COMPETENCY BASED DYNAMIC CURRICULUM FOR FIRST BHMS PROFESSIONAL COURSE

ORGANON OF MEDICINE

SUBJECT NAME: ORGANON OF MEDICINE AND HOMOEOPATHIC PHILOSOPHY AND FUNDAMENTALS OF PSYCHOLOGY

Subject CODE: HomUG-OM-I

TEACHING HOURS:

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

Contents of Course HomUG-OM-I

Course Contents-

1. Introduction:
    - 1.1. History of medicine
    - 1.2. History of Homoeopathy

      Short history of Hahnemann's life, his contributions, and situation leading to discovery of Homoeopathy
    - 1.3. Brief history and contributions of Boenninghausen, Hering, Kent, R L Dutt, M L Sircar& B K Sarkar.
    - 1.4 History and Development of Homoeopathy in brief in India, U.S.A. and European countries
    - 1.5. Fundamental Principles of Homoeopathy.
    - 1.6. Basic concept: Individualistic, Holistic& Dynamic
        - 1.6.1 Life; Hahnemann's concept and modern concept.
        - 1.6.2 Health: Hahnemann's concept and modern concept.
        - 1.6.3 Disease: Hahnemann's concept and modern concept.
        - 1.6.4 Cure.
    - 1.7. 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

Vital force- dynamisation- homoeopathic cure- natures law of cure & its Implications- drug provin

Teaching Hours-

1st BHMS Organon Classroom teaching and non-lecture hours		
YEAR	**TEACHING HOURS-** **LECTURES**	**Non-lecture**
1ST 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. and European countries.	I	5	5
2	Short history of Hahnemann's life, his contributions, and situation leading to discovery of Homoeopathy	I	5	5
3	Fundamental Principles of Homoeopathy	I	20	5
4	Basic concept of: Individualistic& Holistic Life: Hahnemann's concept and modernconcept.	I	5	5

	Health: Hahnemann's concept and modernconcept. Disease: Hahnemann's concept concept. Cure.			
5	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 of Stuart Close).	I	5	5
6	Science & Art in Homoeopathy	I	5	
8	Different editions and constructions ofHahnemann's Organon of Medicine.	II	10	5
9	§1-27&105-145 of Organon of medicine	II/III	60	48
10	Brief history and contributions of Boenninghausen, Hering, Kent, R L Dutt, M L Sircar& B K Sarkar.	III	15	
			130	78

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

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 Behavior 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 Behavior 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
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

ASSESSMENT

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

Scheme of Assessment (formative and Summative)

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

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

Evaluation Methods for Periodical Assessment

Sr. No	Evaluation Dimensions
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

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**

Section –II-50 marks- psychology

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

Distribution of Theory exam

Sr. No	**Paper**			**D** **Type of Questions** **"Yes" can be asked.** **"No" should not be asked.**		
	A **List of Topics**	**B** **Term**	**C** **Marks**	**MCQ** **(1 Mark)**	**SAQ** **(5 Marks)**	**LAQ** **(10 Marks)**
1	Introductory Topics	I	Refer Next Table	Yes	Yes	No
2	Logic	I		Yes	Yes	No
3	§ 1 to 27 of Organon of medicine, § 105 to 145	I & II		Yes	Yes	Yes
4	The physician – purpose of existence, qualities, duties and knowledge	II		Yes	Yes	Yes

5	Vital force- dynamisation- homoeopathic cure- natures law of cure & its Implications- drug proving	II & III		Yes	Yes	Yes

Theme table-organon

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	Introductory Topics	I	10	Yes	Yes	No
B	Logic	I	05	Yes	Yes	No
C	§ 1 to 27 of Organon of medicine, § 105 to 145	I & II	25	Yes	Yes	Yes
D	The physician – purpose of existence, qualities, duties and knowledge	II	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	25	Yes	Yes	Yes
C	Growth and development	II	10	Yes	Yes	Yes
D	Personality development and stress management	III	05	NO	yes	no

E	Applied Psychology	III	05	No	Yes	no

Question paper Blue print :

Section one Organon

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) 5 Questions 1 mark each All compulsory Must know part: 3 MCQ Desirable to know: 2 MCQ. Nice to know: 1 MCQ	Theme A Theme B Theme C Theme C Theme D

Q2	Short answer Questions (SAQ) 5 Questions 5 Marks Each All compulsory Must know part:5 SAQ	Theme A Theme B Theme C Theme C Theme D
	Desirable to know: Nil Nice to know: Nil	
Q3	Long answer Questions (LAQ) Two Questions 10 marks each All compulsory All questions on must know No Questions on Nice to know and Desirable to know	Theme C Theme D

Section Two: psychology

Section-II- Psychology -50 marks

Question Serial Number	**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
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
Q3	Long answer Questions (LAQ) 2 Questions 10 marks each	Theme B+C
	All compulsory Must know part: 2 LAQ	

Distribution of Practical Exam

Practical 50 marks

Organon: 25 marks

Viva voce	20 marks
Internal assessment	5 marks

Psychology: 25 marks

Viva voce	20 marks
Internal assessment	5 marks

ANATOMY

Subject- Human Anatomy

Subject Code: Hom UG-AN

TEACHING HOURS

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

TEACHING HOURS (THEORY)

Sr. No	**Paper-I**		
	A **List of Topics**	**B** **Term**	**C** **Teaching Hours**
1	General Anatomy	I	20
2	Head, Neck & Face	II	40
3	Central Nervous System	II	40
4	Upper Extremities	I	50

5	Embryology	I	25

Sr. No	**Paper-II**		
	A **List of Topics**	**B** **Term**	**C** **Teaching Hours**
1	Thorax	II	25
2	Abdomen & Pelvis	III	55
3	Lower Extremities	III	50
4	Histology	I	20

TEACHING HOURS (PRACTICAL)

Sr. No			
	A **List of Topics**	**B** **Term**	**C** **Teaching Hours**
1	Head, Neck & Face	II	24
2	Central Nervous System	II	18
3	Upper Extremities	I	72
4	Thorax	II	48

5	Abdomen & Pelvis	III	66
6	Lower Extremities	III	72
7	Histology	I	18
8	Embryology	I	12

COURSE CONTENT (THEORY)

Syllabus Planning:

(a) Syllabus should start with revision of some of important topics of BIOLOGY- (To connect Biology to Medical Science) Origin of Earth- Environment - Origin of LIFE-Evolution of Human Lives.
(b) The complete course of Human Anatomy should be subdivided in number ofmodules-according to topics/region/system.
(c) Syllabus of other subjects of same year should plan out where the maximum integration (Vertical & Horizontal) of topics is possible.
(d) Theory/Practical/Tutorial/Clinical posting should be arranged in parallel.
(e) Integrated Syllabus planning of whole year should be briefed to clinician where clinical postings are going to be arranged for application of classroom knowledge to clinical knowledge.
(f) Each module should be planned according to the need of system-Co-relation with Homoeopathy & time dimension. (No. of hours)
(g) At the end of each module knowledge should be assessed by arranging joint seminars.(Application of classroom knowledge to practical understanding)

A. **Theory:-**

The curriculum includes the following from an introductory stage which would include

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

The rest of the contents have been detailed below:

1. **General Anatomy: -**

1.1 Modern concepts of cell and its components; cell division, types with their significance.

1.2 Tissues- Theory & demonstration of each basic Tissue (Structure, Location & Function)-Organ formation- Histology.

1.3 Genetics

1.4 Basics of General Anatomy-

i. Definition & Subdivision of Anatomy
ii. History of Anatomy
iii. Anatomical Terms, Position & Movements
iv. Superficial and Deep fasciae
v. Muscles
vi. Bones
vii. Joints
viii. Blood vessels
ix. Lymphatic system
x. Nerves

2. **Developmental anatomy (Embryology): -**

2.1 Male & Female reproductive organs (Superficial)

2.2 Spermatogenesis

2.3 Oogenesis

2.4 Fertilization

2.5 Formation of Germ Layers-Tissue formation & its classification

2.6 Notochord

2.7 Yolk Sac

2.8 Amniotic Sac

2.9 Developmental embryogenic disk

2.10 Placenta
2.11 Development of abdominal organ
2.12 Development of cardio vascular system
2.13 Development of nervous system
2.14 Development of respiratory system
2.15 Development of body cavities
2.16 Development of uro-genital system

