC) • Preparation And Examination Of Blood Smear • Differential Leucocyte Count (DLC) • Absolute Eosinophil Count • Determination of Erythrocyte Sedimentation Rate • Determination of Blood Groups • Determination of Bleeding Time and Coagulation Time <p>Clinical Physiology : Examination of muscles, joints,</p>
<p>4th Month – 5 days PA 6th Month – 10 days TT – including Viva Voce</p>	
SEMESTER – 2	
<p>Module 3. Vital Maintenance of the human body</p>	<p>Theory :</p> <ul style="list-style-type: none"> • Cardiovascular System • Respiratory & Environmental Physiology <p>Clinical Physiology :-</p> <ul style="list-style-type: none"> • Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination • Respiratory System- Clinical Examination, Spirometry, Stethography • OPD (Applied Physiology)



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<p>Module 4. Control system of the human body with continuity</p>	<p>Theory :</p> <ul style="list-style-type: none"> • Central Nervous System • Endocrinology <p>Clinical Physiology :</p> <ul style="list-style-type: none"> • Nervous System- Clinical Examination • Special Senses- Clinical Examination • Reproductive System – Diagnosis of pregnancy • OPD
<p>9th Month – 5 days PA 12th Month – 10 days TT – including Viva Voce</p>	
<p style="text-align: center;">SEMESTER - 3</p>	
<p>Module 5. Energy maintenance of human body</p>	<p>Theory :</p> <ul style="list-style-type: none"> • Reproductive System • Special Senses • Digestion System & Nutrition • Renal Physiology • Bio-Chemistry <p>Practical : -</p> <ul style="list-style-type: none"> • Demonstration of Uses Of Instruments Or Equipment • Qualitative Analysis of Carbohydrates, Proteins And Lipids • Normal Characteristics of Urine • Abnormal Constituents of Urine • Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood • Liver Function Tests • Kidney Function Tests • Lipid Profile • Interpretation and Discussion of Results of Biochemical Tests <p>Clinical Physiology :-</p>



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- Gastrointestinal System- Clinical Examination
- OPD

14th Month – 5 days PA

18th Month – 12 days TT – including Viva Voce – University exam

5.COURSE CONTENT

1. The purpose of a course in physiology is to enable the students to learn the functions, processes and inter-relationship of the different organs and systems of the normal disturbance in disease so that the student is familiar with normal standards of reference while diagnosing deviations from the normal, and while treating the patients.
2. There can be no symptoms of disease without vital force animating the human organism and it is primarily the vital force which is maintaining state of health
3. Physiology shall be taught from the stand point of describing physical processes underlying them in health;
4. Applied aspect of every system including the organs is to be stressed upon while teaching the subject.
5. Correlation with Organon and philosophy especially the concept of health and its derangement the interplay of different cell, tissue organ and system, their representation in repertory and integration in HMM
6. There should be close co-operation between the various departments while teaching the different systems;



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7. There

should be joint courses

between the two departments of anatomy and physiology so that there is maximum co-ordination in the teaching of these subjects;

8. Seminars should be arranged periodically and lecturers of anatomy, physiology and bio-chemistry should bring home the point to the students that the integrated approach is more meaningful.

THEORY:-

1. GENERAL PHYSIOLOGY:

- Introduction to cellular physiology
- Cell Junctions
- Transport through cell membrane and resting membrane potential Body fluids compartments
- Homeostasis

2. BIO-PHYSICAL SCIENCES

- Filtration Ultra-filtration Osmosis
- Diffusion Adsorption Hydrotropy, Colloid
- Donnan Equilibrium Tracer elements Dialysis
- Absorption Assimilation Surface tension

3. SKIN & THE INTEGUMENTARY SYSTEM

- Skin & Integumentary System
- Layers of Skin
- Function of Skin
- Sweat
- Body temperature and its regulation

4. BODY FLUID & IMMUNE MECHANISM

- Blood
- Plasma Proteins
- Red Blood Cells
- Erythropoiesis



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• Haemoglobin
and Iron Metabolism



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- Erythrocyte

Sedimentation Rate

- Packed Cell Volume and Blood Indices
- Haemolysis and Fragility of Red Blood Cells
- White Blood Cell
- Immunity
- Platelets
- Haemostasis
- Coagulation of Blood
- Blood groups
- Blood Transfusion
- Blood volume
- Reticulo-endothelial System and Tissue Macrophage Lymphatic System and Lymph
- Tissue Fluid and Oedema

5. NERVE MUSCLE PHYSIOLOGY

- Physiological properties of nerve fibres
- Nerve fibre- types, classification, function, Degeneration and regeneration of peripheral nerves
- Neuro-Muscular junction
- Physiology of Skeletal muscle
- Physiology of Cardiac muscle
- Physiology of Smooth muscle
- EMG

6. CARDIO-VASCULAR SYSTEM

- Introduction to cardiovascular system Properties of cardiac muscle
- Cardiac cycle
- General principles of circulation Heart sounds
- Regulation of cardiovascular system
- Normal and abnormal Electrocardiogram (ECG)
- Cardiac output



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- Heart rate
- Arterial blood

pressure

- Radial Pulse
- Regional circulation- Cerebral, Splanchnic, Capillary, Cutaneous & skeletal muscle circulation.
- Cardiovascular adjustments during exercise

7. RESPIRATORY SYSTEM AND ENVIRONMENTAL PHYSIOLOGY

- Physiological anatomy of respiratory tract
- Mechanism of respiration: Ventilation, diffusion of gases
- Transport of respiratory gases Regulation of respiration Pulmonary Function Test
- High altitude and space physiology Deep sea physiology
- Artificial respiration
- Effects of exercise on respiration

8. CENTRAL NERVOUS SYSTEM

- Introduction to nervous system Neuron
- Neuroglia
- Receptors
- Synapse
- Neurotransmitters
- Reflex
- Spinal cord
- Somato-sensory system and somato-motor system Physiology of pain
- Brain stem, Vestibular apparatus
- Cerebral cortex
- Thalamus
- Hypothalamus
- Internal capsule
- Basal ganglia
- Limbic system



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- Cerebellum –

Posture and equilibrium

- Reticular formation
- Proprioceptors
- Higher intellectual function Electroencephalogram (EEG)
- Physiology of sleep
- Cerebro-spinal fluid (CSF) Autonomic Nervous System (ANS)

9. ENDOCRINOLOGY

- Introduction of endocrinology and importance of PNEI axis Hormones and hypothalamo- hypophyseal axis
- Pituitary gland
- Thyroid gland
- Parathyroid
- Endocrine functions of pancreas Adrenal cortex
- Adrenal medulla
- Endocrine functions of other organs

10. REPRODUCTIVE SYSTEM

- Male reproductive system-testis and its hormones; seminal vesicles, prostate gland, semen.
- Introduction to female reproductive system
- Menstrual cycle
- Ovulation
- Menopause
- Infertility
- Pregnancy and parturition Placenta
- Pregnancy tests
- Mammary glands and lactation Fertility
- Foetal circulation

11. SPECIAL SENSES

- Eye: Photochemistry of vision, Visual pathway, Pupillary reflexes, Colour vision, Errors of refraction
- Ear: Auditory pathway, Mechanism of hearing, Auditory defects



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- Sensation of

taste: Taste receptors, Taste pathways

- Sensation of smell: Olfactory receptors, olfactory, pathways Sensation of touch

12. DIGESTIVE SYSTEM & NUTRITION

- Introduction to digestive system
- Composition and functions of digestive juices
- Physiological anatomy of Stomach, Pancreas, Liver and Gall bladder, Small intestine, Large intestine
- Movements of gastrointestinal tract
- Gastrointestinal hormones
- Digestion and absorption of carbohydrates, proteins and lipids

13. RENAL PHYSIOLOGY

- Physiological anatomy of kidneys and urinary tract
- Fluid & electrolyte with acid base balance need to be include
- Renal circulation
- Urine formation: Renal clearance, glomerular filtration, tubular reabsorption, selective secretion, concentration of urine, acidification of urine
- Renal functions tests
- Micturition

14. BIO-CHEMISTRY THEORY

- Carbohydrates: (Chemistry, Metabolism, Glycolysis, TCA, HMP, Glycogen synthesis and degradation, Blood glucose regulation)
- Lipids: (Chemistry, Metabolism, Intestinal uptake, Fat transport, Utilization of stored fat, Activation of fatty acids, Beta oxidation and synthesis of fatty acids)
- Proteins: (Chemistry, Metabolism, Digestion of protein, Transamination, Deamination Fate of Ammonia, Urea cycle, End products of each amino acid and their entry into TCA cycle)
- Enzymes: (Definition, Classification, Biological Importance, Diagnostic use, Inhibition)
- Vitamins: (Daily requirements, Dietary source, Disorders and physiological role)
- Minerals (Daily requirement, Dietary Sources, Disorders and physiological role) mineral metabolism
- Organ function tests



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PRACTICAL & CLINICAL PHYSIOLOGY:-

No	Practical	Demonstration / Performance
Haematology		
1	Study of the Compound Microscope	Performance
2.	Collection of Blood Samples	Performance
3	Estimation of Haemoglobin Concentration	Performance
4	Determination of Haematocrit	Demonstration
5	Hemocytometry	Performance
6	Total RBC Count	Performance
7	Determination of RBC Indices	Demonstration
8	Total Leucocytes Count (TLC)	Performance
9	Preparation And Examination Of Blood Smear	Performance
10	Differential Leucocyte Count (DLC)	Performance
11	Absolute Eosinophil Count	Demonstration
12	Determination of Erythrocyte Sedimentation Rate	Demonstration
13	Determination of Blood Groups	Performance
14	Determination of Bleeding Time and Coagulation Time	Performance
Biochemistry		
1	Demonstration of Uses Of Instruments Or Equipment	Demonstration
2	Qualitative Analysis of Carbohydrates, Proteins And Lipids	Performance
3	Normal Characteristics of Urine	Performance
4	Abnormal Constituents of Urine	Performance
5	Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood	Performance
6	Liver Function Tests	Demonstration
7	Kidney Function Tests	Demonstration
8	Lipid Profile	Demonstration
9	Interpretation and Discussion of Results of Biochemical Tests	Demonstration
Clinical Physiology & OPD		
1	Case Taking & Approach to pt	Performance
2	General Concept Of Examination	Performance



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3	Examination of muscles, joints,	Performance
4	Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination	Performance
5	Respiratory System- Clinical Examination, Spirometry, Stethography	Performance
6	Nervous System- Clinical Examination	Performance
7	Special Senses- Clinical Examination	Performance
8	Reproductive System- Diagnosis of Pregnancy	Performance
9	Gastrointestinal System- Clinical Examination	Performance
10	OPD	Demonstration & Performance



6. TEACHING LEARNING METHODS

Different teaching-learning methods must be apply for understanding holistic and integrated way of physiology. There has to be classroom lectures, small group discussions, case discussion where case based learning (CBL) and problem based learning (PBL). In the applied physiology, Case discussion (CBL-PBL) methods are helpful for students. AV – Methods for demonstration of physiological processes will be very helpful. In process of Clinical Physiology – DOAP (Demonstration – Observation – Assistance – Performance) is very well applicable.

Practical & Clinics are the best medium to demonstrate all physiological processes in objective ways. They help us to understand and explain the physiological signs. Haematological & Biochemistry practical are done in laboratory, where one can apply the DOAP (Demonstration – Observation – Assistance – Performance) & OSPE (Objective Structured Practical Examination) methods. All this should be recorded in the journal.

In the clinics / OPD / IPD / Bed side there shall be exposure of Clinical & Applied Physiology. These can be demonstrated by DOAP (Demonstration – Observation – Assistance – Performance) & OSCE (Objective Structured Clinical Examination) methods. These methods are more objective, and t will help students to develop the attitude as clinicians. In these type of exposure students has to observe the teachers or consultants and able to corelate what they have learned in clinical physiology classes. They do not have to examine the patient by themselves but only observe the teachers. They can keep the record of all physiological function which are disturbed.

Other Innovative methods include preparation of charts and models.



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7.CONTENT MAPPING (COMPETENCY TABLE)

SEMESTER – 1

Topic No	1
Theory	General Physiology
Practical	-
Clinical Physiology	Case Taking & Approach to Patient

Learning Outcome: -

At the end of the chapter General Physiology, the student must be able to –

- Discuss the principles of cellular physiology.
- Classify cell junctions.
- Explain the process of transport through cell membrane
- Describe the resting membrane potential.
- Categorise body fluids compartments.
- Explain the concept of homeostasis

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know/ desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 1.1	Integration Of Information (K-1)	Introduction & Cell	Knows	Definition & general introduction	Define Physiology.	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	MCQs	-	
Hom UG-PB 1.2			Knows How		Discuss the importance of learning physiology in a homoeopathic course	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	Viva Voce	Organon



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Hom				Knows		Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	
UG-PB				How		Internal &		Understand	Know	Small group		Viva	
1.3						external		/ interpret		discussion		Voce	



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					environment of Body							
Hom UG-PB 1.4	Integration Of Information (K-1)	Homeostasis	Knows How W	Describe and discuss the principles of homeostasis	Explain the regulation of internal environment	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology Organon
Hom UG-PB 1.5			Knows How		Explain homoeostasis & it's control	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	
Hom UG-PB 1.6	Integration Of Information (K-1)	The Cellular Level Organisation	Knows How	Describe the structure and functions of a mammalian cell	Describe the structure of cell	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Pathology
Hom UG-PB 1.7			Knows How		Describe the functions of cell	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Organon
Hom UG-PB 1.8			Knows		List the organelles present in cell	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
Hom UG-PB 1.9			Knows		Enumerate the functions of organelles	Cognitive	Level 1 (Remember / recall)	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology
Hom UG-PB 1.10			Knows		List the name of intracellular junction	Cognitive	Level 1 (Remember / recall)	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 1.11			Knows How		Discuss the importance of intracellular Junction	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	Viva Voce	Anatomy



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Hom UG-PB 1.12	Integration Of Information (K-1)		Knows How	To understand transport mechanisms across cell membranes	Explain Passive transportation	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 1.13			Knows How		Explain Active Transportation	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 1.14			Knows How		Explain Vesicular Transportation	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 1.15	Information Gathering , Integration Of information, Problem Integration (K-2)	Clinical & Applied Physiology	Shows How	To conduct History taking	Demonstrate history taking process	Affective	Level 1 Receiving	Must know	Demonstration, Role Play	Observation	DOPS	



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Topic No **2**
Theory **Bio Physics Science**
Practical -
Clinical Physiology -

Learning Outcomes: -



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At the end of the chapter Bio Physics Science, the student must be able to –

- Define biophysics.
- Illustrate the biophysical activity across the cell membrane.
- Explain membrane potential.
- Describe the chemical bond & solution.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 2.1	Integration Of Information (K-1)	Bio Physics Science	Knows	To understand the bio-Physical science of cell membrane	Define the terms Filtration& Ultrafiltration	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.2			Knows		Define intra cellular communication	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.3			Knows		Define the terms adsorption & Absorption	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.4			Knows		Define the terms Hydro trophy, Dialysis & Assimilation	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry Medicine
Hom UG-PB 2.5			Knows		Define Surface Tension	Cognitive	Level 1 (Remember / recall)	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry Medicine
Hom UG-PB 2.6	Integration Of Information (K-1)		Knows How	Discuss the Membrane Physiology &Membrane Potential	Explain Action Potential	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.7			Knows		Define Donnan Equilibrium	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry



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Hom UG-PB 2.8			Knows		Define Transmembrane Potential	Cognitive	Level 1 (Remember / recall)	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
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Hom UG-PB 2.9			Knows How		Explain nerve action potential	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 2.10			Knows		Define Tracer Elements	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 2.11			Knows		Define Rhythmicity of some excitable tissues	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 2.12	Integration Of Information (K-1)	The Chemical Level Organisation	Knows How	Understand the chemical bonds	Describe the Ionic Bond	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.13			Knows How		Describe the covalent bond	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.14			Knows How		Describe the Hydrogen Bond	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Biochemistry
Hom UG-PB 2.15	Integration Of Information (K-1)		Knows	Understand the inorganic Compound & Solution	Define the terms Colloid, Solution & Suspension	Cognitive	Level 1 (Remember / recall)	Desirable to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.16			Knows How		Discuss the characteristics of acids, Base & Salts	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.17			Knows How		Discuss acid - base balance & its application to the concept of pH	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.18			Knows How		Describe the maintaining of pH: Buffer System	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry



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Hom UG-PB 3.1	Integration Of Information (K-1)	Skin & The Integum	Knows How	Understand the Structure & function of Skin	Discuss layers of skin with their functions	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine Organon
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		entary System										Materia Medica Pharmacy
Hom UG-PB 3.2			Knows How		Relate the structure of hair with its function	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
Hom UG-PB 3.3			Knows How		Relate the structure of nail with its function	Cognitive	Level 2 Understand / interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 3.4			Knows How		Relate the structure of different glands of skin with their functions	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 3.5			Knows How		Describe the glands of skin	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
Hom UG-PB 3.6			Knows How		Explain the regulation of body temperature through skin	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 3.7	Information Gathering , Integration Of information, Problem Integration (K-2)	Clinical & Applied Physiology	Shows How	To demonstrate General examination	Demonstrate the examination of Skin & Mucus Membrane	Psycho Motor	Level 1 Observe / Imitate	Must know	DOAP	Observation	OSCE	Medicine
Hom UG-PB 3.8			Shows How		Demonstrate the examination of Conjunctive, Nail & Glands	Psycho Motor	Level 1 Observe / Imitate	Must know	DOAP	Observation	OSCE	Medicine



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Topic No 4

Theory Nerve Muscle Physiology

Practical -

Clinical Physiology Demonstrate effect of mild, moderate and severe exercise and record changes in cardiorespiratory parameters
Perform Ergography, Examination of muscles, joints,

Learning Outcomes: -

At the end of the chapter Nerve Muscle Physiology, the student must be able to –

- Discuss the properties and functions of neurons.
- Illustrate a neuromuscular junction.
- Classify muscle fibres.
- Describe the properties of skeletal, cardiac, and smooth muscle fibres.
- Demonstrate effect of mild, moderate and severe exercise and record changes in cardiorespiratory parameters.
- Perform Ergography under supervision.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 4.1	Integration Of Information (K-1)	Nerve Muscle Physiology	Knows	To understand the functional anatomy of Nerve fibers	Define Neuron Classify neurons	Cognitive	Level 1 (Remember/recall)	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom			Knows		Explain	Cognitive	Level 2	Must know	Lecture,	MCQs	SAQs,	Anatomy



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UG-PB 4.2			How		structure and		Understand / interpret		Small group discussion		Viva Voce	
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					function of neuroglia								
Hom UG-PB 4.3	Integration Of Information (K-1)		Knows	To understand the physiological properties of nerve fibers	Define the terms Excitability & Conductivity	Cognitive	Level 1 (Remember/ recall)	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs Viva Voce		
Hom UG-PB 4.4			Knows How		Discuss graded & action potential	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce		
Hom UG-PB 4.5	Integration Of Information (K-1)		Knows How	To understand the degeneration & regeneration of neuron	Discuss the causes & grade of injury	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine	
Hom UG-PB 4.6			Knows How		Identify the stages of degeneration	Cognitive	Level 2 Understand / interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology	
Hom UG-PB 4.7			Knows How		Discuss the stages of regeneration	Cognitive	Level 2 Understand / interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce		
Hom UG-PB 4.8	Integration Of Information (K-1)		Knows How	To describe Neuromuscular Junction	Illustrate the Structure of Neuro-Muscular Junction	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy	
Hom UG-PB 4.9			Knows How		Discuss the Neuromuscular Transmission	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Anatomy	
Hom UG-PB 4.10			Knows How		Discuss Disorders of neuromuscular Junction	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion, CBL, PBL	MCQs	SAQs, Viva Voce	Medicine	



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Hom UG-PB 4.11	Integration Of Information (K-1)		Knows How	To understand the physiological properties of Skeletal Muscle	Illustrate the mechanism of skeletal muscle contraction. Describe the general mechanism of muscle contraction.	Cognitive	Level 2 Understand / interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 4.12			Knows How		Discuss Molecular mechanism	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	
Hom UG-PB 4.13			Knows How		Discuss Energetic of muscle contraction	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Anatomy
Hom UG-PB 4.14			Knows How		Discuss Excitation of skeletal muscle	Cognitive	Level 2 Understand / interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 4.15	Integration Of Information (K-1)		Knows How	To understand the physiological properties of Smooth Muscle	Explain Contraction of smooth muscle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
Hom UG-PB 4.16			Knows How		Explain Nervous & hormonal control of smooth muscle contraction	Cognitive	Level 2 Understand / interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 4.17	Integration Of Information (K-1)		Knows How	To understand the physiological properties of	Illustrate Functional Anatomy of cardiac Muscle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy



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Hom UG-PB 4.18			Knows How	Cardiac Muscle	Explain process of excitability & contractility	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy
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Hom UG-PB 4.19			Knows How		Explain properties of cardiac muscle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 4.20			Knows How		Discuss the disorders of Skeletal Muscles	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 4.21	Information Gathering , Integration Of information, Problem Integration (K-2)	Clinical & Applied Physiology Of Muscle	Shows How	Demonstrate effect of mild, moderate and severe exercise and record changes in cardio - respiratory parameters	Measure the parameters of cardio-pulmonary changes during exercise	Psycho Motor	Level 2 Control	Must Know	Demonstration	Observation	OSCE	Medicine
Hom UG-PB 4.22			Shows How	Perform Ergography	Demonstrate the sequence of performing ergography.	Psycho Motor	Level 1 Observe / Imitate	Nice to know	Demonstration	Observation	OSCE	Medicine



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Topic No	5
Theory	Body Fluid & Immune Mechanism
Practical	Hematology
Clinical Physiology	

Learning Outcomes: -

At the end of the chapter on Body Fluid & Immune System & Hematology, the student must be able to –

- Describe the composition and functions of blood components
- Describe the origin, Forms, Variations and functions of plasma Protein
- Illustrate the synthesis of Haemoglobin
- Describe RBC formation (erythropoiesis) and its regulation
- Describe WBC formation (granulopoiesis) and its regulation
- Classify Anaemias & Jaundice
- Explain the role of lymphoid tissues in immune responses
- Classify different types of immunity
- Describe the development and regulation of immunity.
- Explain the formation and functions of platelets.
- Illustrate the physiological basis of haemostasis
- Describe different blood groups
- Discuss the clinical importance of blood grouping
- Describe blood transfusion
- Estimate Hb, RBC, TLC, RBC indices, DLC, Blood groups, BT/CT



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S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 5.1	Integration Of Information (K-1)	Blood Fluid and It's Constituents	Knows How	Describe the composition and functions of blood components	Discuss the composition of Blood	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Anatomy
Hom UG-PB 5.2			Knows How		Describe the function of blood	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Pathology Medicine
Hom UG-PB 5.3			Knows		Define serum	Cognitive	Level 1 recall	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Medicine
Hom UG-PB 5.4			Knows How		Explain the difference between serum & Plasma	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 5.5	Integration Of Information (K-1)		Knows How	Describe the origin, Forms, Variations and functions of plasma Protein	Discuss the origin of plasma protein	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 5.6			Knows How		Explain the forms and functions of plasma proteins	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology
Hom UG-PB 5.7			Knows How		Identify the relation of diet to plasma protein	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 5.8	Integration Of Information (K-1)		Knows How	Describe and discuss the synthesis and	Illustrate the structure of Haemoglobin	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry



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Hom UG-PB 5.9			Knows How	functions of Haemoglobin	Discuss the synthesis of Haemoglobin	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 5.10			Knows		Define Normal function of Haemoglobin	Cognitive	Level 1 recall	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Biochemistry Materia Medica
Hom UG-PB 5.11			Knows		State normal Value of different varieties of Haemoglobin	Cognitive	Level 1 recall	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 5.12			Knows How		Explain Iron metabolism	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 5.13	Integration Of Information (K-1)		Knows How	Describe RBC formation (erythropoiesis & its	Discuss the normal structure of RBC with its morphology	Cognitive	Level 2 Understand / interpret	Desire to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Pathology Medicine
Hom UG-PB 5.14			Knows How	regulation) and its functions	discuss stages and regulation of erythropoiesis	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 5.15			Knows How		Discuss the fate of RBC	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 5.16			Knows How		Discuss the hemolysis	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion, CBL	SAQs	SAQs, Viva Voce	Medicine FMT
Hom UG-PB 5.17	Information Gathering ,Integration Of information		Knows How	Describe different types of anemia & Jaundice	Classify the anemia according to their morphology & etiology	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion, CBL, PBL	MCQs	LAQs, Viva Voce	Medicine, Pathology



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Hom UG-PB 5.18	, Problem Integration (K-2)		Knows How		Discuss the different anemia	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion, CBL, PBL	MCQs	LAQs, Viva Voce	Medicine, Pathology Materia Medica Repertory
Hom UG-PB 5.19			Knows How		Enumerate the different abnormal functions in anaemia	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion, CBL, PBL	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 5.20			Knows How		Discuss the fate of bilirubin	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion, CBL	SAQs	SAQs, Viva Voce	Medicine, Pathology Materia Medica Repertory
Hom UG-PB 5.21			Knows How		Explain Physiological Jaundice	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion, CBL	SAQs	SAQs, Viva Voce	Materia Medica Repertory
Hom UG-PB 5.22			Knows How		Explain Jaundice in new-born	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion, CBL	SAQs	SAQs, Viva Voce	Medicine Materia Medica Repertory
Hom UG-PB 5.23	Integration Of Information (K-1)		Knows How	Describe WBC formation (granulopoiesis) and its regulation	Explain different condition of leucocyte count in our body	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine Pathology
Hom UG-PB 5.24			Knows How		Classify different type of WBCs	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology
Hom UG-PB 5.25			Knows How		Discuss the function of WBCs as per their classification	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology Medicine



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Hom UG-PB 5.26			Knows How		Discuss the phagocytosis	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology
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Hom UG-PB 5.27			Knows How		Discuss the stages of leucopoiesis with its regulation	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce		
Hom UG-PB 5.28			Knows How		Discuss the conditions that cause abnormal value of leucocyte	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Surgery Pathology	
Hom UG-PB 5.29	Integration Of Information (K-1)		Knows How	Describe the formation of platelets, functions and variations.	Discuss the structure & function of Platelets	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology	
Hom UG-PB 5.30			Knows How		Describe the Thrombopoiesis	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce		
Hom UG-PB 5.31			Knows How		Discuss its count & variation of platelets	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine	
Hom UG-PB 5.32	Integration Of Information (K-1)		Knows How	Describe the physiological basis of haemostasis	Describe the process of coagulation	Cognitive	Level 2 (Understand / interpret)	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology Materia Medica	
Hom UG-PB 5.33			Knows How		Discuss the mechanism of haemostasis	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce		
Hom UG-PB 5.34			Knows How		Explain stages of clotting mechanism	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology Medicine	
Hom UG-PB 5.35	Integration Of Information (K-1)		Knows How	Describe the clinical importance of blood coagulation	Discuss hemorrhagic disorder	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion, CBL	MCQs	SAQs, Viva Voce	Medicine	



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Hom UG-PB 5.36	Integration Of Information (K-1)		Knows	Describe different blood groups	Classify the ABO blood group system	Cognitive	Level 1 Recall	Must Know	Lecture, Small group discussion	SAQs	LAQs Viva Voce	Pathology
Hom UG-PB 5.37			Knows How		Discuss Landsteiner's Law	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Medicine
Hom UG-PB 5.38	Integration Of Information (K-1)		Knows How	Discuss the clinical importance of blood grouping	Describe Rhesus Blood Group	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 5.39			Knows How		Discuss Rh Incompatibility	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine, Pathology Obstetrics & Gynaecolog
Hom UG-PB 5.40	Integration Of Information (K-1)		Knows How	Describe blood transfusion	Discuss the importance of Blood transfusion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery Medicine
Hom UG-PB 5.41			Knows		List causes for Blood transfusion reaction	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Medicine
Hom UG-PB 5.42	Integration Of Information (K-1)	Immune Mechanis m	Knows How	Explain the role of lymphoid tissues in immune responses	Discuss Tissue Macrophage system	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Medicine
Hom UG-PB 5.43			Knows How		Describe the morphology and functions of Lymphocytes & Plasma cell	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology
Hom UG-PB 5.44			Knows How		Explain the functions of spleen	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine



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Hom UG-PB 5.45			Knows How		Discuss the formation and functions of Lymph	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 5.46	Integration Of Information (K-1)		Knows	Define and classify different types of immunity.	Define Immunity	Cognitive	Level 1 (Remember/ recall)	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Pathology Medicine Organon
Hom UG-PB 5.47			Knows How		Explain different type of immunity	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Pathology Medicine
Hom UG-PB 5.48	Integration Of Information (K-1)		Knows How	Describe the development of immunity and its regulation	Discuss development of immune response	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology
Hom UG-PB 5.49			Knows How		Discuss Auto - immunity & Hypersensitivity	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Medicine
Hom UG-PB 5.50			Knows How		Discuss Immunodeficiency Diseases	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Medicine
Hom UG-PB 5.51	Information Gathering ,Integration Of information , Problem Integration (K-2)	Hematology Practical	Shows How	Estimate Hb, RBC, TLC, RBC indices, DLC, Blood groups, BT/CT	Estimate Hb in the given sample	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Checklist	Pathology Medicine
Hom UG-PB 5.52			Knows How		Interpret results of Hb estimation	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Checklist	Pathology Medicine
Hom UG-PB 5.53			Shows How		Perform RBC Total Count Estimation	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Checklist	Pathology
Hom UG-PB 5.54			Knows How		Interpret the results of RBC Total Count Estimation	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Checklist	Pathology



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Hom UG-PB 5.55			Shows How		Perform WBC Total Count Estimation	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observ ation	Checkli st	Pathology Medicine
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Hom UG-PB 5.56			Knows How		Interpret the results of WBC Total Count Estimation	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Checklist	Pathology Medicine	
Hom UG-PB 5.57			Shows How		Perform WBC DC estimation	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Checklist	Pathology	
Hom UG-PB 5.58			Knows How		Interpret the results of WBC DC estimation	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Checklist	Pathology	
Hom UG-PB 5.59			Shows How		Record RBC indices	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Checklist	Pathology Medicine	
Hom UG-PB 5.60			Knows How		Evaluate RBC indices	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Checklist	Pathology Medicine	
Hom UG-PB 5.61			Shows How		Perform Blood Group identification	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Checklist	Pathology	
Hom UG-PB 5.62			Shows How		Perform BT / CT	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Checklist	Pathology	
Hom UG-PB 5.63			Knows How		Interpret the results of BT / CT	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Checklist	Pathology	
Hom UG-PB 5.64			Shows How		Record ESR	Psycho Motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Pathology	
Hom UG-PB 5.65			Knows How		Interpret the results of ESR estimation	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Checklist	Pathology	
Hom UG-PB 5.66	Information Gathering		Shows How	Describe steps for reticulocyte	Record Reticulocyte count	Psycho Motor	Level 1 (Observe / Imitate)	Nice to know	Demonstration	Observation	Observation	Pathology	



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Hom UG-PB 5.67	,Integration Of information , Problem		Knows How	and platelet count	Interpret the results of	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observ ation	Checkli st	Pathology Medicine
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	Integration (K-2)				Reticulocyte count								
Hom UG-PB 5.68			Shows How		Record Platelet Count	Psycho Motor	Level 1 (Observe / Imitate)	Nice to know	Demonstrati on	Observ ation	Observ ation	Pathology	
Hom UG-PB 5.69			Knows How		Interpret the results of Platelet Count	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observ ation	Checkli st	Pathology Medicine	



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SEMESTER – 2

Learning Outcomes: -

Topic No	6
Theory	At the end of chapter on Cardio Vascular System & its examination, the student must be able to – Describe the functional anatomy of the heart, with respect to its chambers, valves, input and output vessels, AV ring and electrical discontinuity, Conducting system, Coronary supply.
Practical	Conducting system, Coronary supply.
Clinical Physiology	Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination.

- Discuss the events occurring during the cardiac cycle
- Illustrate the haemo-dynamics of circulatory system
- Explain the regulation of cardiac output
- Describe the normal mode of conduction of the cardiac impulse
- Explain coronary, cerebral, capillary, pulmonary & splanchnic circulation
- List the major diseases of cardiovascular system,



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- Record Pulse, blood pressure, and ECG
- Perform the clinical examination of cardiovascular system

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 6.1	Integration Of Information (K-1)	Cardio Vascular System	Knows How	Describe the functional anatomy of heart including chambers, Sounds	Describe the chambers of heart	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Human Anatomy
Hom UG-PB 6.2			Knows How		Discuss the valves & the walls of heart	Cognitive	Level 2Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Human Anatomy
Hom UG-PB 6.3	Knows How		Describe Pacemaker tissue and conducting system.	Explain the pacemaker of heart.	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine – Cardiology	
Hom UG-PB 6.4	Knows How			Describe the conducting system	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy	
Hom UG-PB 6.5	Integration Of Information (K-1)		Knows How	Describe the properties of cardiac muscle including its morphology, electrical, mechanical and metabolic functions	Discuss the Morphological Properties of heart	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
Hom UG-PB 6.6			Knows How		Discuss the electrical properties of heart	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 6.7			Knows How		Discuss the mechanical & metabolic Properties of heart	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Anatomy



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Hom UG-PB 6.8	Integration Of		Knows	Discuss the events occurring	Define Cardiac cycle	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
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Hom UG-PB 6.9	Information (K-1)		Knows How	during the cardiac cycle	Discuss the events of cardiac cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 6.10			Knows How		Explain the pressure changes during cardiac cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 6.11			Knows How		Explain the ECG changes during each cardiac cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 6.12	Integration Of Information (K-1)		Knows	Discuss heart sounds	Define Heart Sound	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 6.13			Knows How		Explain different heart sounds with their measurement technique	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	
Hom UG-PB 6.14			Knows How		Discuss the clinical importance of Murmurs & Triple heart sound	Cognitive	Level 2 Understand / interpret	Must know	Lecture, PBL, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Surgery
Hom UG-PB 6.15	Integration Of Information (K-1)		Knows How	Describe the physiology of electrocardiogram (E.C.G),	Discuss normal ECG with it's waves and intervals	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 6.16			Knows How		Explain in electrocardiography with unipolar & bipolar recording.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	



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Hom UG-PB 6.17	Information Gathering ,Integration Of		Knows How	Discuss arrhythmia, heart block and myocardial	Classify arrythmias	Cognitive	Level 2 Understand / interpret	Must know	Lecture, PBL, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
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Hom UG-PB 6.18	information Problem Integration (K-2)		Knows How	Infarction	Explain Different degree of heart block. Explain Myocardial Infarction	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, PBL, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology Materia Medica Repertory
Hom UG-PB 6.19	Integration Of Information (K-1)		Knows	Describe haemo-dynamics of circulatory system	List the functions of circulation	Cognitive	Level 1 Recall	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 6.20			Knows		State the functions of heart	Cognitive	Level 1 Recall	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 6.21			Knows How		Discuss the pressure changes in vascular system	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	Viva Voce	
Hom UG-PB 6.22			Knows		Recall the structure of the blood vessels	Cognitive	Level 1 Recall	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 6.23	Integration Of Information (K-1)		Knows How	Describe the factors affecting heart rate,	Identify the factors affecting heart rate and how it affects	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 6.24			Knows How		Discuss the mechanism of control of heart rate	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 6.25	Integration Of Information (K-1)		Knows	Describe the regulation of cardiac output	Define cardiac output	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs	LAQs Viva Voce	Materia Medica Repertory
Hom UG-PB 6.26			Knows How		Discuss the distribution of cardiac output	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine



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Hom UG-PB 6.27			Knows How		Discuss the factors affecting cardiac output	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 6.28			Knows How		Discuss in detail the Control mechanism of cardiac output	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 6.29	Integration Of Information (K-1)		Knows How	Understand the blood pressure regulation	Discuss the importance of blood pressure	Cognitive	Level 2 Understand / interpret	Must know	Lecture, PBL, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 6.30			Knows		State the factors affecting arterial blood pressure	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 6.31			Knows How		Discuss the determinants of arterial blood pressure	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 6.32			Knows How		Describe regulation of arterial blood pressure	Cognitive	Level 2 Understand / interpret	Must know	PBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 6.33		Integration Of Information (K-1)	Knows How	Describe coronary, cerebral, capillary, pulmonary & splenic circulation	Discuss the capillary circulation	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	
Hom UG-PB 6.34			Knows How		Discuss the Coronary circulation	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology
Hom UG-PB 6.35			Knows How		Discuss the Cerebral circulation	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology
Hom UG-PB 6.36			Knows How		Discuss the Splenic circulation	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Medicine



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Hom UG-PB 6.37			Knows How		Discuss Pulmonary circulation	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 6.38	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe the mechanism of shock, syncope & Hypertension	Explain mechanism responsible for shock & syncope	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology
Hom UG-PB 6.39			Knows How		Discuss the mechanism of hypertension	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology Materia Medica Organon
Hom UG-PB 6.40	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Record blood pressure at rest and in different grades of	Measure the blood pressure in resting & different grade of exercise	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	OSCE	Medicine
Hom UG-PB 6.41			Knows How	Exercise and postures	Discuss the variation between different blood pressure values after measurement	Cognitive	Level 2 (Understanding)	Must know	CBL, Lecture, Small group discussion	Observation	OSCE	Medicine
Hom UG-PB 6.42	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Record pulse at rest and in different grades of	Measure pulse at rest and in different grades of exercise	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	OSCE	Medicine
Hom UG-PB 6.43			Knows How	Exercise and postures	Discuss the variation between different arterial pulse value after measurement	Cognitive	Level 2 (Understanding)	Must know	CBL, Lecture, Small group discussion	Observation	OSCE	Medicine



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Hom UG-PB 6.44	Information Gathering, Integration of information, Problem Integration (K-2)		Shows How	Record ECG	Record ECG in a volunteer.	Psycho- motor	Level 2 (Control)	Desirable to know	Demonstrati on	Observ ation	OSCE	Medicine
			Knows		Identify the features of a normal ECG.	Cognitive	Level 1 (Recall)	Nice to Know	CBL, Lecture, Small group discussion		OSCE	
Hom UG-PB 6.45	Information Gathering, Integration Of information, Problem Integration (K-2)		Shows How	Demonstrate the correct clinical examination of the cardio vascular system	Locate the Apex beat	Psycho- motor	Level 2 (Control)	Must know	Demonstrati on	Observ ation	OSCE	Human Anatomy
Hom UG-PB 6.46			Shows How		Auscultate for heart sound	Psycho- motor	Level 2 (Control)	Must know	Demonstrati on	Observ ation	OSCE	Medicine
Hom UG-PB 6.47			Shows How		Identify different heart sounds	Psycho- motor	Level 2 (Control)	Must know	Demonstrati on	Observ ation	OSCE	Medicine



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Learning Outcomes: -

At the end of the chapter of Respiratory & Environmental Physiology, the student must be able to –

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Topic No	7
Theory	Respiratory & Environmental Physiology
Practical	
Clinical Physiology	Respiratory System- Clinical Examination, Spirometry, Stethography



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- Describe the functional anatomy of respiratory tract.
- Describe the mechanics of normal respiration
- Describe pressure changes during ventilation
- Describe lung volume and capacities
- Describe the transport of respiratory gases
- Describe the regulation of respiration
- Demonstrate the correct clinical examination of the respiratory system in a normal volunteer.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 7.1	Integration Of Information (K-1)	Respiratory & Environmental Physiology	Knows How	Describe the functional anatomy of respiratory tract	Identify the different parts of upper respiratory tract	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 7.2			Knows How		Describe the importance of different parts of lower respiratory tract	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 7.3			Knows How		Identify the different parts of tracheo – bronchial tree, Respiratory membrane & pleura	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 7.4			Knows How		Explain the properties of Gases	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	



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Hom UG-PB 7.5			Knows How		Discuss non-respiratory function of respiratory system	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.6	Integration Of Information (K-1)		Knows How	Describe the mechanics of normal respiration	Discuss the mechanism of Inspiration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 7.7			Knows How		Discuss the mechanism of Expiration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 7.8	Integration Of Information (K-1)		Knows How	Describe pressure changes during ventilation	Discuss intra-pulmonary pressure	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.9			Knows How		Discuss intra pleural pressure	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.10	Integration Of Information (K-1)		Knows How	Describe lung volume and capacities,	Discuss static lung volume & capacities	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.11			Knows How		Discuss dynamic lung volume and capacities	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.12	Integration Of Information (K-1)		Knows How	Describe alveolar surface tension	Define surface tension	Cognitive	Level 1 (Remember / recall)	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.13			Knows How		Discuss the significance of lung surfactant	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 7.14	Integration Of Information (K-1)		Knows How	Describe the transport of respiratory gases	Describe the Oxygen transportation	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 7.15			Knows How		Explain the carbon dioxide transportation	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	



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Hom UG-PB 7.16	Information Gathering ,Integration Of	Knows How	Describe the regulation of respiration	Discuss the nervous regulation of respiration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 7.17	information, Problem Integration (K-2)	Knows How		Discuss the Chemical regulation of respiration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 7.18		Knows How		Discuss the physio clinical aspect of Apnea	Cognitive	Level 2 Understand / interpret	Must know	PBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.19		Knows How		Discuss the physio clinical aspect of Dyspnoea, Asphyxia, Oxygen toxicity	Cognitive	Level 2 Understand / interpret	Must know	PBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine FMT Materia Medica
Hom UG-PB 7.20	Information Gathering ,Integration Of	Know	Describe the physio clinical aspect of hypoxia	Define Hypoxia	Cognitive	Level 1 (Recall)	Must know	PBL, Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Medicine
Hom UG-PB 7.21	information, Problem Integration (K-2)	Knows		Classify hypoxia. Define Cyanosis	Cognitive	Level 1 Recall	Must know	PBL, Lecture, Small group discussion	MCQS, SAQs	SAQs, Viva Voce	Pathology Medicine
Hom UG-PB 7.22	Information Gathering ,Integration Of	Knows How	Describe the principles and methods of artificial respiration,	Discuss the principles of artificial respiration	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.23	information, Problem Integration (K-2)	Knows How		Discuss the Methods of artificial respiration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine



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Hom UG-PB 7.24	Integration Of Information (K-1)		Knows How	Describe the physiology of high altitude and deep sea diving	Discuss the pressure changes during high altitude	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.25			Knows How		Discuss the effect during Rapid & slow ascent on high altitude	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 7.26			Knows How		Discuss the pressure changes during Deep sea diving	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 7.27	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Perform the clinical examination of the respiratory system in a normal volunteer	Perform the technique to assess normal respiratory rate, expansion of chest, in resting as well as exercise condition through inspection and palpation	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Medicine
Hom UG-PB 7.28			Shows How		Perform percussion on the chest	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Medicine
Hom UG-PB 7.29			Shows How		Perform the auscultation on different parts of lungs.	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Medicine



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Topic No	8
Theory	Central Nervous System
Practical	
Clinical Physiology	Nervous System- Clinical Examination

Learning Outcomes: -

At the end of chapter of Central Nervous System, the student must be able to –

- Map the organization of nervous system.
- State the functions and properties of synapse.
- Explain the functions and properties of receptors
- Describe the functions and properties of reflex.
- Discuss the mechanism of chemical transmission in the nervous system.
- Describe somatic sensations & sensory tracts.
- Describe and discuss motor tracts & mechanism of maintenance of muscle tone.
- Describe the physiology of vestibular apparatus, Control of body movements, posture and equilibrium.
- Describe structure and functions of autonomic nervous system
- Explain the functions, lesion & sensory disturbance of Spinal cord