3. Regional or systemic anatomy:

Each of the areas below will cover: -

(a) Osteology
(b) Syndesmology (Joints)
(c) Myology
(d) Angiology
(e) Neurology
(f) Splanchnology (Viscera and Organ)
(g) Histology
(h) Surface anatomy

(i) Applied anatomy
(j) Radiographic anatomy
(k) Correlation with homoeopathic subjects

This will be taught under the following regions: -

3.1 Upper and Lower extremities
3.2 Head, Neck and Face
3.3 Brain- CNS

3.4 Thorax- Respiratory & Cardio vascular system

3.5 Abdomen- GIT, Metabolism, Excretory, RE system, Lymphatics & Reproductive

Practical – Lab work – Field – Clinical Hospital work

1. Dissection of whole Human Body, Demonstration of dissected parts.- Small group discussion
2. Identification of histological slides, related to tissue & Organs. -Microscope/OHP slides
3. Students shall maintain Practical-Dissection & Histology record and clinical journals

THEORY

Sr. No.	Topics	Hrs	Term
1	**GENERAL ANATOMY**		I
	3.5 Modern concepts of cell and its components; cell division, types with their significance	2	
	1.1 Tissues- Theory & demonstration of each basic Tissue (Structure, Location & Function)-Organ formation- Histology	2	

	3.6 Basics of General Anatomy- xi. Definition & Subdivision of Anatomy xii. History of Anatomy xiii. Anatomical Terms, Position & Movements xiv. Superficial and Deep fasciae xv. Muscles xvi. Bones xvii. Joints xviii. Blood vessels xix. Lymphatic system xx. Nerves	 2 1 1 1 2 2 2 1 1 1	

	1. Anatomy – Physiology Seminar on cell	1	
	2. Anatomy – Physiology Seminar on Musculoskeletal System	1	
	Total Hours	**20 hrs**	

2	**EMBRYOLOGY & GENETICS**		I
	1. Developmental anatomy (Embryology): - 1.1 Male & Female reproductive organs (Superficial) 1.2 Spermatogenesis 1.3 Oogenesis 1.4 Fertilization 1.5 Formation of Germ Layers- Tissue formation & its classification 1.6 Notochord 1.7 Yolk Sac 1.8 Amniotic Sac 1.9 Developmental embryogenic disk 1.10 Placenta 1.11 Development of abdominal organ	2 1 1 1 3 1 1 1 2 1	

	1.12 Development of cardio vascular system 1.13 Development of nervous system 1.14 Development of respiratory system 1.15 Development of body cavities 1.16 Development of uro- genital system	1 2 2 2 2 2	
	Total Hours	**25 hrs**	
3	**HISTOLOGY**		I
	1. Modern concept of cell, tissue & systemic structure	1	
	2. Connective tissue	1	
	3. Histology lectures-General	3	
	4. Epithelial tissue	1	
	5. Nervous tissue	1	
	6. Histology lectures of specific organs	13	
	Total Hours	**20 hrs**	
4	**UPPER LIMB**		I
	1. Brachial plexus	2	

	2. Mammary Gland	2	
	3. Shoulder Joint	2	
	4. Median nerve and wrist joint	2	
	5. Muscles of scapular region	2	
	6. Muscles of shoulder region	2	
	7. Back and Intermuscular spaces around scapula	2	
	8. Arm- Post. Aspect	1	
	9. Radial nerve	2	
	10. Forearm – superficial extensor	2	
	11. Forearm- Deep extensor	2	
	12. Elbow joint	2	
	13. Radioulnar joint	1	
	14. Extensor retinaculum	1	
	15. Ulnar nerve	2	
	16. Hand- post. Aspect	2	
	17. Pectoral region	2	

	18. Arm- Ant. Aspect	2	
	19. Musculocutaneous nerve	1	
	20. Cubital fossa	1	

	21. Forearm- superficial flexors	2	
	22. Forearm- deep flexors	2	
	23. Median nerve	2	
	24. Flexor retinaculum	1	
	25. Brachial, Ulnar & Radial artery	3	
	26. Venous drainage of upper limb	2	
	27. Anatomy – Physiology Seminar on nerves of upper limb & nervous system	1	
	28. Integrated lecture with Surgery on Joints of Upper limb	1	
	29. Tutorial	1	
	Total Hours	**50 hrs**	
5	**LOWER LIMB**		III
	1. Introduction to lower limb	1	

	2. Hip Joint	2	
	3. Knee Joint	2	
	4. Arches of foot	2	
	5. Sacral Plexus	1	
	6. Gluteal region	2	

	7. Back of thigh	2	
	8. Sciatic nerve	2	
	9. Popliteal fossa	2	
	10. Lat. Compartment of leg	2	
	11. Post. Compartment of leg	2	
	12. Femoral, popliteal & tibial artery	3	
	13. Ankle joint	2	
	14. Peroneal nerve	2	
	15. Median compartment of thigh	2	
	16. Obturater nerve	1	
	17. Femoral Triangle	2	

	18. Front of thigh& Tensor Fascia Lata	3	
	19. Femoral vessels	2	
	20. Ant. Compartment of leg	2	
	21. Venous drainage of lower limb	2	
	22. Saphenous vein	2	
	23. Retinaculum (Lat., Ant. & medial)	2	
	24. Sole of foot	2	

	25. Femoral nerve	1	
	26. Anatomy – Physiology Seminar on nerves of lower limb & nervous system	1	
	27. Integrated lecture with Surgery on Joints of Lower limb	1	
	28. Tutorial	1	
	Total Hours	**50 hrs**	
6	**THORAX**		II
	1. Introduction to thorax	1	

	2. Development of Heart and lung	2	
	3. Pericardium and Heart	2	
	4. Coronary circulation	1	
	5. Lungs and pleura	3	
	6. Trachea	1	
	7. Oesophagus	1	
	8. Thoracic duct	1	
	9. Diaphragm	1	
	10. Aorta	2	

	11. Mediastinum	2	
	12. Azygous vein	1	
	13. Sup. Vena cava	1	
	14. Inf. Vena cava	1	
	15. Integrated lecture with Surgery on Radiology of Thorax	1	
	16. Anatomy – Physiology Seminar on Respiratory System	1	
	17. Tutorial	1	
	18. Anatomy – Physiology Seminar on Cardiovascular System	1	
	19. Revision	1	
	Total Hours	**25 hrs**	
7	**ABDOMEN**		III
	1. Introduction to Abdomen	1	
	2. Development of Abdominal organs	2	
	3. Oesophagus	1	
	4. Stomach	2	

	5. Duodenum	1	
	6. Small intestine	2	
	7. Revision	2	
	8. Caecum	1	
	9. Appendix	1	
	10. Large intestine	2	
	11. Rectum	2	

	12. Anal canal	1	
	13. Liver	2	
	14. Abdominal aorta	1	
	15. Female genital system	4	
	16. Post. Abdominal wall	2	
	17. Male reproductive system	2	
	18. Ant. Abdominal wall	2	
	19. Pancreas	2	
	20. Gall Bladder	1	
	21. Spleen	2	
	22. Kidney	2	
	23. Supra renal gland	1	

	24. Ureter	1	
	25. Urinary bladder	2	
	26. Pelvic diaphragm	1	
	27. Portal venous system	1	
	28. Peritoneum	2	
	29. Extrahepatic biliary apparatus	2	
	30. Walls of pelvis	1	
	31. Revision	6	
	Total Hours	**55 hrs**	
8	**HNF**		II
	1. Introduction to HNF	1	
	2. Ear	1	
	3. Tongue	1	
	4. Face- muscles	2	
	5. Contents of Orbit	1	
	6. Lachrymal apparatus	1	
	7. Extraocular muscles	2	
	8. Ant. Triangle of neck	2	
	9. Post. Triangle of neck	1	

	10. Common & Internal carotid artery	1	
	11. External carotid artery	1	
	12. Sternocleidomastoid muscle	1	
	13. Fascias of neck	1	

	14. Suboccipital triangle of neck	1	
	15. Contents of vertebral canal	1	
	16. Cranial cavity	2	
	17. Supra &Infra hyoid muscle	1	
	18. Vertebral artery	1	
	19. Scalp	1	
	20. Eyeball	2	
	21. Oral cavity	1	
	22. Pharynx	2	
	23. Larynx	2	
	24. Eustachian tube	1	
	25. Parotid gland	1	
	26. Submandibular gland	1	
	27. Thyroid gland	1	
	28. Muscles of mastication	1	

	29. Jugular vein	1	
	30. Lateral wall of Nose	1	
	31. Revision	3	

	Total Hours	**40 hrs**	
9	**CNS**		II
	1. Introduction to Brain	1	
	2. IIIrd Ventricle and IVth Ventricle	2	
	3. Pons	2	
	4. Medulla	2	
	5. Spinal cord	1	
	6. Lateral Ventricle	1	
	7. Cerebrum Sulci & gyri	2	
	8. Areas of cerebrum	2	
	9. Corpus callosum	1	
	10. White matter of cerebrum	1	
	11. Internal capsule	1	
	12. Basal ganglia	1	
	13. Midbrain	1	
	14. Blood supply of brain	1	

	15. Meninges	1	

	16. CSF	1	
	17. Thalamus	1	
	18. Cerebellum	2	
	19. Cranial nerves including special senses.	12	
	20. Revision	4	
	Total Hours	**40 hrs**	

Total – 325 hrs

PRACTICAL

Sr. No.	Topics	Hrs	Term
1.	**EMBRYOLOGY & GENETICS**		I
	Stages of Development	12	
	Spermatogenesis, Oogenesis and Germ layers.		
	Development of Embryogenic Disc, Placenta		
	Embryology of organs		
	Total Hours	**12 hrs**	

2	**HISTOLOGY**		I
	Histology lectures of specific organs	18	

	Total Hours	**18 hrs**	
3	**UPPER LIMB**		I
	Practicals		
	Clavicle	6	
	Scapula	6	
	Humerus	6	
	Radius	6	
	Ulna	6	
	Hand	6	
	Surface Marking of Upper limb	6	
	Dissection		
	Axilla & Arm	6	
	Forearm & Hand	6	
	Muscles of Back	6	
	Muscles of Pectoral Region	6	
	Radiology		

	Joints of Upper limb	6	
		72 hrs	
4	**LOWER LIMB**		II

	Practicals		
	Hip Bone	6	
	Femur	6	
	Tibia	6	
	Fibula	6	
	Foot	6	
	Surface Marking of Lower limb	6	
	Dissection		
	Femoral Region	6	
	Gluteal Region	6	
	Thigh	6	
	Leg	6	
	Foot	6	
	Radiology		
	Joints of Lower limb	6	

		72 hrs	
5	**THORAX**		III
	Practicals		
	Ribs – Typical & Atypical	6	

	Thoracic Vertebrae	6	
	Sternum	6	
	Dissection		
	Heart	6	
	Mediastinum	6	
	Lungs	6	
	Surface Marking of thorax	6	
	Radiology	6	
	Total Hours	**48 hrs**	
6	**ABDOMEN**		II
	Practical		
	Lumbar Vertebrae	6	
	Dissection		
	Abdominal cavity, Abdominal vessels	6	

	Stomach, Pancreas, Spleen	6	
	Relation of viscera	6	
	Liver, Gall bladder	6	
	Kidney, Ureter, Urinary bladder	6	
	Peritoneum & Intestine	6	

	Uterus, fallopian tubes, Ovaries	6	
	Ant. Abdominal wall & Post. Abdominal wall	6	
	Surface Marking of Abdomen	6	
	Radiology	6	
		66 hrs	
7	**Head, Neck and Face**		III
	Practical		
	Skull & Mandible	12	
	Dissection		
	Face & Neck	6	
	Radiology	6	
		24 hrs	
8	**CNS**		III

	Cerebrum	6	
	Cerebellum	6	
	Midbrain, Pons & Medulla	6	
		18 Hrs	

Total – 330 Hrs

PRACTICAL TOPICS

Sr. No.	Topics	Hrs	Term
1.	**EMBRYOLOGY & GENETICS**		I
	Stages of Development	12	
	Spermatogenesis, Oogenesis and Germ layers.		
	Development of Embryogenic Disc, Placenta		
	Embryology of organs		
	Total Hours	**12 hrs**	
2	**HISTOLOGY**		I
	Histology lectures of specific organs	18	
	Total Hours	**18 hrs**	
3	**UPPER LIMB**		I
	Practicals		
	Clavicle	6	
	Scapula	6	
	Humerus	6	
	Radius	6	
	Ulna	6	
	Hand	6	

	Surface Marking of Upper limb	6	
	Dissection		
	Axilla & Arm	6	
	Forearm & Hand	6	
	Muscles of Back	6	
	Muscles of Pectoral Region	6	
	Radiology		
	Joints of Upper limb	6	
		72 hrs	
4	**LOWER LIMB**		II
	Practicals		
	Hip Bone	6	
	Femur	6	
	Tibia	6	
	Fibula	6	
	Foot	6	

	Surface Marking of Lower limb	6	
	Dissection		
	Femoral Region	6	

	Gluteal Region	6	
	Thigh	6	
	Leg	6	
	Foot	6	
	Radiology		
	Joints of Lower limb	6	
		72 hrs	
5	**THORAX**		III
	Practicals		
	Ribs – Typical & Atypical	6	
	Thoracic Vertebrae	6	
	Sternum	6	
	Dissection		
	Heart	6	

	Mediastinum	6	
	Lungs	6	
	Surface Marking of thorax	6	
	Radiology	6	
	Total Hours	**48 hrs**	

6	**ABDOMEN**		II
	Practical		
	Lumbar Vertebrae	6	
	Dissection		
	Abdominal cavity, Abdominal vessels	6	
	Stomach, Pancreas, Spleen	6	
	Relation of viscera	6	
	Liver, Gall bladder	6	
	Kidney, Ureter, Urinary bladder	6	
	Peritoneum & Intestine	6	
	Uterus, fallopian tubes, Ovaries	6	
	Ant. Abdominal wall & Post. Abdominal wall	6	

	Surface Marking of Abdomen	6	
	Radiology	6	
		66 hrs	
7	**Head, Neck and Face**		III
	Practical		
	Skull & Mandible	12	
	Dissection		

	Face & Neck	6	
	Radiology	6	
		24 hrs	
8	**CNS**		III
	Cerebrum	6	
	Cerebellum	6	
	Midbrain, Pons & Medulla	6	
		18 Hrs	

Non-Lecture Activities

Sr. No	**Non Lecture Teaching Learning methods**	**Time Allotted per Activity (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, projects	10
Sub total		80

8	Practical	250
Total		**330**

ASSESSMENT

Table- Assessment Summary

Number of papers and Mark Distribution

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

Scheme of Assessment (formative and Summative)

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

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

Evaluation Methods for Assessment

Sr. No	**Evaluation Criteria**
1	Practical Performance
2	Viva Voce, MCQs, MEQ (Modified Essay Questions/Structured Questions)

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**	

Distribution of Theory exam

Sr. No	**Paper-I**			**D** **Type of Questions "Yes"** **can be asked.** **"No" should not be asked.**		
	A **List of Topics**	**B** **Term**	**C** **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

Sr. No	**Paper-II**			**D** **Type of Questions**
				"Yes" can be asked. **"No" should not be asked.**

	A List of Topics	B Term	C Marks	MCQ (1 Mark)	SAQ (5 Marks)	LAQ (10 Marks)
1	Thorax	II	Refer Next Table	Yes	Yes	Yes
2	Abdomen & Pelvis	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	30	Yes	Yes	Yes
C	Embryology	I	15	Yes	Yes	No
D	Head, neck and Face	II	25	Yes	Yes	Yes
E	Central nervous System	II	20	Yes	Yes	Yes