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- Describe functions of cerebral cortex, basal ganglia, thalamus, hypothalamus, cerebellum and limbic system
- Describe behavioural and EEG characteristic during Sleep.
- Describe the physiological basis of memory, learning and speech
- Perform the clinical examination of the nervous system in a volunteer or on a simulator.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 8.1	Integration Of Information (K-1)	Nervous System	Knows	Describe the organization of nervous system	Identify the parts of central nervous system – brain & spinal cord with its function	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 8.2			Knows How		Discuss the developmental aspect of central nervous system	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 8.3			Knows		Classify nervous system	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 8.4	Integration Of Information (K-1)		Knows How	Describe the functions and properties of synapse.	Illustrate the physiological anatomy of synapse	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 8.5			Knows How		Discuss the electrical events occurring at synapses	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
HomUG -PB 8.6			Knows How		Discuss the properties of synapse.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	



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HomUG-PB 8.7	Integration Of Information (K-1)		Knows	Describe the functions and properties of receptors	Define receptor	Cognitive	Level 1 (Remember / recall)	Desirable to know	Lecture, Small group discussion	SAQs MCQs	SAQs Viva Voce	Anatomy
HomUG-PB 8.8			Knows		Classify the sensory receptors.	Cognitive	Level 1 (Remember / recall)	Desirable to Know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Anatomy
HomUG-PB 8.9			Knows How		Describe the Cutaneous receptor	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
HomUG-PB 8.10			Knows How		explain the properties of receptor	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
HomUG-PB 8.11	Integration Of Information (K-1)		Knows How	Describe the functions and properties of reflex.	Discuss reflex arc	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy
HomUG-PB 8.12			Knows		Classify reflexes	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Medicine
HomUG-PB 8.13			Knows How		Discuss the properties of reflex	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
HomUG-PB 8.14	Integration Of Information (K-1)		Knows	Describe the mechanism of chemical transmission in the nervous system.	Classify neuro-transmitters	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
HomUG-PB 8.15			Knows How		Explain the different types of neuro-transmitter	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
HomUG-PB 8.16	Integration Of Information (K-1)		Knows	Describe somatic sensations & sensory tracts	Define sensory system	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
HomUG-PB 8.17			Knows How		Discuss different sensory tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQ, Viva Voce	Anatomy



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Hom UG-PB 8.18			Knows How		Describe the sensory tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Medicine
Hom UG-PB 8.19			Knows How		Explain the somato-sensory cortex	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs Viva Voce	Anatomy Medicine
Hom UG-PB 8.20			Knows How		Explain the somatic sensation – touch, pressure, pain, temperature, proprioception	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion Demonstration	SAQs MCQs	SAQs, Viva Voce	Anatomy Medicine Materia Medica Repertory
Hom UG-PB 8.21	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe motor tracts & mechanism of maintenance of muscle tone	Discuss motor areas	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Anatomy
Hom UG-PB 8.22			Knows How		Discuss different motor tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 8.23			Knows How		Discuss the motor tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 8.24			Knows How		Discuss the clinical significance of Motor tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Anatomy Medicine Materia Medica
Hom UG-PB 8.25	Information Gathering ,Integration Of information,		Knows How	Describe the physiology of vestibular apparatus,	Discuss the physiological anatomy of vestibular apparatus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy Medicine



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Hom UG-PB 8.26	Problem Integration (K-2)		Knows How	Control of body movements, posture and equilibrium	Explain the functions of vestibular apparatus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Medicine Materia Medica
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Hom UG-PB 8.27			Knows How		Discuss the common vestibular dysfunctions	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Medicine Materia Medica
Hom UG-PB 8.28	Integration Of Information (K-1)		Knows How	Describe structure and functions of Autonomic nervous system (ANS)	Differentiate between somatic and autonomic nervous system	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs MCQs	Viva Voce	Anatomy
Hom UG-PB 8.29			Knows How		Describe the divisions of Autonomic nervous system	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 8.30			Knows How		Discuss the responses of effector organ to autonomic nerve impulse	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	
Hom UG-PB 8.31	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows	Explain the functions, lesion & sensory disturbance of Spinal cord	List the functions of Spinal cord	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 8.32			Knows How		Illustrate the transection of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine, Surgery
Hom UG-PB 8.33			Knows How		Describe the sensory disturbances of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 8.34	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe functions of cerebral cortex, basal ganglia, thalamus, hypo - thalamus, cerebellum and limbic system	Discuss the connections & functions of cerebral cortex	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine – Psychiatry Repertory
Hom UG-PB 8.35			Knows How		Discuss the connections& functions of Basal Ganglia	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine – Psychiatry



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Hom UG-PB 8.36			Knows How	and their abnormalities	Explain the connections & functions of Thalamus	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine – Psychiatry Repertory
Hom UG-PB 8.37			Knows How		Explain the connections& functions of Hypothalamus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine – Psychiatry Materia Medica Repertory
Hom UG-PB 8.38			Knows How		Discuss the connections & functions of Limbic system	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy, Psychology, Medicine – Psychiatry Materia Medica
Hom UG-PB 8.39			Knows How		Explain the connections& functions of Cerebellum	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine – Psychiatry Materia Medica
Hom UG-PB 8.40			Knows How		Explain the cerebellar lesions	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology Medicine – Psychiatry Materia Medica
Hom UG-PB 8.41	Integration Of Information (K-1)		Knows How	Describe behavioral and EEG	Discuss the importance of EEG	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	
Hom UG-PB 8.42			Knows How	characteristic during Sleep and	Explain the Physiological Basis of EEG	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	
Hom UG-PB 8.43			Knows How	mechanism responsible for its production	Discuss the factors affecting sleep	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine



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Hom UG-PB 8.44			Knows How		Describe the Physiological changes during sleep	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 8.45			Knows		Classify the types of sleep	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Medicine
Hom UG-PB 8.46			Knows How		Discuss the factors controlling sleep cycle	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Anatomy Medicine
Hom UG-PB 8.47	Information Gathering ,Integration Of		Knows How	Describe the physiological basis of memory,	Discuss the mechanism and development of speech	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 8.48	information, Problem Integration (K-2)		Knows How	learning And speech	Describe the physiological basis of learning	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine Materia Medica Repertory
Hom UG-PB 8.49			Knows How		Discuss the physiological basis of memory.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 8.50			Knows How		Discuss the applied physiology of memory	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Materia Medica Repertory
Hom UG-PB 8.51	Information Gathering ,Integration Of		Shows How	Perform the clinical examination of	Perform examination of cranial nerves	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist OSCE	Anatomy Medicine
Hom UG-PB 8.52	information, Problem		Shows How	the nervous System : Higher functions,	Perform examination for speech	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist OSCE	Anatomy Medicine



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Hom UG-PB 8.53	Integration (K-2)		Shows How	sensory system, motor system,	Conduct the assessment of muscle tone	Psycho- motor	Level 2 (Control)	Must know	Demonstrati on	Observ ation	Checklist OSCE	Anatomy Medicine
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Hom UG-PB 8.54			Shows How	reflexes, cranial nerves in a normal	Conduct the assessment of muscle power	Psycho- motor	Level 2 (Control)	Must know	Demonstrati on	Observ ation	Checklist OSCE	Anatomy Medicine
Hom UG-PB 8.55			Shows How	volunteer or simulated Environment	Perform the clinical examination for reflexes	Psycho- motor	Level 2 (Control)	Must know	Demonstrati on	Observ ation	Checklist OSCE	Anatomy Medicine
Hom UG-PB 8.56			Shows How		Perform Cutaneous sensory examination	Psycho- motor	Level 2 (Control)	Must know	Demonstrati on	Observ ation	Checklist OSCE	Anatomy Medicine
Hom UG-PB 8.57			Shows How		Perform the clinical examination of gait and posture	Psycho- motor	Level 2 (Control)	Must know	Demonstrati on	Observ ation	Checklist OSCE	Anatomy Medicine



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Topic No	9
Theory	Endocrine System
Practical	
Clinical Physiology	Reproductive System – Diagnosis of pregnancy



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Learning Outcomes: -

At the end of chapter of Endocrine System& Diagnosis of pregnancy, the student must be able –

- Explain the mechanism of action of steroid, protein and amine hormones.
- Describe the regulation of secretion of hormones by hypothalamus.
- Discuss the synthesis, secretion, Transport, Physiological action, regulation & effect of altered secretion of-Pituitary gland; Thyroid gland; Para Thyroid glands; Adrenal glands; and Pancreatic Gland.
- Explain the physiology of Thymus & Pineal Glands, and the local hormones.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 9.1	Integration Of Information (K-1)	Endocrine system	Knows	Describe the mechanism of action of steroid, protein And amine hormones	Define hormones	Cognitive	Level 1 (Remember / recall)	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
Hom UG-PB 9.2			Knows How		Discuss the characteristic of hormones	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Psychology
Hom UG-PB 9.3			Knows How		Classify the hormones as per their chemistry	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 9.4	Integration Of Information (K-1)		Knows How	Describe the regulation of secretion of hormones by hypothalamus	Discuss the regulation of hormone from the hypothalamus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy Medicine



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Hom UG-PB 9.5			Knows How		Discuss the homoeostatic mechanism of secretion of hormone through Hypothalamus	Cognitive	Level 2 Understan d / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
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Hom UG-PB 9.6	Integration Of Information (K-1)		Knows How	Discuss the synthesis, secretion, Transport, Physiological action, regulation & effect of altered secretion of Pituitary gland	Discuss the physiological anatomy of pituitary gland	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy Materia Medica
Hom UG-PB 9.7			Knows How		Explain the secretion of anterior pituitary hormone	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Anatomy Materia Medica
Hom UG-PB 9.8			Knows How		Explain the secretion of growth hormone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	
Hom UG-PB 9.9			Knows How		Describe the functions of growth hormone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	
Hom UG-PB 9.10			Knows		List the factors affecting growth hormone	Cognitive	Level 1 Recall	Nice to know	Lecture, Small group discussion	SAQs MCQs	Viva Voce	
Hom UG-PB 9.11			Knows How		Discuss the effects of altered secretion of growth hormone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 9.12			Knows How		Explain the actions and control of secretion of prolactin	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy Obstetrics & Gynaecology



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Hom UG-PB 9.13			Knows How		Discuss the secretion of posterior Pituitary hormones	Cognitive	Level 2 Understan d / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy
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Hom UG-PB 9.14			Knows How		Explain the functions of ADH	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	
Hom UG-PB 9.15			Knows How		Discuss the functions of Oxytocin	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Medicine Obstetrics & Gynaecology
Hom UG-PB 9.16			Knows How		Describe pituitary insufficiency	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 9.17	Integration Of Information (K-1)		Knows How	Describe the synthesis, secretion, Transport, Physiological action, regulation & effect of altered secretion of Thyroid gland	Discuss the physiological anatomy of Thyroid gland	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Materia Medica Repertory
Hom UG-PB 9.18			Knows How		Describe the formation & secretion of thyroid hormone	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 9.19			Knows How		Explain the transport & metabolism of thyroid hormone	Cognitive	Level 2 Understand / interpret	Desirable to Know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 9.20			Knows How		Discuss the regulation and action of thyroid hormone	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 9.21			Knows How		Explain the effect of altered secretion of Thyroid hormone	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine



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Hom UG-PB 9.22	Integration Of Information (K-1)		Knows How	Explain the synthesis, secretion, Transport, Physiological action, regulation & effect of altered secretion of Para Thyroid gland.	Discuss the calcium & phosphate metabolism	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Biochemistry Medicine Materia Medica
Hom UG-PB 9.23			Knows How		Discuss the action of parathormone	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
Hom UG-PB 9.24			Knows How		Describe the action of Calcitonin	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 9.25			Knows How		Discuss the role of Calcitonin in the maintenance of calcium homeostasis in body	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Biochemistry Medicine Materia Medica
Hom UG-PB 9.26			Calcitonin		Discuss the effect of altered secretion of para thyroid hormone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 9.27	Integration Of Information (K-1)		Calcitonin	Describe the synthesis, secretion, Transport, Physiological action, regulation & effect of altered secretion of Adrenal gland	Discuss the physiological anatomy of Adrenal Cortex gland	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Anatomy
Hom UG-PB 9.28			Calcitonin		Describe the formation, secretion, and functions of Glucocorticoid hormone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	



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Hom UG-PB 9.29			Knows How		Describe the formation, secretion, and functions of Mineralocorticoid hormone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 9.30			Knows How		Describe the formation, secretion, and functions of Sex hormones	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 9.31			Knows How		Explain the effects of altered secretion of Adrenal cortex hormone	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 9.32			Knows How		Discuss the physiological anatomy of Adrenal Medullary gland	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 9.33	Integration Of Information (K-1)		Knows How	Describe the synthesis, secretion, Transport,	Explain the physiological anatomy of Pancreatic gland	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Materia Medica
Hom UG-PB 9.34			Knows How	Physiological action, regulation & effect of altered secretion of Pancreatic Gland	Discuss the action and regulation of Glucagon	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 9.35			Knows How		Discuss the action and regulation of Insulin	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine Materia Medica



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Hom UG-PB 9.36			Knows How		Describe the effects of altered secretion of Pancreatic Hormone	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Pathology Medicine
Hom UG-PB 9.37	Integration Of Information (K-1)		Knows How	Describe the physiology of Thymus & Pineal Gland	Describe the functions of hormone of thymus gland	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
Hom UG-PB 9.38			Knows How		Discuss the functions of hormone of pineal gland	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
Hom UG-PB 9.39			Knows How	Describe the Physiology of Local hormones	State the functions of Local hormones	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs MCQs	Viva Voce	
Hom UG-PB 9.40	Information Gathering ,Integration Of information , Problem Integration (K-2)		Shows How	Describe the diagnosis of pregnancy	Demonstrate the diagnosis of pregnancy through Urine pregnancy Strip	Psycho Motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Obs&Gynec



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Hom UG-PB 10.1	Integration Of Information (K-1)	Reproduct ive System	Knows	Describe the onset, progression, and stages	Define puberty	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Psychology Obstetrics & Gynaecolog
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Topic No	10
Theory	Reproductive System
Practical	
Clinical Physiology	



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Hom UG-PB 10.2			Knows How	puberty. List causes and expressions of early and delayed puberty	Discuss the role of LH & FSH in development of puberty	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Psychology Obstetrics & Gynaecolog
Hom UG-PB 10.3			Knows How		Explain puberty for its onset, and stages. Describe the causes for delayed & precocious puberty.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Psychology Obstetrics & Gynaecolog
Hom UG-PB 10.4	Integration Of Information (K-1)		Knows How	Describe the structure and functions of male reproductive system.	Describe the structure of male reproductive system	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Anatomy
Hom UG-PB 10.5			Knows How		Explain the function of male reproductive system.	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 10.6	Integration Of Information (K-1)		Knows How	Describe the physiological effects of male sex hormone	Explain the functions of testis as an endocrine gland.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Psychology Medicine
Hom UG-PB 10.7			Knows How		Discuss the role of testosterone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine Obstetrics & Gynaecolog
Hom UG-PB 10.8	Integration Of Information (K-1)		Knows How	Describe the functions of testis and control of Spermatogenesis & factors modifying it	Discuss the process of spermatogenesis	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 10.9			Knows How		Discuss the factors affecting spermatogenesis	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	



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									Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Obstetrics & Gynaecology
Hom UG-PB 10.10	Integration Of Information (K-1)		Knows How	Describe female reproductive system & functions of ovary and its Control.	Describe structure the female	Cognitive	Level 2 Understand / interpret	Must know				
Hom UG-PB 10.11			Knows How		reproductive tract Discuss the functions of female	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Obstetrics & Gynaecology
Hom UG-PB 10.12			Knows How		reproductive tract Discuss the role of ovary as an endocrine gland. List the hormones	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Obstetrics & Gynaecology
Hom UG-PB 10.13	Integration Of Information (K-1)		Knows How	Describe menstrual cycle with hormonal, uterine and ovarian changes	secreted by ovary. Discuss the ovarian changes	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Obstetrics & Gynaecology
Hom UG-PB 10.14			Knows How		during menstrual cycle Discuss the Uterine changes	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Obstetrics & Gynaecology
Hom UG-PB 10.15			Knows How		during menstrual cycle Discuss the Gonadotrophin	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Obstetrics & Gynaecology Materia Medica
Hom UG-PB 10.16	Integration Of Information (K-1)		Knows How	Describe the physiological effects of female sex hormones	changes during menstrual cycle Discuss the changes during	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Obstetrics & Gynaecology
10.17					menopause		/ interpret		discussion			



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										Lecture, re,	MCQs	Viva Voce	Obstetrics & Gynaecology Community Medicine
Hom UG-PB 10.18			Knows How	Discuss the contraceptive methods for male and female.	Describe the contraceptive methods for male	Cognitive	Level 2 Understand	Nice to know	Small group discussion				
Hom UG-PB 10.19			Knows How		Describe the contraceptive methods for female	Cognitive	Level 2 Understand	Nice to know	Lecture, Small group discussion	MCQs	Viva Voce		Obstetrics & Gynaecology Community Medicine
Hom UG-PB 10.20	Integration Of Information (K-1)		Knows How	Discuss the physiology of pregnancy, parturition & lactation.	Discuss the fertilization & implantation of ovum	Cognitive	Level 2 Understand	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce		Obstetrics & Gynaecology
Hom UG-PB 10.21			Knows How		Explain the role of placenta as an endocrine organ.	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce		Obstetrics & Gynaecology
Hom UG-PB 10.22			Knows How		List the placental hormones Discuss the process of parturition	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce		Obstetrics & Gynaecology Materia Medica
Hom UG-PB 10.23			Knows How		Describe the role of prolactin Hormone	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce		Obstetrics & Gynaecology Community Medicine
Hom UG-PB 10.24			Knows How		Explain the process of lactation	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce		Obstetrics & Gynaecology Community Medicine Materia Medica

Topic No	11
Theory	Special Senses
Practical	
Clinical Physiology	Special Senses – Clinical Examination



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Learning Outcomes: -

At the end of the chapter on Special senses, the student must be able to –

- Discuss perception of smell and taste sensation
- Discuss patho-physiology of altered smell and taste sensation
- Discuss functional anatomy of ear and auditory pathways & physiology of hearing
- Discuss functional anatomy of eye, physiology of image formation, physiology of vision including colour vision, refractive errors, colour blindness, physiology of pupil and light reflex
- Discuss the physiological basis of lesion in visual pathway
- Demonstrate the testing of visual acuity, colour and field of vision; hearing; smell; and taste sensation in volunteer or simulated environment

S.No	Generic competency	Subject area	Miller's Level	Specific Competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 11.1	Integration Of Information (K-1)	Special Senses	Knows How	Describe the perception of smell sensation	Discuss the sensation of olfaction	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery - ENT
Hom UG-PB 11.2			Knows How		Discuss the olfactory receptor, olfactory pathway	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQ, Viva Voce	Anatomy
Hom UG-PB 11.3			Knows How		Discuss the physiology of olfaction	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 11.4			Knows How		Discuss the altered sensation of smell	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine



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Hom UG-PB 11.5	Integration Of		Knows How	Describe perception of taste sensation	Discuss the sensation of Taste	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery – E	NT
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	Information (K-1)											Materia Medica Repertory
Hom UG-PB 11.6		Knows How		Discuss the taste receptor.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQ, Viva Voce	Anatomy	
		Shows How		Draw the taste pathway	Psycho motor	Level 2. Control	Must Know	Demonstration	Observation	DOPS	Anatomy	
Hom UG-PB 11.7		Knows How		Discuss the physiology of Taste	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce		
Hom UG-PB 11.8		Knows How		Discuss the altered sensation of Taste	Cognitive	Level 2 Understand / interpret	Desirable to know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine Materia Medica	
Hom UG-PB 11.9	Integration Of Information (K-1)	Knows How	Describe the functional anatomy of ear & auditory pathways	Describe the physiological anatomy of ear	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery – ENT	NT
Hom UG-PB 11.10		Shows How		Map the Auditory Pathway	Psycho motor	Level 2. Control	Must Know	Demonstration	Observation	Checklist	Anatomy ENT	
Hom UG-PB 11.11		Knows How		Describe the mechanism of hearing	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Surgery - ENT	T
Hom UG-PB 11.12		Knows How		Discuss the altered sensation of Hearing	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine Surgery – ENT	NT
Hom UG-PB 11.13	Integration Of Information (K-1)	Knows How	Describe the functional anatomy of eye	Explain the structure & function of eye.	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery - Ophthalmology	



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Hom UG-PB 11.14	Integration Of Information (K-1)		Knows How	Describe the physiology of image formation	Describe the visual pathway	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 11.15			Knows How		Discuss the principles of optics, visual acuity, Visual reflex	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Surgery – Ophthalmology
Hom UG-PB 11.16	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe the physiology of vision including colour vision	Discuss the photochemistry of vision	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Surgery – Ophthalmology
Hom UG-PB 11.17			Knows How		Discuss the photopic & scotopic vision	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmology
Hom UG-PB 11.1. 8			Knows How		Discuss the visual adaptation, visual accommodation & night blindness	Cognitive	Level 2 Understand / interpret	Desirable to know	PBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmology Materia Medica
Hom UG-PB 11.19	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe the refractive errors and colour blindness	Discuss the different types of refractive errors	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Surgery – Ophthalmology Materia Medica Repertory
Hom UG-PB 11.20			Knows How		Discuss the colour blindness	Cognitive	Level 2 Understand / interpret	Desirable to know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Surgery – Ophthalmology Materia Medica



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Hom UG-PB 11.21			Knows		List the causes of Nystagmus	Cognitive	Level 1Recall	Nice to know	CBL, Lecture, Small group discussion	SAQs	Viva Voce	Surgery – Ophthalmol gy
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												Materia Medica
Hom UG-PB 11.22	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Demonstrate Testing of visual acuity, colour and field of vision in a volunteer	Perform the testing of visual acuity, colour and field of vision	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstration	Observation	Checklist	Surgery – Ophthalmology
Hom UG-PB 11.23			Knows How		Interpret the testing of visual acuity, colour and field of vision	Cognitive	Level 2 Understand / interpret	Nice to know	CBL, Lecture, Small group discussion	SAQs	Viva Voce	Surgery – Ophthalmology Materia Medica
Hom UG-PB 11.24	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Demonstrate testing of hearing in a volunteer	Perform the testing of hearing in a volunteer	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstration	Observation	Checklist	Surgery – ENT
Hom UG-PB 11.25			Knows How		Interpret the testing of hearing in a volunteer	Cognitive	Level 2 Understand / interpret	Nice to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmology Materia Medica
Hom UG-PB 11.26	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Demonstrate testing for smell in a volunteer	Perform testing for smell in a volunteer	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstration	Observation	Checklist	Surgery – ENT
Hom UG-PB 11.27			Knows How		Interpret testing for smell in a volunteer	Cognitive	Level 2 Understand / interpret	Nice to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmology Materia Medica
Hom UG-PB 11.27	Information Gathering, Integration Of		SHOW HOW	Demonstrate testing for taste sensation in volunteer	Perform testing for taste sensation in volunteer	Psycho Motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Anatomy Surgery – ENT



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Hom UG-PB 11.29	information, Problem Integration (K-2)		Knows How		Interpret testing for taste sensation in volunteer	Cognitive	Level 2 Understand / interpret	Nice to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery – E NT
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Topic No	12
Theory	Digestive System & Nutrition
Practical	Liver Function Test
Clinical Physiology	Gastrointestinal system clinical examination

Learning Outcomes: -

At the end of the chapter Digestive system & Nutrition, the student must be able to –

- Describe the structure, Function & Innervation of digestive system.
- Describe the composition, mechanism of secretion, function & regulation of saliva.
- Describe the movement of oesophagus.
- Describe the composition, mechanism of secretion, function & regulation of gastric juice.
- Describe the composition, mechanism of secretion, function & regulation of pancreatic juice.
- Describe the structure & function of liver & Gall bladder.
- Describe the composition, mechanism of secretion, function & regulation of Bile.
- Describe the composition, mechanism of secretion, function & regulation of Small Intestine.
- Describe the movement of gastrointestinal tract, it's regulation & function.
- Describe the movement of large intestine & defecation as a process.