Paper-II

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 and Pelvis	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	1. Theme A 2. Theme A 3. Theme B 4. Theme B 5. Theme C 6. Theme C 7. Theme D 8. Theme D
	Must know part: 7 MCQ Desirable to know: 2 MCQ. Nice to know: 1 MCQ	9. Theme E 10. Theme E
Q2	Short answer Questions (SAQ) ten Questions	1. Theme A 2. Theme B 3. Theme B 4. Theme B

	5 Marks Each All compulsory Must know part: 10 SAQ Desirable to know: Nil Nice to know: Nil	5. Theme C 6. Theme C 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	1. Theme B 2. Theme D 3. Theme E

	No Questions on Nice to know and Desirable to know	

Paper-II

A **Question Serial Number**	**B** **Type of Question**	**Question Paper Format** **(Refer table II Theme table for themes)**
Q1	Multiple choice Questions (MCQ) 10 Questions 1 mark each All compulsory Must know part:7 MCQ Desirable to know: 2 MCQ. Nice to know: 1 MCQ	1. Theme A 2. Theme A 3. Theme 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	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
	Desirable to know: 3SAQ Nice to know: 1 SAQ	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 A 2. Theme B 3. Theme C

Distribution of Practical Exam

Osteology	60 marks
Soft part	60 marks
Extremities	40 marks
Histology	10 marks
Journal	10 marks
Internal Assessment	20 Marks

Total	200 Marks

Practical- 100 Marks (Spotting- 30 Marks, Surface Anatomy-10 Marks, Extremities, Bones, Viscera-50 Marks, Journal-10 marks) Viva Voce- 80 Marks

HUMAN PHYSIOLOGY

Course- HUMAN PHYSIOLOGY & BIOCHEMISTRY

Course code: Hom UG - PB

TEACHING HOURS

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

PER SEMESTER TOTAL HRS OF TEACHING

Lectures - 108	Non – Lecture – 110	Total - 218

PER WEEK TOTAL HRS OF TEACHING

Lectures – 7	Non – Lecture – 7	Total - 14

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**

Practical / Clinical Physiology / OPD Wise Teaching Hours Distribution – 330 Hours

Physiology – SEMESTER 1 : 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	Interpretation and Discussion of Results of Biochemical Tests	Demonstration	04
	Total		**140**

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./ Duration	**Wk**	**Physiology**	**Total Hrs**
SEMESTER - 1			
Module 1. Organization of the human body	**16 Wks**	• General physiology • Bio Physics Science • Skin & The integumentary System **Clinical Physiology :** • Case Taking & Approach to Patient • General concept of examination.	Lectures – 100 Hrs Non – Lectures – 115 Hrs.

Module 2 Principals of Support System & Movements with transportation		• Body Fluid & Immune Mechanism • Nerve Muscles Physiology **Practical :** • 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 **Clinical Physiology :** • Examination of muscles, joints,	
	4^{th} Month – 5 days PA 6^{th} Month – 10 days TT – including Viva Voce		

SEMESTER - 2			
Module 3. Vital Maintenance of the human body	**16 Wks**	• Cardiovascular System • Respiratory & Environmental Physiology **Clinical Physiology :-** • Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination • Respiratory System- Clinical Examination, Spirometry, Stethography • OPD (Applied Physiology)	Lectures – 110 Hrs Non – Lectures – 110 Hrs.
Module 4.		• Central Nervous System	
Control system of the human body with continuity		• Endocrinology **Clinical Physiology :** • Nervous System- Clinical Examination • Special Senses- Clinical Examination • Reproductive System – Diagnosis of pregnancy • OPD (Applied Physiology)	
	9th Month – 5 days PA 12th Month – 10 days TT – including Viva Voce		

SEMESTER - 3			
Module 5. **Energy maintenance of human body**	**16 wks**	• Reproductive System • Special Senses • Digestion System & Nutrition • Renal Physiology • Bio-Chemistry **Practical : -** • 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	Lectures – 115 Hrs Non – Lectures – 105 Hrs.
		• Liver Function Tests • Kidney Function Tests • Lipid Profile • Interpretation and Discussion of Results of Biochemical Tests **Clinical Physiology :-** • Gastrointestinal System- Clinical Examination • OPD (Applied Physiology)	
	14th Month – 5 days PA 18th Month – 12 days TT – including Viva Voce – University exam		

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;
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

BIO-PHYSICAL SCIENCES

Filtration Ultra-filtration Osmosis Diffusion Adsorption Hydrotropy, Colloid

Donnan Equilibrium Tracer elements Dialysis Absorption Assimilation Surface tension

2. SKIN &THE INTEGUMENTARY SYSTEM

Skin & Integumentary System

Layers of Skin Function of Skin Sweat

Body temperature and its regulation

3. BODY FLUID & IMMUNE MECHANISM

Blood

Plasma Proteins Red Blood Cells Erythropoiesis

Haemoglobin and Iron Metabolism 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

4. 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

5. **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

Heart rate

Arterial blood pressure Radial Pulse

Regional circulation- Cerebral, Splanchnic, Capillary, Cutaneous & skeletal muscle circulation.

Cardiovascular adjustments during exercise

6. 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

7. 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

Cerebellum – Posture and equilibrium Reticular formation

Proprioceptors

Higher intellectual function Electroencephalogram (EEG) Physiology of sleep

Cerebro-spinal fluid (CSF) Autonomic Nervous System (ANS)

8. 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

9. 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

10.SPECIAL SENSES

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

Sensation of taste: Taste receptors, Taste pathways

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

11.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

12.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 ofurine Renal functions tests

Micturition

13.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

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
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

ASSESSMENT

PHYSIOLOGY THEME TABLE

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

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	Yes
F	Biochemistry	III	08	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) 10 Questions 1 mark each All questions compulsory	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) All questions compulsory 5 Marks Each	1. Theme A 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

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)**
Q1	Multiple choice Questions (MCQ) 10 Questions 1 mark each All questions compulsory	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 D 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 E

Distribution of Marks for Practical Exam:

Practical Exam: 100 Marks	
Hematology	20 marks
Bio-chemistry	20 marks
Clinical Physiology	20 marks
Spotters	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%.

HOMOEOPATHIC PHARMACY

Course-HOMOEOPATHIC PHARMACY

Course code: Hom-UG-HP

TEACHING HOURS

Sr No.	Subject	Theoretical Lecture	Practical + Posting at IPD/OPD/Hospital Dispensing Section
01	Homeopathic Pharmacy	100 hrs.	110 hrs.

Teaching Hours (Theory)

A List of Topics		B.Term	C.Teaching Hours
a) General Concepts and Orientation:			
History of Pharmacy with emphasis on emergence of Homoeopathic Pharmacy.	Definition of Pharmacy & Homoeopathic Pharmacy Concept of Drug substance, Drug, Medicine & Remedy Forming Basic concept of other AYUSH Schools of Pharmacy (Ayurveda, Siddha, Sowa Rigpa& Unani Pharmacy)	I	03
Homoeopathic Pharmacy Basics	Sources of Homoeopathic Pharmacy Branches of Pharmacy Scope of Homoeopathic Pharmacy	I	04
	Specialty and originality of Homoeopathic Pharmacy The Principles of Homoeopathy Law of Similia, Simplex & Minimum Theory of Chronic Disease & Vital Force Doctrine of Drug Proving & Drug Dynamisation		

Homoeopathic Pharmacopoeia	The Evolution, History & Development of Homoeopathic Pharmacopoeias throughout the world (year wise Publications) – GHP, BHP, HPUS, FHP Official –(HPI) &Unofficial Pharmacopoeias – (M Bhattacharya & Co's Homoeopathic Pharmacopoeia Encyclopaedia of Homoeopathic Pharmacopoeia – P N Verma, Homoeopathic Pharmaceutical Codex) Monograph, Contents of Monograph with its individual importance	I	04
Ideal laboratory	Pre requisites of ideal Laboratory (General Laboratory), Laboratory safety Rules Role of Laboratory in Homoeopathic Pharmacy Education	I	02