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- Describe the physiology of digestion and absorption of nutrients.
- Observe the procedure for Liver Function Test.
- Perform examination for gastrointestinal system on a volunteer.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 12.1	Integration Of Information (K-1)	Digestive System & Nutrition	Knows How	Describe the structure, Function & Innervation of digestive system	Discuss the importance of digestive system	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 12.2			Knows		Recall the structure of digestive system	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 12.3			Knows		Recognize the structure of small intestine	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 12.4			Knows		Identify the structure of large intestine	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 12.5	Integration Of Information (K-1)		Knows	Describe the composition, mechanism of secretion, function & regulation of saliva	Classify salivary glands. Mention the innervation of salivary glands.	Cognitive	Level 1 Recall	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Materia Medica
Hom UG-PB 12.6			Knows How		Discuss composition of saliva	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Biochemistry
Hom UG-PB 12.7			Knows How		Discuss functions of saliva	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine Materia Medica



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Hom UG-PB 12.8			Knows How		Describe mechanism of salivary secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce		
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Hom UG-PB 12.9	Integration Of Information (K-1)		Knows How		Discuss the control of salivary secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 12.10			Knows How		Explain the clinical relevance of salivary gland & salivary secretion	Cognitive	Level 2 Understand / interpret	Desirable to Know	PBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Materia Medica
Hom UG-PB 12.11			Knows How	Describe the movement of oesophagus	Describe the process of mastication.	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 12.12			Knows How		Explain the stages of swallowing	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 12.13			Knows How		Discuss the role of upper & lower oesophageal sphincter	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	
Hom UG-PB 12.14			Knows		List the common oesophageal motility disorders	Cognitive	Level 1 Recall	Nice to Know	CBL, Lecture, Small group discussion	SAQs	Viva Voce	Medicine Surgery
Hom UG-PB 12.15	Integration Of Information (K-1)		Knows	Describe the composition, mechanism of secretion, function & regulation of Gastric Juice	Recall the macro and micro structure of stomach	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 12.16			Knows How		Discuss the functions of stomach	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
Hom UG-PB 12.17			Knows How		Discuss the composition & functions of gastric juice	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Biochemistry



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Hom UG-PB 12.18			Knows How		Discuss the mechanism & regulation of gastric juice secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 12.19			Knows How		Discuss the process of digestion in stomach	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 12.20			Knows How		Discuss the movements of stomach	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 12.21			Knows		Mention the three phases of vomiting	Cognitive	Level 1 Recall	Nice to know	CBL, Lecture, Small group discussion	SAQs	Viva Voce	Medicine Materia Medica Repertory
Hom UG-PB 12.22	Integration Of Information (K-1)		Knows	Describe the composition, mechanism of secretion, function & regulation of Pancreatic Juice	Recall the macro and micro structure of Pancreas	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 12.23			Knows How		Discuss the composition & functions of pancreatic juice	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Biochemistry
Hom UG-PB 12.24			Knows How		Discuss the mechanism & regulation of pancreatic juice secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 12.25			Knows How		Describe exocrine pancreatic insufficiency	Cognitive	Level 2 Understand / interpret	Desirable to Know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine Materia Medica Repertory



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Hom UG-PB 12.26	Integration Of Information (K-1)		Knows How	Describe the structure & function of	Discuss the structure & functions of Liver	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
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Hom UG-PB 12.27	Integration Of Information (K-1)		Knows How	liver & Gall bladder	Explain the signs of liver insufficiency	Cognitive	Level 2 Understand / interpret	Desirable to Know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 12.28			Knows How		Describe the structure & functions of gall bladder	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Repertory
Hom UG-PB 12.29			Knows How	Describe the composition, mechanism of secretion, function & regulation of Bile	Discuss the composition & function of liver bile	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 12.30			Knows How		Discuss the composition & function of gall bladder bile	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Biochemistry
Hom UG-PB 12.31			Knows How		Describe the control & mechanism of bile secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 12.32			Knows How		Describe the clinical significance of liver functions.	Cognitive	Level 2 Understand / interpret	Desirable to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Materia Medica
Hom UG-PB 12.33			Knows How		Describe the clinical significance of Gall Bladder functions	Cognitive	Level 2 Understand / interpret	Desirable know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Surgery
Hom UG-PB 12.34	Integration Of Information (K-1)		Knows	Describe the composition, mechanism of	Recognise the macro and micro structure of Small intestine	Cognitive	Level 1 Recall	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Repertory



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Hom UG-PB 12.35			Knows How	secretion, function & regulation of Small intestine	Discuss the composition &	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Biochemistry
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				functions of Succus Entericus								
Hom UG-PB 12.36		Knows How		Discuss the mechanism & regulation of secretions of Succus Entericus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce		
Hom UG-PB 12.37		Knows How		Describe the process of digestion in small intestine	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce		
Hom UG-PB 12.37		Knows How		Describe the Malabsorption Syndrome	Cognitive	Level 2 Understand / interpret	Nice to Know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine	Materia Medica
Hom UG-PB 12.39	Integration Of Information (K-1)	Knows How	Describe the movement of gastrointestinal tract, it's regulation & function.	Explain peristalsis as intestinal movement	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Materia Medica	
Hom UG-PB 12.40		Knows How		Describe segmentation as intestinal movement	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce		
Hom UG-PB 12.41		Knows How		Discuss the clinical importance of small intestine	Cognitive	Level 2 Understand / interpret	Desirable to Know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine	
Hom UG-PB 12.42	Integration Of Information (K-1)	Knows How	Describe the movement of large intestine & defecation as a process.	Discuss the movements of large intestine	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce		
Hom UG-PB 12.43		Knows How		Describe the process of absorption & secretion in large intestine	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Materia Medica	



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Hom UG-PB 12.44			Knows How		Discuss the process of defecation	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Repertory
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Hom UG-PB 12.45			Knows How		Discuss the clinical significance of large intestine	Cognitive	Level 2 Understand / interpret	Desirable to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 12.46	Integration Of Information (K-1)		Knows How	Describe the physiology of digestion and absorption of nutrients	Discuss the digestion & absorption of carbohydrates	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 12.47			Knows How		Discuss the digestion & absorption of Fats	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 12.48			Knows How		Discuss the digestion & absorption of Proteins	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs SAQs	LAQs, Viva Voce	
Hom UG-PB 12.49			Knows How		Discuss absorption of water, electrolytes	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
Hom UG-PB 12.50			Knows How		Describe the absorption of vitamins & minerals	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
Hom UG-PB 12.51	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Observe the process of conducting liver function test	Observe the liver function test	Psycho Motor	Level 1 (Observe / Imitate)	Nice to know	Demonstration	Observation	Checklist	Medicine
Hom UG-PB 12.52	Information Gathering ,Integration Of		Shows How	Demonstrate the Gastrointestinal system	Perform the inspection of gastrointestinal system in the	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstration	Observation	Checklist	Anatomy Medicine



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	information, Problem Integration (K-2)			examination	clinical examination							
Hom UG-PB 12.53			Knows How		Interpret the findings of inspection of gastrointestinal system in clinical examination	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 12.54			Shows How		Perform the palpation of gastrointestinal system in the clinical examination	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstrati on	Observ ation	Checklist	Anatomy Medicine
Hom UG-PB 12.55			Knows H		Interpret the findings of palpation of gastrointestinal system in clinical examination	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 12.56			Shows How		Perform the percussion of gastrointestinal system in the clinical examination	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstrati on	Observ ation	Checklist	Anatomy Medicine
Hom UG-PB 12.57			Knows H		Interpret the findings of percussion of gastrointestinal system in clinical examination	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 12.58			Shows How		Perform the auscultation of gastrointestinal system in the	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstrati on	Observ ation	Checklist	Anatomy Medicine



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					clinical examination							
Hom UG-PB 12.59			Knows How		Interpret the findings of auscultation of gastrointestinal system in clinical examination	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy Medicine



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Clinical Physiology

Learning Outcomes: -

At the end of the chapter Renal Physiology, the student must be able to –

- Describe structure & functions of the kidneys.
- Explain the role of renin-angiotensin system.
- Describe the mechanism of urine formation.
- Describe the process of filtration, secretion & reabsorption in kidney.
- Describe the concentration and diluting mechanism in the kidney.
- Describe the renal regulation of acid-base balance.
- Describe the physiology of micturition.
- Describe the Renal Function Tests.

S.No	Generic competency	Subject area	Miller's Level	Specific Competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 13.1	Integration Of Information (K-1)	Renal Physiology	Knows	Describe structure & functions of the kidneys.	Recognize the structure of kidney & nephron	Cognitive	Level 1 Recall	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Materia Medica
Hom UG-PB 13.2			Knows How		Discuss the functions of kidney	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 13.3			Knows How		Discuss the organization and function of glomerulus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 13.4			Knows		Classify the type of nephrons	Cognitive	Level 1 Recall	Must Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy



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Hom UG-PB 13.5			Knows How		Describe the structure and functions of	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
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					juxtaglomerular apparatus								
Hom UG-PB 13.6	Integration Of Information (K-1)		Knows How	Explain the role of renin – angiotensin system	Explain the secretions from juxtaglomerular apparatus & their regulation	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine	
Hom UG-PB 13.7	Integration Of Information (K-1)		Knows How	Describe the mechanism of urine formation	Explain the process of glomerular filtration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce		
Hom UG-PB 13.8			Knows How		Describe the regulation of Glomerular Filtration Rate	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce		
Hom UG-PB 13.9			Knows How		Discuss the mechanism of GFR. Explain the factors affecting GFR	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce		
Hom UG-PB 13.10	Integration Of Information (K-1)		Knows How	Describe the process of filtration, secretion & reabsorption in kidney	Discuss the general considerations of reabsorption & secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Medicine Biochemistry	
Hom UG-PB 13.11			Knows How		Describe the renal transport mechanisms throughout the tubular segments	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry	



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Hom UG-PB 13.12			Knows How		Describe the transport of individual substances in different	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	Viva Voce		
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					segments of renal tubule							
Hom UG-PB 13.13	Integration Of Information (K-1)		Knows How	Describe the concentration and diluting mechanism in the kidney	Discuss the general consideration of urine concentration mechanism	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 13.14			Knows How		Describe the counter current multipliers	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 13.15			Knows How		Discuss the counter current exchangers	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
Hom UG-PB 13.16	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe the renal regulation of acid – base balance	Discuss the renal regulation of acid-base balance	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Biochemistry
Hom UG-PB 13.17			Knows How		Describe the buffer system in the kidney	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Biochemistry
Hom UG-PB 13.18	Integration Of Information (K-1)		Knows	Describe the physiology of micturition	Define micturition	Cognitive	Level 1 (Remember / recall)	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 13.19			Knows How		Discuss the nerve supply of urinary bladder	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Anatomy
Hom UG-PB 13.20			Knows How		Describe the micturition reflex	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy



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Hom UG-PB 13.21	Information Gathering ,Integration Of information, Problem		Shows How	Describe the Kidney function teste	Perform the physical, chemical, and microscopical examination of urine	Psycho Motor	Level 2 (Control)	Must know	Demonstrati on	Observ ation	OSCE	Biochemistr y
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Hom UG-PB 13.22	Integration (K-2)		Knows How		Recognize the normal values of physical, chemical, and microscopical examination of urine	Cognitive	Level 2 Understand / interpret)	Must know	Lecture, Small group discussion	SAQs	LAQ, Viva Voce	Biochemistr y
Hom UG-PB 13.23			Shows How		Perform examination for the abnormal constituents of urine	Psycho Motor	Level 2 (Control)	Must know	Demonstrati on	Observ ation	Checklist	Biochemistr y Medicine
Hom UG-PB 13.24			Knows How		Interpret the results of examination for the abnormal constituents of urine	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQ, Viva Voce	Biochemistr y Medicine
Hom UG-PB 13.25			Knows How		Interpret the renal clearance test for glomerular function	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQ, Viva Voce	Biochemistr y Medicine
Hom UG-PB 13.26			Knows How		Interpret the renal clearance test for Tubular function.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQ, Viva Voce	Biochemistr y Medicine



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Topic No	14
Theory	Biochemistry
Practical	Biochemistry Practical of carbohydrate, lipid, protein, Urine normal & abnormal constituents
Clinical Physiology	

Learning Outcomes: -

At the end of the chapter Biochemistry, the student must be able to –

- Describe the lipid, carbohydrate, and protein metabolisms.
- Describe the enzymes and their activities.
- Describe the role of Vitamins.
- Perform the quantitative estimation of Glucose, Total Proteins, Uric Acid in Blood.
- Perform the Lipid Profile.



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S.No	Generic competency	Subject area	Miller's Level	Specific Competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
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Hom UG-PB 14.1	Integration Of Information (K-1)	Biochemistry	Knows How	Describe the lipid Metabolism.	Explain the biosynthetic and catabolic pathways	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	
Hom UG-PB 14.2			Knows How		Explain the importance of lipids in the body.	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 14.3			Knows How		Explain the different properties of lipids.	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 14.4	Integration Of Information (K-1)		Knows How	Describe the Carbohydrate metabolism	Discuss different types of carbohydrates.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 14.5			Knows		List major functions of carbohydrates.	Cognitive	Level 1Recall	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 14.6			Knows How		Discuss the food sources of carbohydrates.	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 14.7			Knows How		Explain the processes of glycolysis	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 14.8			Knows How		Explain the process of gluconeogenesis	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 14.9			Knows How		Describe the process of ATP production through	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	



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					oxidative phosphorylation							
Hom UG-PB 14.10	Integration Of Information (K-1)		Knows How	Describe the Protein Metabolism	Discuss the special features of protein Metabolism	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 14.11			Knows How		Discuss the functions of intact amino acid	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 14.12			Knows How		Discuss the oxidation of amino acid	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 14.13			Knows How		Discuss the synthesis of proteins	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Physiology
Hom UG-PB 14.14			Knows How		Discuss the function of nitrogenous part	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 14.15			Knows How		Discuss the exogenous & endogenous protein metabolism	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 14.16	Integration Of Information (K-1)		Knows How	Describe the enzymes and their activities.	Discuss the concept of enzyme, chemical reactions, catalyst and substrates.	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Physiology



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Hom UG-PB 14.17			Knows		Mention the major functions of enzymes.	Cognitive	Level 1Recall	Must Know	Lecture, Small	SAQs	LAQs, Viva Voce	Physiology
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									group discussion			
Hom UG-PB 14.18			Knows How		Discuss the importance of enzymes in the body.	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Physiology
Hom UG-PB 14.19	Integration Of Information (K-1)		Knows	Describe the role of Vitamins	Define vitamin	Cognitive	Level 1 (Remember / recall)	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Physiology Community Medicine
Hom UG-PB 14.20			Knows		Classify vitamins	Cognitive	Level 1 Recall	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 14.21			Knows		Mention common vitamin deficiencies		Level 1 Recall	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Physiology Medicine Community Medicine
Hom UG-PB 14.22	Information Gathering , Integration Of information , Problem Integration (K-2)		Knows	Demonstration of Uses Of Instruments Or Equipment	List the use of different instruments in biochemistry experiments	Cognitive	Level 1 Recall	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 14.23			Shows How	Demonstrate the Qualitative Analysis of Carbohydrates , Proteins And Lipids	Perform the qualitative analysis of carbohydrate	Psycho Motor	Level 2 (Control)	Must Know	Demonstration	Observation	Checklist	Pathology
Hom UG-PB 14.24			Knows How		Interpret the results of Qualitative analysis of carbohydrate	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	Viva Voce	Pathology
Hom UG-PB 14.25			Shows How		Observe the qualitative analysis of Protein	Psycho Motor	Level 1 (Observe / Imitate)	Desirable to Know	Demonstration	Observation	Checklist	Pathology



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Hom UG-PB 14.26	Information Gathering ,Integration Of information , Problem Integration (K-2)		Knows How		Interpret the results of Qualitative analysis of Protein	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	Viva Voce	Pathology
Hom UG-PB 14.27			Shows How		Perform the qualitative analysis of Lipid	Psycho Motor	Level 2 (Control)	Nice to Know	Demonstration	Observation	Checklist	Pathology
Hom UG- PB 14.28			Knows How		Interpret the results of Qualitative analysis of Lipid	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	Viva Voce	Pathology
Hom UG-PB 14.29			Shows How	Perform the quantitative estimation of Glucose, Total Proteins, Uric Acid in Blood	Perform the Quantitative estimation of glucose	Psycho Motor	Level 3 (Automatism)	Must Know	Demonstration	Observation	Checklist	Pathology
Hom UG-PB 14.30			Knows How		Interpret the results of Qualitative analysis of glucose	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	Viva Voce	Pathology
Hom UG-PB 14.31			Shows How		Perform the Quantitative estimation of Total proteins	Psycho Motor	Level 3 (Automatism)	Must Know	Demonstration	Observation	Checklist	Pathology
Hom UG-PB 14.32			Knows How		Interpret the results of Qualitative analysis of total protein	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	Viva Voce	Pathology
Hom UG-PB 14.33			Shows How		Observe the Quantitative estimation of Uric Acid	Psycho Motor	Level 1 (Observe / Imitate)	Nice to Know	Demonstration	Observation	Checklist	Pathology



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Hom UG-PB 14.34			Knows How		Interpret the results of Quantitative	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small	SAQs	SAQs, Viva Voce	Pathology
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					estimation of Uric acid				group discussion				
Hom UG-PB 14.35			Shows How	Perform the Lipid Profile	Observe the laboratory testing for Lipid profile	Psycho Motor	Level 1 (Observe / Imitate)	Must Know	Demonstration	Observation	OSCE	Pathology	
Hom UG-PB 14.36			Knows How		Interpret the results of Lipid profile testing done in a laboratory	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	Viva Voce	Pathology	



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8. PRACTICAL TOPICS

PRACTICAL & CLINICAL PHYSIOLOGY:-

No	Practical	Demonstration / Performance
HAEMATOLOGY		
1	Study of the Compound Microscope	Performance
2	Collection of Blood Samples	Performance
3	Estimation of Haemoglobin Concentration	Performance
4	Determination of Haematocrit	Demonstration
5	Hemocytometry	Performance
6	Total RBC Count	Performance
7	Determination of RBC Indices	Demonstration
8	Total Leucocytes Count (TLC)	Performance
9	Preparation And Examination Of Blood Smear	Performance
10	Differential Leucocyte Count (DLC)	Performance
11	Absolute Eosinophil Count	Demonstration
12	Determination of Erythrocyte Sedimentation Rate	Demonstration
13	Determination of Blood Groups	Performance
14	Determination of Bleeding Time and Coagulation Time	Performance
BIOCHEMISTRY		
1	Demonstration of Uses Of Instruments Or Equipment	Demonstration
2	Qualitative Analysis of Carbohydrates, Proteins And Lipids	Performance
3	Normal Characteristics of Urine	Performance
4	Abnormal Constituents of Urine	Performance
5	Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood	Performance
6	Liver Function Tests	Demonstration



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7	Kidney Function Tests	Demonstration
8	Lipid Profile	Demonstration
9	Interpretation and Discussion of Results of Biochemical Tests	Demonstration
CLINICAL PHYSIOLOGY & OPD		
1	Case Taking & Approach to pt	Performance
2	General Concept Of Examination	Performance
3	Examination of muscles, joints,	Performance
4	Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination	Performance
5	Respiratory System- Clinical Examination, Spirometry, Stethography	Performance
6	Nervous System- Clinical Examination	Performance
7	Special Senses- Clinical Examination	Performance
8	Reproductive System- Diagnosis of Pregnancy	Performance
9	Gastrointestinal System- Clinical Examination	Performance
10	OPD (Applied Physiology)	Demonstration & Performance



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9. ASSESSMENT

PHYSIOLOGY THEME TABLE

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PAPER – 1

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	General Physiology	I	07	Yes	Yes	No
B	Biophysics Science	I	07	Yes	Yes	No
C	Body fluids& Immune Mechanism	I	16	Yes	Yes	Yes
D	Cardiovascular system	II	16	Yes	Yes	Yes
E	Respiratory system	II	16	Yes	Yes	Yes
F	Excretory system	III	16	Yes	Yes	Yes
G	Skin & The Integumentary System	I	11	Yes	Yes	No
H	Nerve Muscle physiology system	I	11	Yes	Yes	No

QUESTION PAPER BLUE PRINT

UNIVERSITY EXAM PAPER-I – 100 MARKS

MCQs – 10 Marks.