Weights and measurements.	Metrology Basics & Units of Apothecary System, British Imperial System, Metric System Interrelationship between various systems of Weight & Measure Concept on Domestic Measures with Metric Equivalents	I	01

Nomenclature	The Basic Rules of Nomenclature Nomenclature of Homoeopathic Drugs Important terminologies like scientific names, common names, synonyms Anomalies in Nomenclature	I	02
Pioneers of Homoeopathic Pharmacy	Role & contributions of Pioneers in development of Homoeopathic Pharmacy	I	02
b) Raw Material: Drugs and Vehicles			
Source of drugs in Homoeopathy	Different sources - Plant kingdom, Animal kingdom, Mineral kingdom, Nosodes, Sarcodes, Imponderabilia, Synthetic source, New Sources - Allersode, Isodes with reference to their clinical utility Introduction to Bowel Nosodes, Tissue remedies	I	07

Collection of drug substances	General and Specific guidelines for collecting drugs from all available sources	I	03
Vehicles.	Definition, classification, General Use Source, Properties & Particular use of Vehicles with respect to List Provided in Appendix D Preparation – Commercial Lactose, Alcohol Purity tests – Water, Alcohol, Sugar of Milk	I	06
c) Homoeopathic Pharmaceutics:			

Mother tincture and its preparation	Extraction – Principles & Various Methods Old Method (Based on Class I to IX) Concept of Uniform Drug Strength Estimation of Moisture Content - Necessity New Method/Modern Approach of Homoeopathic Drug Preparation	II	07
Various Scales of Potentization in Homoeopathic pharmacy.	History of development, Introducer, Designation, Preparation, Administration & Application with respect to - Centesimal Scale, Decimal Scale & 50 Millesimal Scale	II	03
Drugs Dynamisation	The Evolution of Dynamisation Concept in Homoeopathy Potentisation& its types	II	06

	The Merits of Potentisation Succussion & Trituration Various types of Potency– Fluxion Potency, Jumping Potency, Back Potency, Single Vial Potency, Multiple Vial Potency, Mixed Vial Potency Post-Hahnemannian Potentization Techniques		

External applications	Scope of administration of External Applications in Homoeopathic Practice Dr Hahnemann's View as per Organon (5th& 6th Ed) Preparation & Uses of lotion, glycerol, liniment and ointment. Commercial Preparation of Ointment	II	05
Posology	Basic principles of Homoeopathic Posology Related aphorisms of Organon of medicine. Criteria for Selection of Potency & Repetition of Dose Various Kinds of Dose, Emphasis on Minimum Dose	III	06

Prescription	Prescription Writing Important Abbreviations Parts & Contents of Prescription Merits & Demerits of Prescription Writing	III	02
Dispensing of Homoeopathic Medicines	Various Dosage Forms – Solid, Liquid Dosage Forms, Methods of Dispensing	II	02
Placebo.	Concept of Homoeopathic Placebo The Philosophy of administration of placebo Concept of Placebo Effect	II	01

Pharmaconomy	Routes of Homoeopathic drug administration.	II	02
Preservation	Preservation Rules – Raw Materials Drug Substance, Mother Preparations, Finished products & Vehicles	II	02
d) Pharmacodynamics			
▪ Doctrine of Signature.	Basic Concept, Its Evolution & Application in Ancient Medical System Supporters of the Doctrine Dr Hahnemann's view on the Doctrine	II	01
▪ Drug Proving.	Homoeopathic Pharmacodynamics	III	06

	With reference to aphorisms 105 – 145 of Organon of Medicine – 6th Ed) Post Hahnemannian Drug Proving Homoeopathic Pathogenetic Trial (HPT) CCRH & Other Protocols on HPT Other Noted Provers & their work on Drug Proving		
▪ Adverse Drug Reactions	Basic Idea, Reporting of ADE Drug safety with Ref to HPI Medication errors, Causality Assessment Incompatible Remedies	II	02

▪ Pharmaco-vigilance.	Pharmacovigilance in Homoeopathy Activities of Pharmacovigilance Centres Awareness on Medicinal Preparations against Homoeopathic Principles – Patents, Combinations	II	02
▪ Pharmacological study of drugs	listed in Appendix-A (Any 15)	III	05
e) Quality Control:			

• Standardisation in Homoeopathy	Different Methods of Standardisation Quality Control of Raw Materials – Various Evaluation techniques In Process Quality Control Quality Control of finished products – Various standard parameters	II	02
• Industrial pharmacy.	Good Manufacturing Practices (GMP) Schedule M1	II	02
• Homoeopathic pharmacopoeia laboratory (HPL)	Functions and Activities of HPL relating to quality control of drugs. Pharmacopoeia Commission for Indian Medicines	II	01
f) Legislations pertaining to Homoeopathic Pharmacy:		**III**	**04**
The Drugs and Cosmetics Act, 1940 (23 to 1940)			
Drugs and Cosmetics Rules, 1945			

Medicinal and Toilet Preparations (Excise Duties) Act, 1955 (16 of 1955)		
Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 (21 of 1954)		
The Narcotic Drugs and Psychotropic Substances Act, 1985 (61 of 1985)		
Dangerous Drug Act, 1930		

g) Recent Advances in Homoeopathic Pharmacy	**III**	**02**
Modern theories related with Homoeopathic Drug action ▪ Principles of Drug action ▪ Introduction to Nanomedicine ▪ Molecular Mechanism of Drug Action ▪ Mechanism of Action of Homoeopathic Medicines		
Scope of Research in Homoeopathic Pharmacy ▪ Drug Discovery ▪ Principles of New Drug discovery ▪ Clinical evaluation of New Drugs ▪ Pre-Clinical Research in Homoeopathic Pharmacy	III	01
h) Homoeopathic Pharmacy - Relationships	III	02
Relation of Homoeopathic Pharmacy with Anatomy		
Relation of Homoeopathic Pharmacy with Physiology		

Relation of Homoeopathic Pharmacy with Materia Medica With reference to Source of Drugs, Identification, Common Name of Drugs, Role of Drug Proving & Other Types of Proving in construction of Materia Medica, Clinical Verification Family wise study of Sphere of action – Solanaceae, Loganiaceae, Compositae, Liliaceae, Anacardiaceae, Rubiaceaeetc		

Teaching Hours (Practical)

Homoeopathic Pharmacy Practicals		**Teaching Hours**	**Peyton's 4 step assessment criteria**
	Particulars of Experiments		
1	Estimation of size of globules	2	Execution
2	Medication of globules (Small Scale)	2	Execution
3	Purity test of Sugar of milk	2	Comprehension & Execution
4	Purity test of water	2	Comprehension & Execution
5	Purity test of Ethyl alcohol	2	Comprehension & Execution
6	Determination of Specific gravity of a given liquid Vehicle & identifying the same.	2	Execution
7	Preparation of dispensing alcohol from strong alcohol.	1	Comprehension & Execution
8	Preparation of dilute alcohol from strong alcohol.	1	Comprehension & Execution
9	Trituration of drug in Old Method (One each of Class VII, VIII & IX)	3	Execution
10	Trituration of one drug as per HPI	1	Execution

11	Succussion in decimal scale from Mother Tincture (Prepared in Old Method) to 3X potency.	2	Execution
12	Succussion in decimal scale from Mother Tincture (Prepared in New Method) to 3X potency	2	Execution

13	Succussion in centesimal scale from Mother Tincture (Prepared in Old Method) to 3C	2	Execution
14	Succussion in centesimal scale from Mother Tincture (Prepared in New Method) to 3C	2	Execution
15	Conversion of Trituration to liquid potency: Decimal scale 6X to 8X potency.	1	Execution
16	Conversion of Trituration to liquid potency: Centesimal scale 3C to 4C potency.	1	Execution
17	Preparation of 0/2 potency (Solid form) (LM scale) of 1 Drug from 3rd Degree Trituration.	2	Execution
18	Preparation of external applications – Lotion	1	Execution
19	Preparation of external applications – Glycerol	1	Execution
20	Preparation of external applications – Liniment	1	Execution
21	Preparation of external applications – Ointment	1	Execution
22	Writing of prescription & Dispensing the Medicine in Water with preparation of Doses	1	Execution
23	Writing of prescription & Dispensing the Medicine in Sugar of Milk with Preparation of Doses	1	Execution
24	Preparation of mother tinctures according to Old Hahnemannian method (Class I, II, III, IV)	8	Execution
25	Preparation of mother solutions according to Old Hahnemannian method (Class Va, Vb, VIa, VIb)	4	Execution

COURSE CONTENT

THEORY

Table 4: Homoeopathic Pharmacy Theory	
a) General Concepts and Orientation:	
History of Pharmacy with emphasis on emergence of Homoeopathic Pharmacy.	Definition of Pharmacy & Homoeopathic Pharmacy Concept of Drug substance, Drug, Medicine & Remedy Forming Basic concept of other AYUSH Schools of Pharmacy (Ayurveda, Siddha, Sowa Rigpa& Unani Pharmacy)
Homoeopathic Pharmacy Basics	Sources of Homoeopathic Pharmacy Branches of Pharmacy Scope of Homoeopathic Pharmacy Specialty and originality of Homoeopathic Pharmacy The Principles of Homoeopathy Law of Similia, Simplex & Minimum Theory of Chronic Disease & Vital Force Doctrine of Drug Proving & Drug Dynamisation

Homoeopathic Pharmacopoeia	The Evolution, History & Development of Homoeopathic Pharmacopoeias throughout the world (year wise Publications) – GHP, BHP, HPUS, FHP Official –(HPI) &Unofficial Pharmacopoeias – (M Bhattacharya & Co's Homoeopathic Pharmacopoeia Encyclopaedia of Homoeopathic Pharmacopoeia – P N Verma, Homoeopathic Pharmaceutical Codex) Monograph, Contents of Monograph with its individual importance
Ideal laboratory	Pre requisites of ideal Laboratory (General Laboratory), Laboratory safety Rules Role of Laboratory in Homoeopathic Pharmacy Education
Weights and measurements.	Metrology Basics & Units of Apothecary System, British Imperial System, Metric System Interrelationship between various systems of Weight & Measure Concept on Domestic Measures with Metric Equivalents
Nomenclature	The Basic Rules of Nomenclature Nomenclature of Homoeopathic Drugs Important terminologies like scientific names, common names, synonyms Anomalies in Nomenclature
Pioneers of Homoeopathic Pharmacy	Role & contributions of Pioneers in development of Homoeopathic Pharmacy

b) Raw Material: Drugs and Vehicles	
Source of drugs in Homoeopathy	Different sources - Plant kingdom, Animal kingdom, Mineral kingdom, Nosodes, Sarcodes, Imponderabilia, Synthetic source, New Sources - Allersode, Isodes with reference to their clinical utility Introduction to Bowel Nosodes, Tissue remedies
Collection of drug substances	General and Specific guidelines for collecting drugs from all available sources
Vehicles.	Definition, classification, General Use Source, Properties & Particular use of Vehicles with respect to List Provided in Appendix D Preparation – Commercial Lactose, Alcohol Purity tests – Water, Alcohol, Sugar of Milk
c) Homoeopathic Pharmaceutics:	
Mother tincture and its preparation	Extraction – Principles & Various Methods Old Method (Based on Class I to IX) Concept of Uniform Drug Strength Estimation of Moisture Content - Necessity New Method/Modern Approach of Homoeopathic Drug Preparation

Various Scales of Potentization in Homoeopathic pharmacy.	History of development, Introducer, Designation, Preparation, Administration & Application with respect to - Centesimal Scale, Decimal Scale & 50 Millesimal Scale
Drugs Dynamisation	The Evolution of Dynamisation Concept in Homoeopathy Potentisation& its types The Merits of Potentisation Succussion & Trituration Various types of Potency– Fluxion Potency, Jumping Potency, Back Potency, Single Vial Potency, Multiple Vial Potency, Mixed Vial Potency Post-Hahnemannian Potentization Techniques
External applications	Scope of administration of External Applications in Homoeopathic Practice Dr Hahnemann's View as per Organon (5^{th}& 6^{th} Ed) Preparation & Uses of lotion, glycerol, liniment and ointment. Commercial Preparation of Ointment

Posology	Basic principles of Homoeopathic Posology Related aphorisms of Organon of medicine. Criteria for Selection of Potency & Repetition of Dose Various Kinds of Dose, Emphasis on Minimum Dose

Prescription	Prescription Writing Important Abbreviations Parts & Contents of Prescription Merits & Demerits of Prescription Writing
Dispensing of Homoeopathic Medicines	Various Dosage Forms – Solid, Liquid Dosage Forms, Methods of Dispensing
Placebo.	Concept of Homoeopathic Placebo The Philosophy of administration of placebo Concept of Placebo Effect
Pharmaconomy	Routes of Homoeopathic drug administration.
Preservation	Preservation Rules – Raw Materials Drug Substance, Mother Preparations, Finished products & Vehicles
d) Pharmacodynamics	

▪ Doctrine of Signature.	Basic Concept, Its Evolution & Application in Ancient Medical System Supporters of the Doctrine Dr Hahnemann's view on the Doctrine

▪ Drug Proving.	Homoeopathic Pharmacodynamics With reference to aphorisms 105 – 145 of Organon of Medicine – 6th Ed) Post Hahnemannian Drug Proving Homoeopathic Pathogenetic Trial (HPT) CCRH & Other Protocols on HPT Other Noted Provers & their work on Drug Proving
▪ Adverse Drug Reactions	Basic Idea, Reporting of ADE Drug safety with Ref to HPI Medication errors, Causality Assessment Incompatible Remedies
▪ Pharmaco-vigilance.	Pharmacovigilance in Homoeopathy Activities of Pharmacovigilance Centres Awareness on Medicinal Preparations against Homoeopathic Principles – Patents, Combinations
▪ Pharmacological study of drugs	listed in Appendix-A (Any 15)
e) Quality Control:	

• Standardisation in Homoeopathy	Different Methods of Standardisation Quality Control of Raw Materials – Various Evaluation techniques In Process Quality Control Quality Control of finished products – Various standard parameters

• Industrial pharmacy.	Good Manufacturing Practices (GMP) Schedule M1
• Homoeopathic pharmacopoeia laboratory (HPL)	Functions and Activities of HPL relating to quality control of drugs. Pharmacopoeia Commission for Indian Medicines

f) Legislations pertaining to Homoeopathic Pharmacy:
The Drugs and Cosmetics Act, 1940 (23 to 1940)
Drugs and Cosmetics Rules, 1945
Medicinal and Toilet Preparations (Excise Duties) Act, 1955 (16 of 1955)
Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 (21 of 1954)
The Narcotic Drugs and Psychotropic Substances Act, 1985 (61 of 1985)
Dangerous Drug Act, 1930
g) Recent Advances in Homoeopathic Pharmacy

Modern theories related with Homoeopathic Drug action

1. Principles of Drug action
2. Introduction to Nanomedicine
3. Molecular Mechanism of Drug Action
4. Mechanism of Action of Homoeopathic Medicines

Scope of Research in Homoeopathic Pharmacy 1. Drug Discovery 2. Principles of New Drug discovery 3. Clinical evaluation of New Drugs 4. Pre-Clinical Research in Homoeopathic Pharmacy
h) Homoeopathic Pharmacy - Relationships
Relation of Homoeopathic Pharmacy with Anatomy
Relation of Homoeopathic Pharmacy with Physiology
Relation of Homoeopathic Pharmacy with Materia Medica With reference to Source of Drugs, Identification, Common Name of Drugs, Role of Drug Proving & Other Types of Proving in construction of Materia Medica, Clinical Verification Family wise study of Sphere of action – Solanaceae, Loganiaceae, Compositae, Liliaceae, Anacardiaceae, Rubiaceaeetc

Practical – Lab Work – Field – Clinical Hospital Work

Laboratory Work –

Practical Class (Experiments) - Maintaining Record of Experiments Conducted

(Principle, Requirements, Calculation if applicable, Process, Label,

Conclusion/Inference) Practical Class (Demonstration) – Maintaining Records

of Practical Demonstrated (Principle, Requirements, Calculation if applicable,

Process, Label, Conclusion/Inference)