SAQs – 50 Marks.

FAQs – 40 Marks

Question Serial Number	Type of Question	Question Paper Format (Refer Theme table for themes)
Q1	Multiple choice Questions (MCQ) All questions compulsory 1 mark each	1. Theme A 2. Theme A 3. Theme B 4. Theme B 5. Theme C 6. Theme D 7. Theme E 8. Theme F 9. Theme G 10. Theme H
Q2	Short answer Questions(SAQ)	1. Theme A



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	All questions compulsory 5 Marks Each	2. Theme B 3. Theme C 4. Theme D 5. Theme E 6. Theme F 7. Theme G 8. Theme G 9. Theme H 10. Theme H
Q3	Long answer Questions (LAQ) All questions compulsory 10 marks each	1. Theme C 2. Theme D 3. Theme E 4. Theme F

PAPER – 2

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	Endocrine system	II	21	Yes	Yes	Yes
B	Central Nervous System	II	21	Yes	Yes	Yes
C	Digestive system and Nutrition	III	21	Yes	Yes	Yes
D	Reproductive system	III	17	Yes	Yes	Yes
E	Sense organs	III	12	Yes	Yes	No
F	Biochemistry	III	08	Yes	Yes	No

UNIVERSITY EXAM PAPER-II – 100 MARKS

MCQs – 10 Marks.

SAQs – 50 Marks.

FAQs – 40 Marks

Question Serial Number	Type of Question	Question Paper Format (Refer Theme table for themes)
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Q1	Multiple choice Questions (MCQ) All questions compulsory 1 mark each	1) Theme A 2) Theme B 3) Theme C 4) Theme D 5) Theme D 6) Theme E 7) Theme E 8) Theme F 9) Theme F 10) Theme F
Q2	Short answer Questions (SAQ) All questions compulsory 5 Marks Each	1) Theme A 2) Theme A 3) Theme B 4) Theme B 5) Theme C 6) Theme C 7) Theme D 8) Theme E 9) Theme E 10) Theme F
Q3	Long answer Questions (LAQ) All questions compulsory 10 marks each	1) Theme A 2) Theme B 3) Theme C 4) Theme D

Distribution of Marks for Practical Exam:



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Practical Exam: 100 Marks	
Haematology	20 marks
Bio-chemistry	20 marks
Clinical Physiology	20 marks
Spotting	30 marks
Journal	10 marks
Viva: 80 Marks	
Viva Voce	80 marks
Internal Assessment: 20	
IA	20

The Pass Marks in Each Component of the Examination shall be 50%.

9B - Scheme of Assessment (formative and Summative)

Sr. No	Professional Course	1 st term (1-6 Months)			2 nd Term (7-12 Months)			3 rd Term (13-18 Months)	
		1 st PA	1 ST TT		2 nd PA	2 ND TT		3 rd PA	UE
1	First Professional BHMS	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)



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M
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thod of Calculation of Internal Assessment Marks for Final University Examination:



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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



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10.

L

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ST OF RECOMMENDED BOOKS

THEORY

TEXT BOOKS

1. John N A (2023) Chatterjee C C. Text Book of Physiology 14th Edition. CBS Publication. (CBDC based)
2. Tortora G (2020). Principles of Anatomy & Physiology. Wiley Publication.
3. Jain A (2021). Text Book of Physiology Vol – 1 & 2. Avichal Publishing Company.
4. Reddy L P (2023) Fundamentals of Medical Physiology. CBS Publishers and Distributors (CBDC based)

REFERENCE BOOKS

1. Hall J. (2020). Guyton & Hall Text book of Medical Physiology. Elsevier Publication.
2. Khurana I (2021). Essential Medical Physiology. Elsevier Publication.

PRACTICAL & CLINICAL PHYSIOLOGY:-

1. Varshney VP, Bedi M, (2023) Ghai's Textbook of Practical Physiology: 10th Edition. Jaypee Brothers Medical Publisher (CBDC based)
2. John N A et al (2021) C C Chatterjee's Manual of Practical Physiology: CBS Publishers and Distributors (CBDC based)
3. Jain A. (2019) Manual of Practical Physiology. 6th ed. Arya Publications.
4. Glynn M., William D. (2017). Hutchison's Clinical methods. 24th edition Elsevier Publication



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Dr Ajay Chaudhary,



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COMPETENCY BASED DYNAMIC CURRICULUM FOR FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by
National Commission for Homoeopathy whichever is earlier)

(Organon of Medicine and Homoeopathic
philosophy and Fundamentals of Psychology)



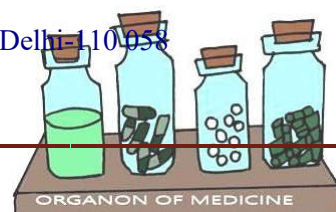
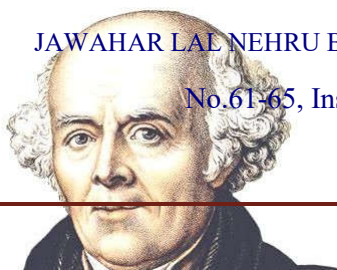
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No.61-65, Institutional Area, opp. 'D' block, Janak Puri, New Delhi-110058



**INDEX**

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I PROFESSIONAL BHMS

Subject NAME: Organon of Medicine and Homoeopathic philosophy and Fundamentals of Psychology

Subject CODE: HomUG-OM-I

TEACHING HOURS:

1 st BHMS Organon of Medicine and Homoeopathic Philosophy, and Fundamentals of Psychology		
YEAR	TEACHING HOURS-	
	LECTURES	NON-LECTURE
1 ST BHMS	180	100

Preamble-

Organon of Medicine with Homoeopathic Philosophy is a central fulcrum around which education and training of a homoeopathic physician revolves. It lays down the foundations of homoeopathic practice, education, training and research. It not only elaborates on the fundamental laws but also how to apply them in practice. It defines the qualities of a healer, guides the homoeopathic physician in inculcating values and attitude and develop skills.

Nature nurtures us. It is well depicted in our science. Therefore, Homoeopathy is in sync with Nature. The need to keep life force within us well balanced with nature is well established in Organon. Hahnemann as an ecologist was well ahead of his time. Philosophically, it connects man and his actions to the dynamic forces available in nature, thus bringing to fore the holistic approach. Lateralization of these concepts helps the student to develop insight into various facets of Life & Living. Organon orients the students to homoeopathy as an Art & Science. Its comprehensive understanding needs a core competency in logic and the concepts of generalization and individualization. Its treatment of disease process and relating to the concept of Miasm makes it a study of the process of scientific investigation.

The biggest challenge in teaching-learning of Organon is to first understand the fundamentals according to the Master's writing and then demonstrate them in practice. Quality and real time integration with other subjects helps a student to conceive the holistic perceiving of Man and Materia Medica. The concepts and knowledge required by the Physician with operational knowledge of management of patients and their diseases will



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need horizontal and vertical integration with Homoeopathic subjects and clinical subjects.



First BHMS will need horizontal integration with Anatomy, Physiology, Homoeopathic Pharmacy and Homoeopathic Materia Medica. Organon will have spiral integration with itself and vertical integration with clinical subjects. Second year will need integration with pathology, community medicine, forensic medicine, along with other homoeopathic subjects. Third and fourth year establishes links with clinical subjects, research methodology and pharmacology.

Science is never static. Since the time of Hahnemann, medical science has advanced by leaps and bounds. Since Homoeopathy is based on principles rooted in nature, they would stand the test of time. However, their application in the changing times and circumstances would find newer avenues to heal. This is an opportunity for a homoeopath to connect the current advances while relating with the fundamental laws. Mastering all this will make him a master healer and will move him towards higher purpose of existence.

1. Course Code and Name of Course

Course Code	Name of Course
HomUG-OM-I	Organon of Medicine and Homoeopathic philosophy and Fundamentals of Psychology.

2. COURSE OUTCOMES (CO):

At the end of course in Organon of Medicine and Homoeopathic philosophy and Fundamentals of Psychology, the BHMS student shall be able to:

1. Explain the Cardinal Principles and Fundamental laws of Homoeopathy.
2. Describe the concept of Health, Disease and Cure in Homeopathy
3. Interpret a case according to the Hahnemannian Classification of Disease
4. Apply the Theory of Chronic Disease to determine the miasmatical background in a case.
5. Demonstrate case taking and show empathy with the patient and family during case taking
6. Demonstrate Analysis, evaluation of the case to form the Portrait of disease
7. Apply the concept of Susceptibility to determine posology in a given case
8. Interpret the action of the medicine in a case on the basis of Remedy reactions.
9. Apply knowledge of various therapeutic modalities, auxiliary measures & its integration with prevalent & other concepts in the management of patients.
10. Identify the various obstacles to cure and plan treatment accordingly.
11. Display qualities, duties & roles of a Physician as true practitioner of healing art
12. Develop the competencies essential for primary health care in clinical diagnosis and treatment of diseases through the judicious application of homoeopathic principles



13. 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.
14. Discern the relevance of other systems of medical practice for rational use of cross referral and life saving measures, so as to address clinical emergencies
15. Develop capacity for critical thinking and research aptitude as required for evidence based homoeopathic practice.
16. Demonstrate aptitude for lifelong learning and develop competencies as and when conditions of practice demand.
17. Be competent enough to practice homoeopathy as per the medical ethics and professionalism.
18. 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.
19. Identify socio-demographic, psychological, cultural, environmental & economic factors that affect health and disease and plan homoeopathic intervention to achieve the sustainable development Goal.

Specific Objectives of Organon of Medicine and Homoeopathic philosophy in 1st BHMS

1. Recall the history of medicine and history of homoeopathy to relate its evolution
2. Correlate the first six aphorisms of Organon of Medicine for the study of anatomy, physiology, pharmacy.
3. Discuss the concept of health, indisposition and disease and its importance to the learning of anatomy, physiology, pharmacy and psychology
4. Discuss concept of Dynamization with health, disease and drug
5. Develop portrait of drug in the context of knowledge of anatomy, physiology, psychology and pharmacy
6. Explain the procedure and ethics of Drug proving

COURSE OUTCOMES (CO) of Organon of Medicine and Homoeopathic Philosophy for I BHMS

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

1. Summarize the important milestones in the History of Medicine and development of Homoeopathy.
2. Value the contributions and qualities of Dr. Hahnemann as a physician and person
3. Recall the contributions of stalwarts in development of Homoeopathy
4. Explain the Cardinal Principles and Fundamental laws of Homoeopathy
5. Explain the Homoeopathic concept of Health, Disease and Cure in light of modern concepts



6. Apply Inductive and Deductive Logic in the study of the Basic principles of Homoeopathy
7. Describe the important features of the various editions and Ground plan of Organon of Medicine
8. Explain the meaning and significance of aphorisms§1-27
9. Relate the concepts of homoeopathic philosophy with other pre-, para-, and clinical skills by way of horizontal, vertical and spiral integration.



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3. Contents of Course HomUG-OM-I

Course Contents-

1. Introduction:

History of medicine

History of Homoeopathy

Short history of Hahnemann's life, his contributions, and situation leading to discovery of Homoeopathy

Brief history and contributions of Boenninghausen, Hering, Kent, R L Dutt, ML Sircar & B K Sarkar.

1.4 History and Development of Homoeopathy in brief in India, U.S.A. and European countries

Fundamental Principles of Homoeopathy.

Basic concept: Individualistic, Holistic & Dynamic

Life; Hahnemann's concept and modern concept.

Health: Hahnemann's concept and modern concept.

Disease: Hahnemann's concept and modern concept.

Cure.

Understanding Homoeopathy in vertical, horizontal & spiral integration with pre, para & clinical subject.

2. Logic: To understand Organon of medicine and homoeopathic philosophy, it is essential to be acquainted with the basics of LOGIC to grasp inductive and deductive reasoning. Preliminary lectures on inductive and deductive logic (with reference to philosophy book of Stuart Close Chapter 3 and 16).
3. § 1 to 27 of Organon of medicine, § 105 to 145
4. The physician – purpose of existence, qualities, duties and knowledge
5. Vital force- dynamization- homoeopathic cure- nature's law of cure & its Implications- drug proving



1: Topics with reference list referring to Chapters from the text books

Topic	Kent	Roberts	Close	Dhawale
Understanding the first six aphorisms and its application in the study of anatomy, physiology, pharmacy.	1-6	1	6	4
Concept of health, indisposition and disease and its importance in learning anatomy, physiology, pharmacy and psychology	1 to 9	2, 3, 4	6	2
Dynamization and relating with health, disease and drug	10, 11	2-6	14, 15	2, 16
Developing portrait of drug with help of knowledge of anatomy, physiology, psychology and pharmacy	13, 21-25, 26	15	15	16

Non lectures– community – OPD/IPD -

Students will be exposed to OPD/PD-community from first BHMS:

Students will understand the first six aphorisms in action and will get sensitized to socio-cultural-political-economical perspective of the community. They should develop insight into what constitutes health and how disease develops.

Introduce Journals from 1st year–

Habit of collecting evidence and noting them down vis-a-vis the expected objective will train them for evidence-based learning and inculcating the habit of using logic so inherent in Homoeopathic practice.

They also will realize the importance of skill and attitude and relevance of each subject in relation to Organon and Homoeopathic philosophy

They will write their experience of the clinic/OPD in relation to Observation/Cure/relief/Mission/Prevention/acute/chronic/indisposition etc.

(i) 5 medicines from HMM to correlate with Physiology-Anatomy-Pharmacy.

(ii) 5 cases observed in OPD



Teaching Learning Method

Assignments- Group work

Problem Based Learning through Cases- Literature

Group Discussion – Problem based learning

Project work with its presentations in class

Practicing Evaluation & Feedback system- after Project work, assignments & Group Discussions.

Teaching Hours-

1 st BHMS Organon Classroom teaching and non-lecture hours		
YEAR	TEACHING HOURS- LECTURES	Non-lecture
1 ST BHMS	130	78



Teaching Hours Theory

Sr. No.	List of Topics	Term	Lectures	Non-Lectures
1	History of medicine in brief History and Development of Homoeopathy In brief in India, U.S.A. & European Countries	I	5	5
2	Short history of Hahnemann's life, his contributions & situation leading to discovery of Homoeopathy	I	5	5
3	Brief History & Contributions of Boenninghausen, Hering, Kent, RL Dutt, ML Sircar & BK Sirkar	I	15	
4	Logic: To understand organon of medicine & homoeopathic philosophy, it is essential to be acquainted with the basics of LOGIC to grasp inductive & deductive reasoning. Preliminary lectures on inductive & deductive logic with reference to philosophy of Stuart Close.	I	5	5
5	Science & Art in Homoeopathy	I	5	
6	Different Editions & Constructions of Hahnemann's Organon of Medicine	I	10	5
7	Fundamental Principles of Homoeopathy	II	20	5
8	Basic concept of: Individualistic & Holistic Life: Hahnemann's concept & Modern Concept Health: Hahnemann's Concept & Modern Concept Disease: Hahnemann's Concept & Modern Concept Cure: Hahnemann's Concept & Modern Concept	II	5	5
9	§1-27&105-145 of Organon of medicine	II/III	60(20+40)	48
			130	78



4. Table 2-Learning Objectives (Theory) of Course HomUG-OM-I

Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
TOPIC 1(1.1) – HISTORY OF MEDICINE											
Acquiring and Integration of Information	History of Medicine as it is evolved with important milestones	Knows	Explain History of Medicine with important milestones	Describe the evolution of Medicine	Cognitive	Level II Understand and interpret	Must Know	Lecture, small group discussion, Seminars	MCO, SAQ, LAQ, Quiz	MCO, SAQ, LAQ, Viva	Practise of medicine



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		Knows		Summarize important Milestones in Development and Evolution of Medicine	Cognitive	Level II Understand and interpret	Nice to Know	Lecture, small group discussion, Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Practise of medicine
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Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
		Knows		Describe the contribution of various Stalwarts in development of medicine	Cognitive	Level II Understand and interpret	Nice to Know	Lecture, small group discussion, Seminars	MCO, SAQ, LAQ, Quiz	MCO, SAQ, LAQ, Viva	Practice of medicine



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Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
TOPIC 1(1.2) – HISTORY OF HOMOEOPATHY											
Acquiring and Integration of Information	History of Homoeopathy as it is evolved with important milestones	Knows	Describe History of Homoeopathy	Describe History of Homoeopathy	Cognitive	Level II Understand and interpret	Must Know	Lecture small group discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica repertory



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				Describe the important milestones in the evolution of Homoeopathy	Cognitive	Level II Understand and interpret	Must Know	Lecture small group discussion Seminars Quiz	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica repertory
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Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
				Discuss the significance of important milestones in the evolution of Homoeopathy	Cognitive	Level II Understand and interpret	Must Know	Lecture small group discussion Seminar Quiz	MCO, SAQ, LAQ, Quiz	MCO, SAQ, LAQ, Viva	Materia Medica repertory



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Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
TOPIC 1(1.2) – LIFE HISTORY OF DR. HAHNEMANN											
Acquiring and Integration of Information	Hahnemann's Life History	Knows	Describe Hahnemann's Life History	Explain in detail the Life history of Dr. Hahnemann with his contribution towards Homoeopathy	Cognitive	Level II Understand and interpret	Must Know	Lecture Small Group Discussions Presentation	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica
				Discuss the contribution and qualities of Dr. Hahnemann as a physician and person	Affective	Level II Understand and interpret	Must Know	Lecture Small Group Discussions Presentation	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	



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TOPIC 1(1.3) – LIFE HISTORY OF STALWARTS OF HOMOEOPATHY											
Acquiring and Integration of Information	Stalwarts of Homoeopathy	Knows	Life History of Different Stalwarts In Homoeopathy	Describe Life History of Following stalwarts Dr. Kent, Dr. Boger, Dr. Boenninghausen. Dr. Hering, Dr. T.F. Allen, Dr. M.L. Sircar	Cognitive	Level II Understand and interpret	Desirable to know	Lecture Small Group Discussions Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Repertory
				Discuss the Contributions of stalwarts in development of Homoeopathy	Cognitive	Level II Understand and interpret	Desirable to know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Repertory



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Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
TOPIC 1(1.4) – HISTORY & DEVELOPMENT OF HOMOEOPATHY IN INDIA. USA & EUROPEAN COUNTRIES											
Acquiring and Integration of Information	History & Development of Homoeopathy in India, USA & European Countries	Knows	History & Development of Homoeopathy in India, USA & European Countries	Explain the History & development of Homoeopathy in India, USA and European countries	Cognitive	Level II Understand and interpret	Desirable to know	Lecture Small Group Discussions	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica
		Knows		Discuss the Contributions of stalwarts in development of Homoeopathy in India, USA and European countries	Cognitive	Level II Understand and interpret	Desirable to know	Lecture Small Group Discussions	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Repertory



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TOPIC 1(1.5): Fundamental Principles of Homoeopathy



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Acquiring and Integration of Information	Fundamental Principles of Homoeopathy	Knows	Understanding the Fundamental Principles that govern Homoeopathy	Enumerate the cardinal principles of Homoeopathy	Cognitive	Level II Understand and interpret	Must know	Lecture Small Group Discussions Seminar	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Pharmacology
		Knows		Explain the Cardinal Principles and Fundamental laws of Homoeopathy	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussions Seminar	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Pharmacology



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		Knows		Describe the significance and	Cognit ive	Understand (Level II)	Must know	Lecture	MCQ, SAQ,	MCQ, SAQ,	Materia Medica
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Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
				importance of Cardinal Principles and Fundamental laws				Small Group Discussions	LAQ, Quiz	LAQ, Viva	Pharmacy
TOPIC 1(1.6): Concept of Health Disease and Cure as per Hahnemann's concept and correlation with modern concept.											
Acquiring and Integration of Information	Concept of Health Disease and Cure	Knows	Knowledge and application of concept of Health, Disease and Cure	Define the terms Health, disease and cure according to Dr. Hahnemann	Cognitive	Remember (Level I)	Must know	Lecture Small Group Discussions	MCO, SAQ, LAQ, Quiz	MCO, SAQ, LAQ, Viva	Anatomy physiology pharmacy Materia Medica



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		Knows		Define the terms Health, disease and cure	Cognitive	Remember (Level I)	Must know	Lecture Small Group Discussion	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Anatomy physiology pharmacy
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Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
				according to modern concept.				n Seminars			
		Knows		Explain Health, disease and cure according to Dr Hahnemann	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Anatomy, physiology, pharmacy
		Knows		Differentiate the Hahnemannian concept of health, disease and cure from the modern concept	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Material Medica Anatomy Physiology Pharmacy



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TOPIC 1(1.7): Different editions and Constructions of Organon of Medicine											
Acquiring and Integration of Information	Different editions and Constructions of Organon of Medicine	Knows	Significance of Different editions and Constructions of Organon of Medicine	Explain the history & development different editions and Constructions of Organon of Medicine	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica physiology and pharmacy
		Knows		Differentiate between Different editions and Constructions of Organon of Medicine	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Pharmacology



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Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Topic 2: Logic											
Acquiring and Integration of Information	Logic in Homoeopathy	Knows	Utility and Correlating Logic to Homoeopathy	Explain Inductive Logic 2. Deductive Logic	Cognitive	Level 2 Understand and interpret	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Material Medicum Repertory
		Knows		Differentiate between inductive and deductive logic using examples	Cognitive	Level 2 Understand and interpret	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	



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		Knows		Apply the concept of Inductive and Deductive Logic to the	Cognitive	Level III Decision/problem solving	Must know	Lecture Small Group Discussio	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Repertory
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Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
				Fundamental Principles of Homoeopathy				in Seminars			
Topic3: Aphorisms 1-27 and 105-145											
Acquiring and Integration of Information	Aphorism	Knows	Understanding the meaning of Aphorisms	Explain the meaning and significance of Aph. 1-27	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Anatomy, Physiology Pharmacology Materia Medica
				Explain Drug proving as per Aph 105-145	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion,	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Integrated teaching with Homoeopathic



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seminar

Pharmacy



Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Topic 4 : Physician- Purpose of existence, qualities, duties and knowledge											
Acquiring and Integration of Information	Homoeopathic Physician	Knows	Qualities and Attributes of a Physician	Recognize the qualities, duties and knowledge expected from a physician	Affective	Receiving	Desirable to know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
				Explain the Mission, qualities, duties & role of a Physician as true practitioner of healing art	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	



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Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Topic 5: Vital force- dynamisation- homoeopathic cure- natures law of cure & its Implications- drug proving											
Acquiring and Integration of Information	Concept of Vital Force and Drug Dynamization	Knows	Importance of Vital Force in health, disease and Cure and Drug Dynamization	Explain the role of vital force in health, disease and cure	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Pharmacy
		Knows		Explain the concept of Homoeopathic Dynamization	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Pharmacy
		Knows		Enumerate the methods of	Cognitive	Remember (Level I)	Must know	Lecture Small Group	MCQ, SAQ, LAQ,	MCQ, SAQ, LAQ,	Pharmacy



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				Homoeopat hic					Discussio	Quiz	Viva	
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Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
				Dynamization				n Seminars			
		Knows		Explain the Nature's therapeutic law of cure	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussions Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
		Knows		Apply Nature therapeutic law of cure to Homoeopathy	Cognitive	Understand (Level III)	Must know	Lecture Small Group Discussions Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	



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Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
		Knows		Explain Drug Proving					MCO, SAQ, LAQ, Quiz	MCO, SAQ, LAQ, Viva	Pharmacy

**Table 3. Non-Lecture Activities**

Sr. No	Non-Lecture Teaching Learning methods	Total Time Allotted per Activity (Hours)
1	Seminars/ Workshops	78 hours
2	Group Discussions	
3	Problem based learning	
4	Integrated Teaching	
5	Case Based Learning	
6	Self-Directed Learning	
7	Tutorials, Assignments, Projects	
	Total	78 hours



Psychology

Preamble

Mind is an invisible dynamic force operating on the body which can be seen and felt with its expressions at multiple levels. While understanding Man it is important to know how he behaves, feels and thinks in general of his life and in different situations.