Field Visits-

A) **Maintain File/Report on Visit to GMP Compliant Large Scale Medicine Manufacturing Unit (Format should be as per Appendix – E)**

B) **Maintain File/Report on Visit to Medicinal Plant Garden (Format should be as per Appendix - F)**

Activity –

(a) **Clinical Hospital Work** – Maintain Record (Activities/Posting in Dispensing Section, Prescriptions based on Homoeopathic Principles in IPD/OPD) – Record to be maintained as per format in Appendix G

(b) **Seminar –** Maintain Record on Seminar Presentation on Topics of Homoeopathic Pharmacy as assigned – Record to be maintained as per Appendix - H

(c) **Herbarium –** Maintenance of 30 Plant Drug Substances Samples

PRACTICALS

Table 5 : Homoeopathic Pharmacy Practicals	
Sr No.	**Particulars of Experiments**
1	Estimation of size of globules
2	Medication of globules (Small Scale)
3	Purity test of Sugar of milk
4	Purity test of water

5	Purity test of Ethyl alcohol
6	Determination of Specific gravity of a given liquid Vehicle & identifying the same.
7	Preparation of dispensing alcohol from strong alcohol.
8	Preparation of dilute alcohol from strong alcohol.
9	Trituration of drug in Old Method (One each of Class VII, VIII & IX)
10	Trituration of one drug as per HPI
11	Succussion in decimal scale from Mother Tincture (Prepared in Old Method) to 3X potency.
12	Succussion in decimal scale from Mother Tincture (Prepared in New Method) to 3X potency
13	Succussion in centesimal scale from Mother Tincture (Prepared in Old Method) to 3C
14	Succussion in centesimal scale from Mother Tincture (Prepared in New Method) to 3C

15	Conversion of Trituration to liquid potency: Decimal scale 6X to 8X potency.
16	Conversion of Trituration to liquid potency: Centesimal scale 3C to 4C potency.
17	Preparation of 0/2 potency (Solid form) (LM scale) of 1 Drug from 3rd Degree Trituration.
18	Preparation of external applications – Lotion
19	Preparation of external applications – Glycerol
20	Preparation of external applications – Liniment
21	Preparation of external applications – Ointment
22	Writing of prescription & Dispensing the Medicine in Water with preparation of Doses
23	Writing of prescription & Dispensing the Medicine in Sugar of Milk with Preparation of Doses
24	Preparation of mother tinctures according to Old Hahnemannian method (Class I, II, III, IV)

25	Preparation of mother solutions according to Old Hahnemannian method (Class Va, Vb, VIa, VIb)

Demonstration

5. Homoeopathic pharmaceutical instruments and appliances with their cleaning (List provided in Appendix C)
6. Estimation of moisture content using water bath
7. Paper chromatography & TLC of any mother tincture
8. Laboratory methods – Sublimation, distillation, decantation, filtration, crystallization.
9. Preparation of mother tincture – Maceration and Percolation
10. Study & demonstration of Drug Substances (listed in Appendix B)-

i) Macroscopic Characteristic (Any 15)

ii) Microscopic characteristic (Any 05)

11. Study & demonstration of vehicles (Solid, Liquid & Semi solid – as available)
12. Microscopical study of Trituration (One drug up to 3X Potency)
13. Medication of Globule (Large Scale)

Activities

1. Collection of 30 drugs for herbarium
2. Visit to a Large-scale manufacturing unit of Homoeopathic medicine (GMP compliant).
3. Visit to a Medicinal Plant /Botanical Garden & shall keep details Visit report
4. Clinical Class: Visit to IPD, OPD to take note on prescriptions as per Homoeopathic Principles &keep record
5. Visit to Hospital dispensing section to observe & gain knowledge on Dispensing techniques & Keep Records

Demonstration

1. Homoeopathic pharmaceutical instruments and appliances with their cleaning (List provided in Appendix C)-06 Hours
2. Estimation of moisture content using water bath-02 Hours
3. Paper chromatography & TLC of any mother tincture-04 Hours
4. Laboratory methods – Sublimation, distillation, decantation, filtration, crystallization.-04 Hours
5. Preparation of mother tincture – Maceration and Percolation- 04 Hours
6. Study & demonstration of Drug Substances (listed in Appendix B)- 10 Hours i)Macroscopic Characteristic (Any 15)
   ii) Microscopic characteristic (Any 05)
7. Study & demonstration of vehicles (Solid, Liquid & Semi solid – as available)- 02 Hours
8. Microscopical study of Trituration (One drug up to 3X Potency)-02 Hours
9. Medication of Globule (Large Scale)-1 Hour

Clinical Hospital Work – Maintain Record (Activities/Posting in Dispensing Section, Prescriptions based on Homoeopathic Principles in IPD/OPD) – Record to be maintained as per format in Appendix G- 20 Hours

Seminar – Maintain Record on Seminar Presentation on Topics of Homoeopathic Pharmacy as assigned- 07 Hours

Non-Lecture Activities

1. Collection of 30 drugs for herbarium
2. Visit to a Large-scale manufacturing unit of Homoeopathic medicine (GMP compliant).
3. Visit to a Medicinal Plant /Botanical Garden & shall keep details Visit report
4. Clinical Class: Visit to IPD, OPD to take note on prescriptions as per Homoeopathic Principles and keep record
5. Visit to Hospital dispensing section to observe & gain knowledge on Dispensing techniques & Keep Records

PRACTICAL TOPICS

Homoeopathic Pharmacy Practicals	
Sr No.	**Particulars of Experiments**
1	Estimation of size of globules
2	Medication of globules (Small Scale)
3	Purity test of Sugar of milk
4	Purity test of water
5	Purity test of Ethyl alcohol
6	Determination of Specific gravity of a given liquid Vehicle & identifying the same.
7	Preparation of dispensing alcohol from strong alcohol.
8	Preparation of dilute alcohol from strong alcohol.
9	Trituration of drug in Old Method (One each of Class VII, VIII & IX)
10	Trituration of one drug as per HPI

11	Succussion in decimal scale from Mother Tincture (Prepared in Old Method) to 3X potency.
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13	Succussion in centesimal scale from Mother Tincture (Prepared in Old Method) to 3C
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Demonstration

1. Homoeopathic pharmaceutical instruments and appliances with their cleaning (List provided in Appendix C)
2. Estimation of moisture content using water bath
3. Paper chromatography & TLC of any mother tincture
4. Laboratory methods – Sublimation, distillation, decantation, filtration, crystallization.

5. Preparation of mother tincture – Maceration and Percolation
6. Study & demonstration of Drug Substances (listed in Appendix B)- i)Macroscopic Characteristic (Any 15)
   ii) Microscopic characteristic (Any 05)
7. Study & demonstration of vehicles (Solid, Liquid & Semi solid – as available)
8. Microscopical study of Trituration (One drug up to 3X Potency)
9. Medication of Globule (Large Scale)

Activities

1. Collection of 30 drugs for herbarium
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Demonstration

1. Homoeopathic pharmaceutical instruments and appliances with their cleaning (List provided in Appendix C)-06 Hours
2. Estimation of moisture content using water bath-02 Hours
3. Paper chromatography & TLC of any mother tincture-04 Hours
4. Laboratory methods – Sublimation, distillation, decantation, filtration, crystallization.-04 Hours
5. Preparation of mother tincture – Maceration and Percolation- 04 Hours
6. Study & demonstration of Drug Substances (listed in

Appendix B)- 10 Hours i)Macroscopic Characteristic (Any 15)

ii) Microscopic characteristic (Any 05)

7. Study & demonstration of vehicles (Solid, Liquid & Semi solid – as available)- 02 Hours
8. Microscopical study of Trituration (One drug up to 3X Potency)-02 Hours
9. Medication of Globule (Large Scale)-1 Hour

Clinical Hospital Work – Maintain Record (Activities/Posting in Dispensing Section, Prescriptions based on Homoeopathic Principles in IPD/OPD) – Record to be maintained as per format in Appendix G- 20 Hours

Seminar – Maintain Record on Seminar Presentation on Topics of Homoeopathic Pharmacy as assigned- 07 Hours