Health is that balanced condition of the living organism in which the integral, harmonious performance of the vital functions tends to the preservation of the organism ensuring the normal development of the individual. In a similar way, study of mind is an inseparable component of the study of man and is essential for prescribing. Thus mind remains an integral component of Homoeopathic prescribing.

In § 5 of Organon of Medicine, Dr Hahnemann talked of basic knowledges required for Homoeopathic practice of Holistic cure. According to him homoeopathic physician has to have knowledge of :

- a. Constitution of Man
- b. His moral & intellectual character
- c. Mode of living habits
- d. His social & domestic relations
- e. His adaptations with the environment

Above knowledge will help the Homoeopathic physician not only to understand the person in the patient but also to identify the cause of suffering by delving in to detailed enquiry. This may take the form of exploring evolutionary aspects from childhood to present, from family history – past history to present illness - all of which will indicate the qualities of the human in health as well as in disease.

Psychology is a science of mind and behaviour which is important and necessary in all areas of life including the growth and development of human being. Theoretically, psychology examines psychological phenomena and behavioural patterns that appear as individual's external behavioural reactions against any stimulus - be it Biological–Psychological– Emotional –Social-Spiritual.

Modern concept of psychology has talked of Mental Health and Hygiene which indicates the importance and great need for ensuring psychological wellbeing in us. This state is under constant stress due to the rapid changes taking place in the life situation due to internal pressures and external environment.



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Course outcomes:

1. Explain the concept of Mind as perceived by Hahnemann and other stalwarts
2. Define the structure of the mind as conscious and unconscious and its various constituents / components in terms of Emotion, Thinking, Behaviour, Sleep and Dreams
3. Identify the conscious expressions of Mind as Emotion, Thought and Behaviour
4. Explain the neurophysiological basis of mental functioning
5. Discuss the relationship between the growth of the brain and the mind and its correlation with physical growth of the from infancy to old age and psychosocial development.
6. Evaluate the role that emotions and intellectual functions play in our daily lives
7. Derive the importance of the role of 'Learning' in human adaptation and change
8. Discuss 'Personality' as a synthesis of inborn traits and learnt responses occurring over the growing years
9. Realize the various forms of 'conflict', their origins and their role in determining the quality of our personal and social lives
10. Integrate the concept of mind as conceived in homoeopathic philosophy with that in modern psychology
11. Demonstrate the importance of the study of the Mind in approaching the study of Repertory and Materia Medica
12. Realize how a healthy individual experiences the harmonious functioning of the different constituents of the mind
13. Summarise the importance of knowledge of Psychology in Modern life and in Homoeopathic practice

General Instructions

1. Instructions in psychology should be planned in such a way that students should be able to present a basic understanding of the structure of mind, brain and its functioning with the kind of interrelationship they are sharing with each other.
2. Each topic should be planned in parallel with others subjects of Homeopathy where ever relevant to achieve integration with other subjects.
3. Since this subject is dealing with the human mind and its functions, topic should be dealt in more interactive ways where maximum learning will be achieved by doing rather than memorizing the things.
4. Emphasis would be more on the organization of the brain areas, their functions and correlated with the medical concept and



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philosophical concept of Mind.



5. Student should learn the psychological organization with learning the importance of special senses and their functions in great details that forms the foundation of the subject.
6. Most of the basic topics can be studied in interactive ways, discussion based on clinical case or any relevant event/ incidence of daily life.
7. Topics having philosophical connection should be taught with the help of discussion or in the form of story -telling with connections to the principles of philosophy.
8. Topics requiring a lot of analysis of information can be taught with role-play with directed observation method followed by discussion on the same pointing out its relevance and importance.
9. Nice to know topics along with a lot of community related information should be dealt with survey methods
10. Topics which are interrelated with other subjects of Homoeopathy should be presented and discussed.
11. Lectures or demonstration on the clinical and applied part of psychology should be arranged in the 3rd semester of the course and it should aim at demonstrating the structural-physiological –psychological basis of mental expressions of the symptoms and its value in Homeopathy.
12. Learning of applied psychology would be more qualitative in the various OPDs/Peripheral OPDs where contact with community will improve their knowledge, observation skills, attitude of communication with the community.
13. Some of the theoretical lectures should conclude with discussion on the learning achieved with its importance.
14. Periodical seminars on general topics related to philosophical aspect and its connection with psychology should be arranged for vertical, horizontal and spiral integration.
15. Role of observation and correlation should be demonstrated while discussing the intricacies of the subject of psychology.
16. Inter-departmental or joint seminars should be planned
17. While working on community survey- purpose should be kept very broad with the following objectives.
 - (i) Experiencing the community in actuality for the demographic configuration, different cultural traditions, different practices and inter-relationship and its effect on Mind and Body as a joint system.
 - (ii) Learning the functioning of human being in multiple situations of stress and process of getting adapted with those.
 - (iii) Quality of Mental Health of the community and its varied expressions
 - (iv) Quality of Inter-relationship within different castes, communities, religions and its impact on Individuals



Course contents:

Note: Each topic should be related with relevant clinical examples and the relationship with the subjects of Homoeopathic Philosophy, Materia Medica and Repertory must be made.

1. Introduction to the study of Mind in Homoeopathy
 - A. Concept of Mind-
 - i. Contemporary schools of psychology
 - ii. Concept of Mind by Hahnemann
2. Psychological organization and the interrelationship of Thought (Cognition), Feelings (Affect) and Behaviour (Conation); Conscious and Unconscious elements
 - A. Psychological Organisation
 - i. Definition of Emotions and its types
 - ii. Definition of Thinking and its types
 - iii. Definition of Behaviour and its types
 - B. Effects on Thought (Cognition), Feelings (Affect) and Behaviour (Conation) on Mind and Body
 - C. Interrelationship of Thought (Cognition), Feelings (Affect) and Behaviour (Conation) on Mind and Body
 - D. Representation of Thought (Cognition), Feelings (Affect) and Behaviour (Conation) in Materia Medica
 - E. Representation of Thought (Cognition), Feelings (Affect) and Behaviour (Conation) in Repertory
3. Physiological and Evolutionary basis of behaviour -
 - A. Instincts, Conditioned and unconditioned reflexes
 - B. Conscious and unconscious behaviour
 - C. Scientific study of Behaviour and its expressions
 - D. Evolutionary study of behaviour
 - E. Understanding Relationship of Behaviour to Emotions and Thought



F. Expressions of Behaviour in Repertory and Materia Medica



4. Understanding Emotion, its different definitions and expressions in Repertory and Materia Medica
 - A. Scientific study of Emotions i. Definition of Emotions and its types
 - ii. Effects Emotions on Mind and Body
 - iii. Effect of emotions on sexual behaviour
 - iv. Interrelationship of Emotions on Mind and Body
 - B. Representation of Emotions in Materia Medica-
 - C. Representation of Emotions in Repertory
5. Understanding Intellect: Attention, memory and its function and expression in Repertory and Materia Medica
Basic concepts of Thinking
 - A. Definition of Thinking and its types
 - B. Intelligence and its measurement
 - C. Effects of Thinking /Thought (Cognition) on Mind and Body
 - D. Representation of Thinking /Thought (Cognition) in Materia Medica
 - E. Representation of Thinking /Thought in Repertory
6. Motivation and their types with role in our lives
Study of Motivation and its types
Importance of study of Motivation for Homoeopathic Physicians
7. Learning and its place in adaptation
 - A. Study Learning:
Definition of Learning and its types
Study of relevance of Learning for Homoeopathic Physician
Study of disturbances/ malfunctioning of Learning
 - B. Adaption



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Definition and its dynamic nature

Successful and unsuccessful adaptation



8. Growth and development of Mind and its expressions from Infancy to old age

Study of Developmental Psychology

- i. Normal developments since birth to maturity (both physical and psychological)
- ii. Deviations- in Growth and Development and its effects on later behaviour
- iii. Understanding the bio-psycho-socio-cultural-economical-political-spiritual concept of evolution
- iv. Importance of above study to understand Materia Medica drug proving

9. Structure of Personality, the types, their assessment, relationship to Temperament and representation in Materia Medica

- i. Definition of Personality and its types
- ii. Various constituents of Personality like Traits and Temperament
- iii. Theories of Personality by psychologists
- iv. Measures for the assessment of Personality, relationship to Temperament and representation in Materia Medica

10. Conflicts: their genesis and effects on the mind and body

- i. Conflicts and their types
- ii. Genesis of Conflicts and effects on the mind and body
- iii. Genesis of Conflicts and related Materia Medica images

11. Applied Psychology: Clinical, Education, Sports, Business, Industrial

Application of knowledge of Psychological Components and its Integration in understanding

- i. Psychological basis of Clinical Conditions
- ii. Education
- iii. Sports
- iv. Business

12. Psychology and Its importance in Homoeopathic Practice for Holistic management of the Patient.



Semester 1 Topic 1: 1. Introduction to Psychology with overview of different schools



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Sr.No 1	Generic competency	Subject area	Millers Know/ Know how/ Show how/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration Horizontal Vertical / Spiral	- / I
HomUG-OM-I.1.1	Information collection	What is Psychology	Knows	Discuss Psychology as a science	Define Psychology	Cognitive	Recall level I	Must know	Class room Lecture	MCQ	SAQ LAQ		
	Information collection		know		Discuss the psychology as a science	cognitive	understand level II	Desirable to know	Lecture	True /False sentences	Short Note	Concept Logic-Inductive /Deductive Logic Organon	of form
	Information Analysis		Knows		Discuss the factors which make Psychology as a science	Cognitive	Understand Level II	Must know	Lecture	MCQ	SAQ Viva		
	Integration of information		Knows how		Explain the utility of the subject for a Homoeopath	Cognitive	Interpret Level II	Desirable to know	Lecture with discussion	MCQ	SAQ Viva	Horizontal integration with Organon	



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HomUG-OM-I.1.2	Information collection	Different schools of Psychology	Knows	Know the different schools of Psychology	Classify different schools of psychology based on their Concept and objectives and methods.	Cognitive	Understand Level II	Must know	Class room lecture	SAQ	SAQ Viva	Concept of Man/ Individualization from the Organon(useful as a preparation of concept for next topic)	

[illegible]



					t schools of psychol ogy				concept of Mind			Kent /BB/ Boger
Hom UG- OM- I.2.2	Informat ion organiza tion and synthesis		Knows	Relate concepts of Mind in psycholog y and homoeop athy	Discuss concept of Mind as in Organo n	Cognit ive	Integrat e Level III	Must know	Small group discussio n Charts / Models Audio- visual aids	Quiz True- false test items	LAQ/SAQ/ Viva	Horizont al Organon



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		Analysis		Knows		Compare and contrast concept of mind in Organon with that in different schools	Cognitive	Understand Level II	Nice to know	Lecture	MCQ	SAQ	
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					of psychol ogy							
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Semester 1 –Topic- 3-Psychological organization of Mind and its interrelationship with Thought (Cognition), Feelings (Affect) and Behaviour (Conation)

Sr.No	Generic competen cy	Subject area	Millers Know/ Know how/ Showwho / Does	Specific competenc y	Specific Learning Objectiv es / Outcom es	Bloom 's domai n	Guilbert' s level	Must know / desira ble to know / nice to know	TL metho d / media	Format ive Assess ment	Summ -ative Assess ment	Integrati on - Horizon tal / Vertical / Spiral
3												



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Hom UG- OM- I.3.1	Informati on synthesis	Organizatio n of Mind and interrelatio nship of its constituent	Knows how	Identify the topography of the mind	Classify the divisions of the mind into consciou s, unconsci	Cognit ive	Underst and Level II	Must know	Caselet s and discuss ion	DOPS Full form to be written ?	LAQ / SAQ	
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					ous and sub-conscious elements							
Hom UG-OM-I.3.2	Information collection		Knows how	Identify the constituents of the conscious mind	Distiguish the conscious mental expressions as Emotion, Thought and Behaviour	Cognitive	Interpret Level II	Must know	Caselets and Matching exercises	MCQ	LAQ, / SAQ/Viva	Integration with concept of Mental and Behavioral Expressions or symptoms from the Organon



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Hom UG- OM- I.3.3	Informati on Interpreta tion Self reflection	Interrelatio nship of Emotions/ Thinking/	Knows how	Recognize the interrelation ship of mental constituents and effects	Identify the relations hip of mental expressi ons in terms of	Affecti ve	Receive Level I	Must	Audio- visual media	Caselet s with check list	SAQ	Horizon tal integrati on Organo n
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		Behaviour and Mind and Body		of Mind and Body	Emotion , Thinking and Behavio ur on Mind and Body							
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HomU G-OM- I.3.4	Information Demonstrati on	Demonstrati on of abilities of observation	Show s How	Observe the mental expressions in terms of Emotion, Thinking and Behaviour	Identify the evidences of psychologi cal expressions of Emotion, Thinking and Behaviour	Affective	Receive Level I	Must know	Audio- visual means in Small groups	Film viewing	Viva	
	Analysis and intergation	Demonstrati on of abilities of integration	Know s how	Distinguish the expressions into Emotion, Thinking and Behaviour	Align the observations conducted above with the knowledge about emotions, thoughts and behaviour	Cognitive	Understa nd Level II	Must know	Process the observatio ns	Check list on the film shown	MC Q	
HomU G-OM- I.3.5	Analytical	Application of knowledge in practice	Show s how	Identify the mental expressions in Repertory	Demonstrate the rubrics from the given case scenarios	Psychomotor	Imitate Level I	Must know	Case- based learning Teaching with Repertory	Assignments	SA Q	Horizontal learning with Repertory



Semester 1 Topic 4 Physiological basis of Emotions, Thought and Behaviour

Sr.No. 4	Generic competency	Subject area	Millers Know/ Knowhow/ Show how/ Does	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-OM-I.4.1	information Collection	Physiological basis of the mind	Knows	Understanding the parts of the brain important in understanding mental functions	List the parts of the Brain relevant to understanding the mental functioning	Cognitive	Recall Level I	Must know	Lecture with a demonstration with model of brain	MCQ	SAQ	Anatomy - Brain structures can be dealt simultaneously



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Hom UG- OM- I.4.2	informati on collection		Knows		Explain the different parts of the brain	Cognit ive	Underst and and interpre t Level II	Must know	Demonstr ation of brain model	MCQ	SAQ	
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					which are the seat of the emotions of aggression, love, anger and anxiety				with discussion			
Hom UG-OM-I.4.3			Knows		Explain the different parts of the Brain which are the seat of intellectual functions of attention, memory and executive functions	Cognitive	Understand and interpret Level II	Must know	Demonstration of brain model with a discussion	MCQ	SAQ	



Hom UG- OM- I.4.4			Knows		Explain the different parts of the Brain which are responsible for simple behaviour	Cognition	Understand and interpret Level II	Desirable to know	Group discussion	MCQ	SAQ	
Hom UG- OM- I.4.5	Information Interpretation and Synthesis		Knows how	Discuss the genesis of Emotions, Thinking, Behaviour	Integrate the manner in which the emotions, intellectual and behavioural function are coordinated	Cognitive	Problem solving Level III	Must know	Lecture with PPT	MCQ	SAQ	Integration with Psychophysiology



Semester 1: Topic 5: Understanding behaviour, its origins and its representation in repertory and Materia medica

Sr. No	Generic Competency	Subject area	Millers Know/ Know how/ Show how/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
	Information	Behaviour and Functioning and the origins	Knows	Instincts and reflexes and their importance	Define instinct and reflex	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	Physiology
	Information		Knows		Enumerate the instincts seen across the animal species	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	
	Information		Knows		Enumerate the reflexes	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	



					seen in the new born							
	Information Analysis		Knows		Discuss the role and limitations of these ensuring in our survival	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	
	Information		Knows		Define Conditioned and Unconditioned reflex	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	
	Information		Know	Define Behavior and Functioning	Define Behaviour as externally observed expressions	Cognitive	Recall Level I	Must know	Lecture and AV methods	MCQ	MCQ	Organon + Repertory – Concept of symptomatology-Physical symptoms



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	Information Analysis		Knows		Differentiate behaviour as being of conscious	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	
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	Self awareness				and unconscious							
	Information collection		Know		Define functioning as expressions of the system which needs special instruments to measure	Cognitive	Recall Level I	Must know	Lecture and Demonstration	MCQ	MCQ	
	Information Analysis		Know how		Elaborate on the difference between Behaviour and Functioning	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	



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	Information		Knows		Discuss the scientific methods	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
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	System thinking				of studying behaviour							
	Information		Knows	Origins and function of Behaviour	Draw a list of species specific behaviours in birds, fish and primates	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	
	Information Analysis		Knows		Discuss the function of these specific behaviours	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ Viva	
	Information	Control of Behaviour	Knows	Factors influencing behaviour	Discuss the factors which regulate any two of the species specific behaviours listed above	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ Viva	



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	Information		Knows		Differentiate innate and	Cognitive	Understand and	Must know	Lecture	LAQ	LAQ	
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	Synthesis				learned behaviour as originating from unconditio ned and conditione d reflexes		interpre t Level II					
	Analytical		Knows		Discuss how emotions are the determina nts of behaviour and functionin g	Cognit ive	Underst and and interpre t Level I	Must know	Lecture	SAQ	SAQ Viva	
	Analytical		Knows		Discuss how thoughts are is the determina nt of behaviour and	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ Viva	



					functioning							
	Information Analysis	Behaviour and Homoeopathy	Knows	Representation of Behaviour in the repertory	Illustrate the place of behaviour in repertory	Cognitive	Understand and interpret Level II	Must know	Demonstration	Checklist	MCQ / Viva	Repertory
	Information Synthesis		Knows	Representation of behaviour in Materia Medica	Illustrate the representation of behaviour in Materia Medica	Cognitive	Understand and interpret Level II	Must know	Demonstration	Checklist	MCQ / Viva	Materia Medica

Semester 2 Topic 1-Understanding emotions and their representation in the repertory and Homoeopathic Materia Medica(HMM)



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Sr. No	Generic Competency	Subject area	Millers Know/Know	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral



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			how / Sho w how / Doe s									
	Informati on	Understan ding emotions, the types and their origins	Kno ws	Define emotions and differentia te from feeling and mood	Define emotions, mood and feelings	Cognit ive	Recall Level I	Must know	Lecture	MCQ	MCQ	
	Analysis		Kno ws how		Differenti ate the above three from each other	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	Caselets	SAQ/V iva	
	Observati on Empathy		Sho ws	Recognitio n of facial expression s	Recognize different emotions exhibited on the screens	Affecti ve	Receive Level I	Must know	Images of facial expression s	Spotters	MCQ	



	System thinking		Know		Discuss the different ways that emotional expression is perceived by us	Cognitive	Understand and interpret Level II	Must know	Lecture	MCQ	MCQ	
	Information		Knows	Classification of emotions	Discuss the classification of emotions Primary and Secondary; Positive and negative	Cognitive	Understand and interpret Level II	Nice to know	Lecture	MCQ	MCQ	