ASSESSMENT

Assessment Summary

Number of papers and Mark Distribution

Sr. No.	Course Code	Papers	Theory	Practical	Viva Voce	Internal Assessment-Practical	Electives Grade Obtained		Grand Total
1	HomUG-HP	1	100	50	40	10			100

Scheme of Assessment (formative and Summative)

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

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

Evaluation Methods for Periodical Assessment

Sr. No	Evaluation Criteria
1	Practical Performance
2	Viva Voce, MCQs, MEQ(Modified Essay Questions/Structured Questions)

Paper Layout

MCQ	**10 marks**	**15 min**
SAQ	**50 marks**	**85 min**
LAQ	**40 marks**	**80 min**

Distribution of Theory exam

Sr. No	Paper			D Type of Questions "Yes" can be asked. "No" should not be asked.		
	A List of Topics	B Term	C Marks	MCQ (1 Mark)	SAQ (5 Marks)	LAQ (10 Marks)
1	General Concepts and Orientation	I	Refer Next Table	Yes	Yes	No
2	Raw Material: Drugs and Vehicles	I		Yes	Yes	Yes
3	Homoeopathic Pharmaceutics	II		Yes	Yes	Yes
4	Pharmacodynamics	III		Yes	Yes	Yes
5	Quality Control	II		No	Yes	No
6	Legislations pertaining to Homoeopathic Pharmacy	III		No	No	Yes
7	Homoeopathic Pharmacy - Relationships	III		No	Yes	No

Theme table

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	General Concepts and Orientation	I	11	Yes	Yes	No
B	Raw Material: Drugs and Vehicles	I	25	Yes	Yes	Yes
C	Homoeopathic Pharmaceutics	II	23	Yes	Yes	Yes
D	Pharmacodynamics	III	16	Yes	Yes	Yes
E	Quality Control	II	10	No	Yes	No
F	Legislations pertaining to Homoeopathic Pharmacy	III	10	No	No	Yes
G	Homoeopathic Pharmacy - Relationships	III	05	No	Yes	No

Question paper Blueprint

A **Question Serial Number**	**B** **Type of Question**	**Question Paper Format** **(Refer table 7 F II Theme table for themes)**
Q1	Multiple choice Questions (MCQ) 10 Questions 1 mark each All compulsory Must know part: 6 MCQ Desirable to know: 2 MCQ. Nice to know: 2 MCQ	1. Theme A 2. Theme B 3. Theme B 4. Theme B 5. Theme B 6. Theme B 7. Theme C 8. Theme C 9. Theme C 10. Theme D

Q2	Short answer Questions (SAQ) 10 Questions 5 Marks Each All compulsory Must know part: 10 SAQ Desirable to know: Nil Nice to know: Nil	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 G
Q3	Long answer Questions (LAQ) 4 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 F

Distribution of Practical Exam

Practical, Viva & Internal Assessment 100 marks

Spotting	20 marks
Experiment	20 marks
Journal	10 marks
Viva voce	40 marks
Internal assessment	10 marks

MATERIA MEDICA

Subject- HOMOEOPATHIC MATERIA MEDICA

Subject code: HomUG-HMM-I

TEACHING HOURS

Distribution of Teaching Hours:

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

Teaching Hours Theory:

S. no.	**List of Topics**	**Hours**
1.	Definition and introduction of Materia Medica	2
2.	Types of Homoeopathic Materia Medica	3
3.	Sources of Homoeopathic Materia Medica	3
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	15

8.	Study of drug picture (term III)	29
9.	Scope and Limitation of HMM	1

	Total	120

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

COURSE CONTENTS BHMS I (Theory)

Introductory Lectures

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

4. **Homoeopathic medicines:**

1. Aconite	18. Calcarea Phos	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. Dioscoria villosa	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	

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**

a. Definition and introduction of basic Materia Medica.

b. Sources, types 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.Belladona	15. Gelsemium
6.Cina	16. Ignatia
7.Chamomila	17. Lycopodium
8.Carbo veg	18. Nux vomica
9.Cinchona	19. Podophyllum
10.Cocculus	20. Pulsatilla nig.

I. Theory of biochemic system of medicine, its comparison with Homoeopathy
II. 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. Alliun cepa	10. Croton tig
3. Ammon Carb	11. Drosera
4. Ammon Mur	12. Euphrasia
5. Antim Crud	13.Hephar 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

ASSESSMENT
Assessment Summary

Number of papers and Mark Distribution

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

Scheme of Assessment (formative and Summative)

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

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

Examinations 8 Evaluation Methods for Periodical Assessment

Sr. No	Evaluation Criteria
1	Practical/Clinical Performance
2	Viva Voce, MCQs, SAQs, LAQs

Paper Layout

Summative assessment:
Theory- 100 marks

MCQ	**10 marks**
SAQ	**50 marks**
LAQ	**40 marks**

Distribution of Theory exam

Sr. No	**Paper**			**D** **Type of Questions "Yes"** **can be asked.** **"No" should not be asked.**		
	A **List of Topics**	**B** **Term**	**C** **Marks**	**MCQ** **(1 Mark)**	**SAQ** **(5 Marks)**	**LAQ** **(10 Marks)**
1	Definition and introduction of basic materia medica	I		Yes	Yes	No
2	Sources, types, scope and limitation of Homoeopathic Materia Medica	I	Refer	Yes	Yes	Yes

3	Theory of Biochemic system of medicine, its comparision with Homoeopathy and study of 12 Biochemic tissue salts with their physico-chemical reaction	II	Next Table	Yes	Yes	Yes
4	Drug Picture- 50 Homoeopathic Medicines	II & III		Yes	Yes	Yes

Theme table

Theme*	**Topics**	**Term**	**Marks**	**MCQ's**	**SAQ's**	**LAQ's**
A	Definition and introduction of basic materia medica	I	10	Yes	Yes	No
B	Sources, types, scope and limitation of Homoeopathic Materia Medica	I	20	Yes	Yes	Yes
C	Theory of Biochemic system of medicine, its comparision with Homoeopathy and study of **12** Biochemic tissue salts with their physico-chemical reaction	II & III	20	Yes	Yes	Yes
D	Drug Picture- 50 Homoeopathic Medicines	I,II& III	50	Yes	Yes	Yes

Question paper Blue print

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 Desirable to know: 2 MCQ. Nice to know: 1 MCQ	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 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 Nice to know: 1 SAQ	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 D 10. Theme D
Q3	Long answer Questions	1. Theme B

	(LAQ) Four Questions 10 marks each All compulsory All questions on must know No Questions on Nice to know and Desirable to know	2. Theme C 3. Theme D 4. Theme D

Distribution of Practical Exam

Practical & Viva-100 marks

Viva voce	40 marks
Practical (Assignment)*	50 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

REPERTORY

COURSE CODE: HomUG-R-I

SUBJECT NAME: HOMOEOPATHIC REPERTORY and CASE TAKING TEACHING HOURS

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

COURSE CONTENT (Hom - UG-R-I)

S.No	List of Topics	Lecture Hours
1	**Introduction to Repertory, Definition and Meaning of Repertory** ❖ General Introduction to Repertory ❖ Origin of Repertory ❖ Need of Repertory ❖ Definition of Repertory ❖ Meaning of REPERTORIUM	3

2	**Need and uses of repertory and repertorisation** ❖ Uses and Scopes of Repertory ❖ Limitations of Repertory ❖ Definition of Repertorization ❖ Introduction to Methods and Techniques of Repertorization	**3**
3	**Terminologies relevant toRepertory** ❖ Repertory ❖ Rubric	**3**

	❖ Gradation ❖ Cross Reference ❖ Synonym ❖ Repertorization ❖ Totality of Symptoms ❖ Repertorial Totality ❖ Potential Differential Field ❖ Conceptual Image ❖ 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	**Correlation of Anatomy, Physiology and Psychology with Repertory** ❖ Introduction to correlation 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 Repertory	**6**
5	**Schematic representation of chapters in Kent's repertory** ❖ 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**

YOGA

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.1	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, hasthamudra, 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