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	Analysis		Knows		Discuss the implications and limitation of the above	Cognitive	Understand and interpret Level II	Nice to know	Lecture	SAQ	SAQ/Viva	Integration with Kent's concept of hierarchy
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					classificati on							of mental symptoms
	Informati on collection		Kno ws	Understan d theories of emotions and their significanc e	Describe the prominent theories of emotions James Lange Cannon- Bard Schaster- Singer Cognitive Mediation al theory	Cognit ive	Underst and and interpre t Level II	Nice to know	Lecture with cassettes	SAQ	SAQ/V iva	Integratio n with signs and symptoms from HMM of few prominent remedies studied simultane ously



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		Information collection		Knows		The Bhava-Rasa theory of emotions	Cognitive	Recall level-I	Nice to know	Lecture with multimedia-e.g. video films or images demonstrating the	SAQ	SAQ	Integration with the concept of channelization and its importance in the healing
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									theory of Bhav-Rasa			process or cure from the 1 st aphorism of Organon
	Information Analysis		Knows		Differentiate the five theories from each other	Cognitive	Understand and interpret Level II	Nice to know	Lecture	LAQ Essay writing/Model preparation on each theory (can be considered as a project for practical)	LAQ	



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	Information Synthesis Problem solving		Knows		Evaluate the implications of each of the theories in understanding	Cognitive	Problem solving level -III	Nice to know	Discussion with examples	LAQ	LAQ	
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					ding emotions							
	Information collection	Biological view of emotions	Knows	Biological basis of emotions	Enumerate the constituents of the limbic system important in the understanding of emotions	Cognitive	Recall Level	Must know	Lecture with model	MCQ	MCQ/ Viva	Anatomy + Physiology
	Information Analysis and Synthesis		Knows		Discuss the role of the different constituents of the limbic system in expression and regulation of emotions	Cognitive	Understand and interpret Level II	Must know	Discussion with models	LAQ	LAQ	



	Information Analysis		Knows		Discuss the effects of hormones in influencing emotions	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	Physiology
	Information Synthetic		Knows	Sex and emotions	Define sexual activity in terms of emotional arousal	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information Synthesis		Knows		Describe the participation of brain systems in sexual behaviour	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	



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	Information on interpretation		Know ws		Discuss the effect of early influences on sexual behaviour	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/ Viva	
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	Information		Knows		Discuss the effects of socio-cultural surroundings on sexual behaviour	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	
	Synthesis											
	Information collection		Knows		Enumerate the varieties of sexual orientation seen	Cognitive	Recall Level -I	Must know	Lecture	MCQ	MCQ	
	Information		Knows		Identify gender identity and sexual identity	Cognitive	Recall Level -1	Must know	Lecture	MCQ	MCQ/Viva	



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	Self awareness		Knows		Recognize the challenges faced by differently sexually oriented persons in society	Affective	Receive Level-II	Must know	Visual clips of cases Role play	SAQ	SAQ/Viva	
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	Information collection	Holistic approach to Emotional health	Knows	Emotions and their effects on the self and others	List the effects of emotions on the human system in terms of cognitive, behavioural and physical system	Cognitive	Recall Level-I	Must know	Lecture	MCQ	MCQ/ Viva	
	Systems thinking		Knows		Discuss the pathways through which emotions affect cognition, behaviour and physical system	Cognitive	Understand and interpret Level II	Must know	Lecture with demonstrative examples	LAQ	LAQ	



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	Information collection		Knows	Positive emotions and their	Define happiness, joy and peace	Cognitive	Recall Level I	Must know	Lecture with demonstr	SAQ Essay	SAQ/ Viva	
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				effect on health					ative examples			
	Information Analysis		Know		Describe the brain mechanisms responsible for states of happiness, joy and peace	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ	Anatomy
	Information Synthesis		Know		Discuss the effects of states of happiness, joy and peace on human systems	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	Physiology



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	Holistic approach Self awareness		Knows		Explore the different mechanisms for maintaining a state	Affective	Receive Level-I	Must know	Lecture with demonstrative examples	LAQ	LAQ	Integration with concept of harmonious way life or balance
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					of joy and peace							life from Organon
	Information collection		Knows	Influence of Cultural on expressions of emotions	Enumerate the effects of different cultures on emotional expression	Cognitive	Recall level-I	Nice to know	Lecture	MCO Project on collection of information from different culture and their concept of emotions and its expressions	MCO/ Viva	



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		Holsitic Holistic approach		Kno ws		Discuss the implicatio ns of cultures affecting emotional expressio n	Cognit ive	Underst and and interpre t Level II	Nice to know	Lecture/ Films	SAQ above exercise will be useful here as well	SAQ/V iva	
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	Information Analysis	Emotions and Homoeopathy	Knows	Representation of Emotions in the repertory	Illustrate the place of emotions in repertory	Cognitive	Understand and interpret Level II	Must know	Demonstration	DOPS	MCQ	Repertory
	Information Synthesis		Knows	Representation of emotions in Materia Medica	Illustrate the representation of emotions in Materia Medica	Cognitive	Understand and interpret Level II	Must know	Demonstration	DOPS	MCQ	Materia Medica



Semester 2 Topic 2-Understanding intellect and its representation in repertory and materia medica – Part-I Attention, concentration and memory

Sr. No	Generic Competency	Subject area	Millers Know/ Knowhow/ Showhow/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know desirable to know nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
	Information collection	Introduction to attention and concentration the underlying	Knows	Definition of terms with psycho-physiological mechanisms	Define attention and concentration	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ/ Viva	
	Information interpretation	psycho-physiological mechanisms, regulation and	Knows		Enumerate the brain regions which are involved in these functions	Cognitive	Recall Level I	Must know	Lecture with model	MCQ	MCQ/ Viva	Anatomy



	Information synthesis	applied aspects	Knows		Discuss the neural processes which are responsible for regulating attention and concentration	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	Physiology
	Information Interpretation		Knows	Control over attention and concentration	Discuss the factors which affect attention and concentration	Cognitive	Understand and interpret Level II	Must know	Lecture	MCQ	MCQ/Viva	



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	Information Interpretation and synthesis		Knows		Realize the above processes in our daily life	Affective	Receive Level-I	Must know	Demonstration	- ? ? survey on attention span with the	-	
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										help of multime dia or any activity		
	Informati on collection		Knows		Discuss the different physical and psycholog ical methods used for regulating attention and concentra tion	Cognitiv e	Underst and and interpre t Level II	Must know	Lecture	LAQ	LAQ	



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	Information Interpretation	Applied aspects of attention	Knows	Application of attention and concentration	Discuss the effects of disturbed attention in childhood and adult life	Cognitive	Understand and interpret Level II	Must know	Lecture Video	SAQ	SAQ/Viva	Spiral integration with anatomy and physiology
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	Information Interpretation		Knows	Representation of attention and concentration in the repertory	Identify the rubrics representing attention and concentration in the repertory	Cognitive	Understand and interpret Level II	Must know	Demonstration	DOPS	MCQ	use of all the 3 repertoires
	Information Interpretation		Knows	Reflection of attention in Materia Medica	Identify the reflection of attention and concentration in remedies	Cognitive	Understand and interpret Level II	Must know	Demonstration	SAQ	SAQ/Viva	Sources of HMM
	Information collection	Memory types, processes and	Knows	Types of Memory and processes	Enumerate the types of memory	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	



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	Information Interpretation	applied aspects	Knows		Discuss the models of memory	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ Project on models	SAQ/Viva	Integration with anatomy and
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					Information-processing And neural network					of Memory		physiology
	Information Analysis		Know		Discuss the function of the types of memory in our daily lives	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ Activity on memory games and its importance in day to day to life	LAQ	
	Information collection		Know	Factors affecting memory and their regulation	Enumerate the factors which affect different types of memories	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ/ Viva	



	Information Interpretation		Know how		Discuss different ways of assessing different types of memory	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ Activity based on memory games (connection can be linked to concept of MSE/MSE)	SAQ/Viva	
	Information Collection and Interpretation	Forgetting, its mechanisms and implications	Know	Forgetting, the types and the implications	Discuss the reasons for forgetting	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	



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	Information on Synthesis		Know how		Discuss ways of enhancing recall	Cognitive	Understand and interpret Level II	Must know	Lecture Demonstration with examples	SAQ Memory games with concept of	SAQ/ Viva	
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										mnemo nics		
	Informati on collection		Knows		Describe the state of memory with senescenc e	Cognitiv e	Recall Level I	Must know	Lecture	SAQ	SAQ/V iva	



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	Information Analysis and Interpretation		Knows		Discuss the implications of loss of memory with advancing age	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ survey on state of memory function with advancing age (a small article can be published with the help of survey findings)	SAQ/ Viva	Integration with anatomy and physiology
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	Information Interpretation	Applied aspects of Memory	Knows	Memory changes	Describe ways in which memory can get distorted	Cognitive	Understand and interpret Level II	Nice to know	Lecture	-	-	
	Information Analysis and Interpretation		Knows		Discuss ways of reconstructing a lost memory	Cognitive	Understand and interpret Level II	Nice to know	Lecture	-	-	
	Information Interpretation		Knows		Discuss the implications of the dangers of reconstruction of memory in our everyday life	Cognitive	Understand and interpret Level II	Nice to know	Lecture	-	-	



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	Information	Homoeopathic	Knows	Representation of sharp and loss of	Identify the rubrics representi	psychomotor	Understand and	Must know	Demonstration	DOPS	MCQ	
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	collection , Interpret ation	aspects of memory		memory in the repertory	ng memory issues in the repertory		interpre t Level I					
	Informati on collection and Interpret ation		Knows	Reflection of memory issues in Materia Medica	Identify the reflection of memory in remedies	Cognitiv e	Underst and and interpre t Level I	Must know	Demonstr ation	SAQ	SAQ/V iva	

Semester 2 Topic 3-Understanding intellect and its representation in repertory and materia medica –Part-II Perception and Intelligence



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Sr.No	Generic Competency	Subject area	Millers Know/ Know how / Show	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral



			how / Does									
Hom UG-OM-2.2.1	Information collection	Discuss Perceptual organization	knows	Describe Perception and differentiate from sensations and thinking	Define Perception.	Cognition	Recall level I	Must know	Small group discussion	MCQ	MCQ	Horizontal Anatomy and Physiology
	Information organization and Interpretation				Relate perception to sensory processes and differentiate from thinking	Cognition	Understand and interpret Level II	Must know	Visual films	SAQ	SAQ	
Hom UG-OM-2.2.2	Information Synthesis		know	Genesis of perception and importance of ground ---	Describe the Psychophysiology of perception	Cognition	Understand and interpret Level II	Must know	Small group discussion	MCQ	MCQ	



Hom UG- OM- 2.2.3	Informat ion interpret ation		Know s how	Dynamics of perceptio n and perceptu al errors	Describe the role of attention and state of the mind, depth, constancy, movement in Perception	Cognitiv e	Unders tand and interpr et Level II	Must know	Small group activities	Observat ion Examples or Activity indicatin g the role of in attention in perceptio n	MCQ/ Viva	
Hom UG- OM- 2.2.4	Informat ion synthesi s		Know w		Explain the physiologic al and psychologi cal basis for Perceptual errors.	Cognitiv e	Unders tand and interpr et Level II	Desir able to know	Films and images	Project	MCQ/ Viva	



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Hom UG- OM- 2.2.5	Informat ion synthesi s		Kno w	Social perceptio n and its impact on our lives	Discuss determinan ts of social perception	Cognitiv e	Unders tand and interpr et Level II	Must know	Class room lecture	MCO + Survey on this topic demonstr ating the	LAQ/S AQ	
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										impact of social factors		
	Self reflection		Know		Realize the effect of perception on interpersonal and community relationships	Affective	Receive Level I	Must know	Media and discussion + Role Play followed by directed discussion	SAQ	SAQ/ Viva	Integration with the concept of disposition –Mental specifically / individualization
Hom UG-OM-2.2.6	Holistic approach		Knows	Gestalt perception and its importance to Homoeopathy	Observe gestalt perception	psychomotor	Observe/ imitate Level II	Must know	Small group activity + Role Play followed by directed	Presentation performance	MCQ	



									discussio n			
					Illustrate its importance to Homoeopathy in case taking	Cognitive	Understand and interpret Level II	Desirable to know	Visual films Demonstration in OPD/videos		LAQ	Horizontal/ Vertical with Organon
HOM UG OM 2.2.7	information Synthesis		Knows	Applied aspects of Perception	Understand the perceptual difficulties of Dyslexia Know the phenomena of hallucination	Cognitive	Understand and interpret Level II	Must know	Caselets and visual graphics		SAQ/ Viva	Vertical integration Psychiatry



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HOM UG OM 2.2.8	Informat ion manage ment		Sho ws how	Perceptio n in Repertory and Materia Medica	Derives rubrics and remedies related to perceptual	Cognitiv e	Unders tand Level II	Must know	Demonst rate	DOPS	SAQ / Viva	Horizontal integration Repertory and HMM
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					phenomena							
	Information collection	Intelligence and its measurement	Knows	Conceptual models of Intelligence	Define Intelligence	Cognitive	Recall level I	Must know	Lecture	MCQ	MCQ/ Viva	
	Information Analysis and information Interpretation		Knows		Detail the different approaches to viewing Intelligence i. Multiple intelligences (Gardner) ii. Triarchic theory (Sternberg) iii. Fluid and Crystallized (Catell's)	Cognitive	Understand and interpret Level II	Nice to know	Lecture	SAQ	SAQ/ Viva	



					iv. PASS theory							
	Information collection		Knows	Measurement of Intelligence	Define Intelligence Quotient (IQ)	Cognitive	Recall level I	Must know	Lecture	SAQ	SAQ/ Viva	
	Information Analysis and interpretation		Knows		Discuss the contribution of heredity and environment to intelligence	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/ Viva	
	Information Analysis		Knows		Discuss the pros and cons of measurement of IQ	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/ Viva	
	Information		Knows		Enumerate the methods of assessing intelligence	Cognitive	Recall level I	Nice to Know	Lecture	MCQ	MCQ/ Viva	



	Information collection	Intelligence as a force	Knows	Emotional intelligence and its uses	Define emotional intelligence	Cognitive	Recall level I	Must know	Lecture	MCQ	MCQ/ Viva	
	Information collection		Knows		Define the components of Emotional intelligence	Cognitive	Recall level I	Must know	Lecture	MCQ	SAQ/ Viva	
	System thinking and self awareness		Knows		Discuss the ways in which Emotional intelligence is useful to individuals and groups	Cognitive	Understand and interpret Level II	Must know	Lecture and discussion	LAQ Activity indicating the usefulness of Emotional Intelligence in day to day activity / functioning	LAQ	



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	Informat ion		Kno ws		Define creativity	Cognitiv e	Recall level I	Must know	Lecture	SAQ	SAQ/ Viva	
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	collection			Creativity and its growth								
	Information Systems thinking		Knows		Illustrate the process of creativity	Cognitive	Understand and interpret Level II	Must know	Lecture	Project or activity on any theme indicating the creativity		
	Systems thinking		Knows		Discuss the ways in which creativity can be fostered	Cognitive	Understand	Must know	Lecture	SAQ	SAQ/ Viva	
	Information collection	Applied aspects of Intelligence	Knows	Extremes of intelligence	List the types of extreme intelligence on the Bell-shaped curve	Cognitive	Recall level I	Must know	Lecture	SAQ	SAQ/ Viva	



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	Information Analysis		Know s		Discuss the special needs of the persons occupying	Cognitive	Understand and interpret	Nice to know	Lecture	SAQ	SAQ/ Viva	
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					the extremes of intelligence		et Level II					
	Information Analysis	Intelligence and Homoeopathy	Knows	Representation of Intelligence in the repertory	Illustrate the place of Intelligence in repertory	Cognitive	Understand and interpret Level II	Must know	Demonstration	DOPS	MCQ	Repertory
	Information Synthesis		Knows? Shows	Representation of intelligence in Materia Medica	Illustrate the representation of intelligence in Materia Medica	Cognitive	Understand and interpret Level II	Must know	Demonstration	DOPS	SAQ/ Viva	Materia Medica



Semester 2 Topic 4-Motivation, its types and its relevance for Homoeopath

Sr.No	Generic Competency	Subject area	Millers Know/ Know how/ Show how/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-OM-2.10.1	Information collection	Motivation, the types and its role in daily living	Knows	Describe motivation	Define motivation	Cognitive	Recall level I	Must know	Class room lecture	MCQ	LAQ/SAQ	
Hom UG-OM-2.10.2	Information collection		Knows	Understand the nature and types of motivation	Enumerate the types of motivation	Cognitive	Recall level I	Must know	Class room lecture	MCQ	LAQ/SAQ	
Hom	Self		Knows		Recognize	Affective	Receive	Must	Audio-	SAQ	SAQ/Viv	



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UG OM	reflection		how		the types of motivation influencing our		level I	know	visual Discussion		a	
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2.10.3					thinking and emotions							
Hom UG-OM-2.10.4	Information Interpretation	Use of Maslow's model of motivation in our personal and professional lives	Knows	Models of Motivation	Describe the Maslow's self-actualization model	Cognitive	Understand and interpret Level II	Must know	Small group discussion	Assignment	LAQ	
HOM UG OM 2.10.5	Self reflection and awareness		Knows how		Recognize the importance of the model in knowing human beings	Affective	Receive level I	Must know	Group discussion with caselets	Checklist	SAQ/Viva	
UG HOM 2.10.6	Information Synthesis	Utility of Motivation for a Homoeopath	Shows how	Reflection of motivation in Repertory and HMM	Derives rubrics and remedy images related to motivation	Cognitive	Understand and interpret Level II	Must know	Demonstrate	Checklist	MCQ	



Semester 2 Topic 5-Learning, its types and its relevance in daily functioning of Humans

Sr.No	Generic Competency	Subject area	Miller's Know / Know how/ Show how/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
8												
Hom UG-OM-I.6.1	Information collection	Learning and adaptation	Knows	Define learning and its role in bringing about adaptation to change	Define learning and adaptation	Cognitive	Recall level I	Must know	Class room lecture	MCQ	LAQ / SAQ	
	Information Synthesis				Derive the relationship between the two	Cognitive	Understand and interpret Level II	Must know	Caselets	Caselets	Problem	



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Hom UG- OM- I.6.2	Informa tion collectio n	Learning forms and their	Know s	Forms learning	of	Explain the three forms of learning viz. Classical conditioning,	Cognitiv e	Understan d and interpret Level II	Must know	Class room lecture	Checkl ist	LAQ/SA Q	
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		implication for us			Instrumental conditioning and observational learning								
Hom UG-OM-I.6.3	Holistic thinking		Does	Differentiate the forms or types of learning and their significance	Explain the significance of the above three forms in our daily lives	Cognitive	Understand and interpret Level II	Must know	Demonstration	Project	MCQ		
	Information collection		Know	Determinants of learning and their significance	Enumerate the various factors which determine the quality of learning	Cognitive	Recall level I	Must know	Lecture	MCQ	MCQ		
	Problem solving		Know how		Derive the ways in which these factors can be used for enhancing learning	Cognitive	Problem solving level II	Must know	Assignments	Cases	SAQ / Viva		



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	Analytical		Know s		Identify the factors which would inhibit learning and	Cognitive	Understand and interpret Level II	Must know	Assignment	SAQ	SAQ/Viva	
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					which would need to be attended to							
	Information collection	Assessment of learning	Knows	Know the methods of assessing learning	List the methods whereby learning is assessed	Cognitive	Recall level I	Must know	Lecture	MCQ	MCQ/Viva	
	Analytical				Evaluate the respective value of the different methods to assess learning	Cognitive	Problem solving level III	Must know	Assignment	SAQ	SAQ/Viva	
	Information Synthesis	Utility of Learning and adaptation for a Homoeopath	Show show	Reflection of learning and adaptation in Repertory and HMM	Derives rubrics and remedy images related to learning and adaptation	Cognitive	Understand and interpret Level II	Must know	Demonstrate	DOPS	MCQ	



Semester 3 Topic 1-Evolution of Mind with Growth and Development: Normal developments since birth to maturity: physical and psychological

Sr.No	Generic Competency	Subject area	Millers Know/ Know how/Show how/Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know desirable to know nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
	Information collection and analysis	Concept and process of Human Development	Knows	Discuss areas of human Growth and Development	Define and distinguish between Growth and Development	Cognitive	Interpret	Must know	Lecture	SAQ	SAQ/Viva	
Hom UG-OM-I.4.1	Information collection		Knows		List the three domains of development Physical, Cognitive and psychosocial development	Cognitive	Remember- level I	Must know	Class room Lecture	MCQ	LAQ / SAQ	



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Hom UG-	Informa tion		Knows		Distinguish the	Cognitiv e	Understan d and	Must	Small group	Quiz	LAQ/SA Q	
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OM-I.4.2	Analysis Analytical		how		characteristics of physical, cognitive and psychosocial development		interpret Level II	know	discussion Charts / Models Audio-visual aids	True-false test items		
	Information analysis Analytical		Knows how	Discuss determinants of development	Distinguish between the contribution of nature and nurture in development	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	information collection and Interpretation		Knows		Define the concept of developmental milestones in childhood	Cognitive	Recall	Must know	Lecture	MCQ	MCQ	



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Hom UG- OM- I.4.3	Informa tion Organiz ation Analytic al	Develop mental stages of Psychose xual, cognitive and psychoso	Knows how	Discuss the theories of cognitive and psychosoc ial	Discuss the theory of psychosexua l developmen t as proposed by Freud	Cognitiv e	Understan d and interpret Level II	Must know	Small group demonst ration, peer group activitie s.	MCQ	MCQ	Horizon tal integrat ion with Anato my, physiol ogy
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	Information Analytical	cial development	Knows how	development	Discuss the theory of cognitive development proposed by Piaget	Cognitive	Understand and interpret Level II	Must know	Lecture with examples	LAQ	LAQ	
	Information Analytical		Knows how		Discuss the theory of psychosocial development of Erik Erikson	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information collection and Interpretation and Analysis	Human Development across the Life span	Knows how	Discuss the development of the human being across the lifespan	Discuss the different stages of physical, emotional and cognitive development of childhood	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	



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	Informa tion collectio n		Knows		Discuss parental styles appropriate to help optimal growth in childhood	Cognitiv e	Understan d and interpret Level II	Must know	Lecture	LAQ Essay on most suitabl e parent	LAQ	
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	Self reflection									ing style		
	Information collection and Interpretation Analysis		Knows how		Discuss the different stages of physical, psychosocial and cognitive development of adolescence	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information Self reflection		Knows how / Show how		Discuss the role of home, school and society on the development of the adolescent	Cognitive ?Affective	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	



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	Informa tion Analysis		Knows how		Discuss the different stages of physical, psychosocial	Cognitiv e	Understan d and interpret Level II	Must know	Lecture	LAQ	LAQ	
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					and cognitive development of adulthood							
	Information Analysis		Knows how		Discuss the different stages of physical, psychosocial and cognitive development of old age and senescence	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information Self reflection and awareness	Significance of knowledge of Growth and Development for a homoeopath	Knows how	Discuss significance of growth and development in homoeopathy	Recognize the impact on knowledge of Growth and Development in case taking	Affective	Receive level I	Must know	Lecture	LAQ	LAQ	Hor. with Organon
	Information Analysis		Knows		Identify the significance of knowledge of Growth and Development	Psychomotor	Imitation level I	Must know	Lecture	LAQ	LAQ	Hor. with Repertory



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					t in use of Repertory							
	Informa tion organiz ation Analysis		Knows		Locate the significance of knowledge of Growth and Developmen t in Homoeopat hic Materia Medica	Cognitiv e	Understan d and interpret Level II	Must know	Lecture	LAQ	LAQ	Hor. with HMM



Semester 3 Topic 2- Development of Personality, types, Traits, Temperament

Sr.No	Generic Competency	Subject area	Millers Know/ Know how/Show how/Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-OM-I.9.1	Information collection	Concept of Personality. Temperament and trait	Knows	Discuss the concept of personality	Define the concept of personality	Cognitive	Recall level I	Must know	Lecture with discussion	MCQ	SAQ/Viva	Concept to be discussed with Organon
	Information collection, information interpretation and		Knows	Discuss the concept of Temperament and its evolution	Discuss the concept of temperament and its relation to Body type	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ	



	Synthes is											
Hom UG-OM-I.9.4	Informa tion collection + Informa tion Interpre tation		Knows	Discuss the concept of traits and its utility	Describe the scientific concept of 'Traits' and their importance	Cognitiv e	Understan d and interpret Level II	Must know	Lecture with case let discussi on	MCQ	SAQ/Viv a	Concep t to be discuss with Organo n
Hom UG-OM-I.9.5	Informa tion collection interpre tation and Analysis Synthes is	Theories of Personali ty and develop mental process	Knows	Discuss the Theories of Personalit y	Explain the following theories of personality 1. Biological 2. Behaviourist ic 3. Learning 4. Humanistic proposed by various psychologis ts and their implication	Cognitiv e	Understan d and interpret Level II	Desirabl e to know	Lecture with case discussi on or suitable exampl e	MCQ Essay on each theory	SAQ/Viv a	



					s to a physician							
Hom UG- OM- I.9.6	Informa tion Holistic approac h		Knows how	Discuss the developm ent of Personalit y and	Illustrate the process of personality development	Cognitiv e	Understan d and interpret Level II	Desirabl e to know	Case scenari o discussi on	MCQ	SAQ	
Hom UG- OM- I.9.7	Informa tion collectio n and Case Interpre tation of data		Knows	factors determini ng it	Enumerate the Factors determining the Personality	Cognitiv e	Recall level I	Desirabl e to know	Case scenari o discussi on	MCQ	SAQ/Viv a	



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Hom UG- OM- I.9.9	Informa tion Analysis Synthes is		Knows how	Assessme nt of personalit y	Describe the techniques of assessing Personality	Cognitiv e	Understan d and interpret Level II	Nice to know	Case scenari o discussi on	MCQ	SAQ/Viv a	
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Hom UG- OM- I.9.1 o	Informa tion collectio n	Personali ty and Homoeo pathy	Knows	Implicatio ns of study of personalit y to homoeopa th	Discuss the relevance of concept of Personality to a homoeopath	Cognitiv e	Understan d and interpret Level II	Must know	Discussi on with case scenari o	MCQ	LAQ	Hor with Organ on
Hom UG- OM- I.9.1 1	Proble m Solving		Knows		Discuss the relevance of studying Personality from the perspective of Materia Medica	Cognitiv e	Understan d and interpret Level II	Desirabl e to know	Discussi on with scenari o	MCQ	LAQ	Hor with MM



Semester 3 Topic 3-Bio-Psycho-Social development of Human Being

Sr.No	Generic Competency	Subject area	Millers Know/ Know how/Show how/Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
7	Information	Concept of Bio-Psycho-Social model for holistic care	Knows	Describe concept of Bio-Psycho-Social development of Human Being	Define the Bio-Psycho-Social model	Cognitive	Recall level I	Must know	Lecture	Ess	LAQ/SAQ	Anatomy, Physiology
	Information Analysis Synthesis		Knows		Illustrate how each of the constituent of the Bio-psycho-social model gives a more comprehensive understanding	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	



					g of a human being							
	Holistic approach System based thinking		Knows how	Implications of the Bio-psycho-social approach	Discuss the significance of the Bio-psycho-social approach to a human being	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Synthesis		Knows	Implications in homoeopathic care	Discuss the similarity between homoeopathic approach to a human being with Bio-psycho-social approach	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	Hor with Organon
Hom UG-OM-I.5.5	Information Synthesis		Knows how	Discuss Socio cultural basis of Behavior	Defines the role of culture in shaping human behavior.	Cognitive	Recall level I	Must know	Small group discussion	Chart preparation Assignment	SAQ	



Semester 3 Topic 4 Concept of Stress-Conflict: their genesis, types and effects on the mind and body

Sr.No	Generic Competency	Subject area	Millers Know/ Know how/Show how/Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-OM-I.10.1	Information collection	Stress, Conflicts and Coping Mechanisms	Knows	Discuss the Concept of Stress and types of stress	Define Stress	Cognitive	Remember and Recall Level I	Must know	Presentation with case let	MCQ	LAQ	Observation in any departmental OPD/IPD
Hom UG-OM-I.10.2	Information and analysis		Knows		Classify the types of stress	Cognitive	Understand and interpret Level II	Must know	Presentation with case let	MCQ	LAQ	



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Hom UG- OM-	Informa tion		Knows how		Identify sources Stress	the of	Cognitiv e	Understan d and	Must know	Present ation	MCQ	SAQ/Viv a	
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I.10.3							interpret Level II		with case let			
Hom UG-OM-I.10.4	Organize the data		Knows how		Discuss the effect of Stresses on Mind and Body	Cognitive	Understand and interpret Level II	Desirable to know	Presentation with case let	MCQ	SAQ/Viva	
Hom UG-OM-I.10.5	Information		Knows	Concept of Conflict and types	Define Conflict	Cognitive	Recall level I	Must know	Presentation with case let	MCQ	SAQ/Viva	Observation in any departmental OPD/IPD
Hom UG-OM-I.10.6	Information collection		Knows		State stages of Conflict	Cognitive	Recall Level I	Must know	Presentation with case let	MCQ	SAQ/Viva	Observation in any departmental OPD/IPD



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Hom UG- OM- l.10.7	Organiz e the data		Knows how		Enumerate the types of Conflict	Cognitiv e	Recall Level I	Must know	Present ation with case let	MCQ	SAQ/Viv a	Observat ion in any departm
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												ental OPD/IPD
Hom UG- OM- I.10. 8	Analysis Synthes is		Know	Describe the relationshi p between stress and conflict	Discuss the relationship between Stress and Conflict	Cognitiv e	Understan d and interpret Level II	Desirabl e to know	Present ation with case let	MCQ	SAQ/Viv a	Observat ion in any departm ental OPD/IPD
Hom UG- OM- I.10. 9	Informa tion		Know	Discuss the concept of Coping Mechanis ms and their use	Define Coping mechanism	Cognitiv e	Recall Level I	Must know	Present ation with case let	MCQ	SAQ/Viv a	Observat ion in any departm ental OPD/IPD
Hom UG- OM- I.10. 10	Informa tion		Knows how		Enumerate the types of Coping mechanisms	Cognitiv e	Recall Level I	Must know	Present ation with case let	MCQ	SAQ/Viv a	Observat ion in any departm ental OPD/IPD



Hom UG- OM- I.10. 1 1	Proble m solving		Knows how		Discuss the utility of Coping mechanism while dealing with Stress	Cognitiv e	Understan d and interpret Level II	Must know	Present ation with case let	MCQ	MCQ	Observat ion in any departm ental OPD/IPD
	Holistic approac h System based thinking		Knows how	Discuss successful resolution of conflict	Evaluate the role of learning and adaptation in ensuring resolution of stress	Cognitiv e	Understan d and interpret Level II	Must know	Lecture with case exampl e	LAQ	LAQ	
	Synthetic	Applicati on of stress- conflict in Homoeo pathy	Shows How	Exploring effects of stress- conflict in Homoeop athy	Explore the reflection of conflict in Hom Materia Medica	Cognitiv e	Problem solving III	Must know	Lecture	LAQ	LAQ	



Semester 3 Topic- 5- Applied Psychology: Clinical, Education, Sports, Business and Industrial

Sr.No	Generic Competency	Subject area	Millers Know/ Know how/ Show how/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-OM-I.11.1	Information Collection	Applied Psychology	Knows	Understand the application of Psychology in the different fields of Clinical, Education, Sports,	Define the following terms in Applied Psychology viz Clinical, Business, Education, Sports, Industrial	Cognitive	Recall Level I	Must know	Discussion on the utility of the subject in multiple human resource areas	MCQ	SAQ	



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	Informa tion manage ment		Knows	Business, Industrial	Illustrate the utility of subject Psychology in various fields	Cognitiv e ? Psycho- motor	Understan d and interpret Level II	Desirab le to know	Library referenc es	SAQ	SAQ/Viv a	
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Semester 3 Topic 6: Psychology and its importance in Homoeopathic practice for Holistic Management of the patient

	Generic Competency	Subject area	Millers Know/ Know how/ Show how/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
	System's thinking	Psychology and Homoeopathy for Holistic management	Knows	Summarizing the course of Psychology	Discuss the ways in which Psychology may contribute to the holistic management of the patient	Cognitive	Understand and interpret Level II	Must know	Lecture and discussion	LAQ	LAQ	



Teaching-Learning Methods

- a. Classroom teaching
 - i. Lecture
 - ii. Demonstration
 - iii. Group discussion
 - iv. Problem based learning
- b. Practical
 - i. Psychological theories –Models / Experiments / Any activity
 - ii. Facial recognition spotting
- c. Individual learning
 - i. Assignment
 - ii. Short project -e.g. searching MM or Repertory for representation of emotions, thoughts and behaviour

V Practical – Lab work – Field – Clinical Hospital work

- a. Journal club: a team of students to present the understanding of current development in psychological aspects of every day events
- b. Field work - Some survey for identification of psychological disturbance in Common Man
- c. Clinical Hospital Work- Small project on psychometric tests.

VI No of Teaching Hours: Theory

Sr. No	Topic	No of lectures	Non-lectures
1.	Introduction to the study of Mind in Homoeopathy	3	-
2.	Psychological organization and the interrelationship of Thought (Cognition), Feelings (Affect) and Behaviour (Conation); Conscious and Unconscious elements	2	1



3.	Physiological basis of behaviour - the place of conditioned and unconditioned reflex	3	1
4.	Understanding Behavior and Functioning and expressions in Repertory and Materia Medica	4	2
5.	Understanding Emotion, its different definitions and expressions in Repertory and Materia Medica	5	3
6.	Understanding Intellect: Attention, memory and its function and expression in Repertory and Materia Medica	4	3
7.	Understanding Intellect: Perception and expressions in Repertory and Materia Medica	3	2
8.	Understanding Intellect: Thinking, intelligence and its measurement and expressions in Repertory and Materia Medica	4	2
9.	Motivation and their types with role in our lives	2	2
10.	Learning and its place in adaptation	4	2
11.	Growth and development of Mind and its expressions from Infancy to old age	4	2
12.	Structure of Personality, the types, their assessment, relationship to Temperament and representation in Materia Medica	4	2
13.	Conflicts: their genesis and effects on the mind and body	3	1
14.	Applied Psychology: Clinical, Education, Sports, Business, Industrial	2	-
15.	Psychology and its importance in Homoeopathic practice	2	-



	Total	50	22
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8. Assessment

8A- Number of papers and Mark Distribution

Sr. No.	Course Code	Papers	Theory	Practical	Viva Voce	Internal Assessment Practical	Grand Total
1	HomUG-OM-I	1	100	50	40	10	200

8B - Scheme of Assessment (formative and Summative)

Sr. No	Professional Course	1 st term (1-6 Months)	2 nd Term (7-12 Months)	3 rd Term (13-18 Months)
1	First Professional BHMS	First PA + 1 ST TT	2 nd PA+2 ND TT	3 rd PA UE

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

8 C - Evaluation Methods for Periodical Assessment

Sr. No	Evaluation Dimensions
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1

Practical/Clinical Performance



2	Viva Voce, MCQs, MEQ (Modified Essay Questions/Structured Questions)
3	Open Book Test (Problem Based)
4	Reflective writing
5	Class Presentations; Work Book Maintenance
6	Problem Based Assignment
8	Co-curricular Activities, (Social Work, Public Awareness, Surveillance/ Prophylaxis Activities, Sports or Other Activities which may be decided by the Department).
9	Small Project

8D - Scheme of Assessment (Formative)

Sr. No	Professional Course	1 st term (1-6 Months)		2 nd Term (7-12 Months)		3 rd Term (13-18 Months)
1	First Professional BHMS	1 st PA	1 ST TT	2 nd PA	2 ND TT	3 rd PA
		10 Marks Practical/Viva	50 Marks Practical/ Viva	10Marks Practical/Viva	50 Marks Practical/ Viva	10Marks Practical/Viva

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

8E - Method of Calculation of Internal Assessment Marks for Final University Examination:



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PA1 Practical/Viva (10 Marks)	PA2 Practical/Viva (10 Marks)	PA3 Practical/Viva (10 Marks)	Periodical Assessment Average PA1+PA2+PA3/3	TT1 Practical/Viva (50 Marks)	TT2 Practical/Viva (50 Marks)	Terminal Test Average TT1+ TT2/ 100*10	Final Internal Assessment Marks
A	B	C	D	E	F	G	D+G/2

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

8 F - Paper Layout

Summative assessment:

Theory- 100 marks

Section –I-50 marks-Organon

MCQ	5 marks	10min
SAQ	25 marks	50 min
LAQ	20 marks	30 min



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Section –II-50 marks- Psychology



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MCQ	5 marks	10min
SAQ	25 marks	50 min
LAQ	20 marks	30 min



8 G – I – Distribution of Theory Exam - Organon

Sr. No.	Paper			D Type of Questions "Yes" can be asked. "No" should not be asked		
				MCQ (1mark)	SAQ (5 Marks)	LAQ (10 Marks)
	A List of Topics	B Terms	C Marks			
1	Introductory Topics	I	Refer Next Table	Yes	Yes	No
2	Logic	I		No	Yes	No
3	§1-27&105-145 of Organon of medicine, §105 to 145	II & III		No	Yes	Yes
4	The Physician – Purpose of Existence, Qualities, Duties, Knowledge	III		Yes	Yes	Yes
5	Vital Force – Dynamisation – Homoeopathic Cure – Natures Law of Cure & Implications – drug proving	III		Yes	Yes	Yes

8 G – II – Theme Table - Organon



Theme*	Topic	Term	Marks	MCQ's	SAQ's	LAQ's
A	Introductory Topics	I	10	Yes	Yes	No
B	Logic	I	05	No	Yes	No
C	§1-27&105-145 of Organon of medicine, §105 to 145	II & III	25	No	Yes	Yes
D	The Physician – Purpose of Existence, Qualities, Duties, Knowledge	III	10	Yes	Yes	Yes

Theme table: -Psychology

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	Introduction to psychology	I	05	NO	Yes	No
B	Psychological organization of Mind –Structural and Functional	I	10	Yes	Yes	Yes
C	Understanding Emotion/thinking/ Behaviour	I	10	Yes	Yes	Yes
D	Motivation and their types with role in our lives	I	05	Yes	Yes	Yes
E	Growth and development	II	10	Yes	Yes	Yes
F	Personality development and stress management	III	05	NO	yes	no
G	Applied Psychology	III	05	No	Yes	no



8 H Question paper Blue print :

Sections I : Organon – 50 Marks

A Question Serial Number	B Type of Question	Question Paper Format (Refer table 4FII theme table for themes)
Q1	Multiple Choice Questions (MCQ) 5 Questions 1 mark each All Compulsory Must Know part – 3 MCQ Desirable to know – 2 MCQ Nice to know – NIL	Theme A Theme A Theme A Theme A Theme A
Q2	Short Answer Questions (SAQ) 5 Questions 5 Marks Each All Compulsory Must Know part – 5 SAQ Desirable to Know – NIL Nice To Know - NIL	Theme A Theme B Theme C Theme C Theme C
Q3	Long Answer Questions (LAQ) 2 Questions 10 Marks Each All Compulsory All questions on must know Desirable to Know – NIL Nice To Know - NIL	Theme C Theme D



Section-II- Psychology -50 marks

Question Number	Serial	Type of Question	Question Paper Format (Refer table 4 F II Theme table for themes)
Q1		All compulsory Multiple choice Questions (MCQ) 5 Questions -1 mark each Must know – 3MCQ Desirable to know-1 MCQ Nice to know -1 MCQ	Theme B +C+E+F+G
Q2		Short answer Questions (SAQ) 5 Questions 5 Marks Each All compulsory Must know part: 3 SAQ Desirable to know: 1 SAQ Nice to know: 1 SAQ	Theme A+B+C+D+E+F+G
Q3		Long answer Questions (LAQ) 2 Questions 10 marks each All compulsory Must know part: 2 LAQ	Theme B+C+ E+F+G



8 I - Distribution of Practical Exam

Practical -100

Practical Organon: 50 marks

Practical	25 marks
Viva voce	20 marks
Internal assessment	5 marks

Practical Psychology: 50 marks

Practical	25 marks
Viva voce	20 marks
Internal assessment	5 marks

9. References

I. Text book/s

1. Hahnemann S. Organon of medicine. 6ed
2. Sarkar. B. K. Hahnemann's organon of medicine
3. Roberts H. A. The principles and Art of cure by homoeopathy
4. Kent J. T. Lecture's on homoeopathic philosophy



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5. M. L. Dhawale. Principles & Practice of Homoeopathy



6. Hughes Richard The Principles and Practice Of Homoeopathy

7. Close Stuart: The genius of homoeopathy

8. Allen J Henry: The Chronic Miasm With Repertory

9. Banerjee P N.: Chronic diseases- Its cause and cure

II. Reference books

1. Arya M.P (2018): A study of Hahnemann's Organon of medicine

2. Singh Mahindra: Pioneers Of Homoeopathy

3. Vithoulkas George (2002): Science of Homoeopathy

References/ Resources: Standard textbook: for Psychology

1. Shelley E Tylor. 10th edition (2018) Health psychology
2. Shashi Jain 4th edition (2014) Introduction to psychology
3. Psychology textbook for class XI.7th edition National Council for Educational Research and training
4. Psychology textbook for class XII 7th edition National Council for Educational Research and training
5. Morgan Clifford Thomas 7th edition (2017) Introduction to Psychology
6. Alder (2009) Psychology and Sociology applied to medicine
7. Chavan (2013), Community Mental Health in India
8. Munn (2010) Norman Normal Psychology
9. Baron Misra (2016) Psychology
10. Susan (2011) Ayers Psychology for Medicine
11. Diana Papilia (2001) Developmental psychology
12. Atkinsons & Hilgard (2015) Introduction to Psychology



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COMPETENCY BASED DYNAMIC CURRICULUM FOR FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by National Commission for Homoeopathy whichever is earlier)

(Yoga for Health Promotion)



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Subject Code: HomUG-Yoga I

Subject: Yoga for Health Promotion

The syllabus of Yoga for the 1st BHMS students should include the basic concept of Yoga and its philosophy, with a clear idea of the different section of asana, pranayama, kriya and meditation. Total 30 hours of class will include practical training. The students will be trained in understanding the relationship between Yoga and Homoeopathy in a wholistic approach, and the point of application of yoga in part of treatment.

The topic and respective allotted hours are as follows-

Sr.no.	TOPIC	CLASS
1.	Yoga definition, concept, types, benefits, and origin.	Hours 1
2.	History and patanjali, yoga philosophy and development of yoga.	Hours 1
3.	Astanga, yoga, hathayoga.	Hours 1
4.	Asana-types, examples, benefits.	Hours 1
5.	Corelation of vital force and prana.	Hours 1
6.	Meditation-types, methods, benefits.	Hours 1
7.	Kriya-types, methods, benefits.	Hours 1
8.	Relationship of yoga and homoeopathy on wholistic plane.	Hours 1
9.	Application of yoga in terms of hahnemann's accessory circumtanses.	Hours 1
10.	Pranayanam, types, benefits.	Hours 1
11.	Practical learning about asanas (postures)-pawanmuktasna, backstreching, sunsalutation, classical sequences.	Hours 5
12.	Practical learning about Breathing, pranyama including abdominal, thoracic, clavicular, hathamudra, vilom, lung sensitising.	Hours 5
13.	Practice of relaxation, tense and relax, short yoganidra, extended, savasana, yoganidra, sankalpa.	Hours 5
14.	Meditation practice, sitting posture, kaya sthairam, omchanting, trataka.	Hours 5