Study & Evaluation Scheme

of

B.Sc. (Medical Anatomy)
[w.e.f. Session 2022-23]

TEERTHANKER MAHAVEER UNIVERSITY

Delhi Road, Moradabad, UttarPradesh-244001 Website:
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Bachelor of Science in Medical Anatomy (BSc Anatomy) is a specialized branch of medicine that refers to the study of human body structure.

OBJECTIVES:

The objective of the undergraduate training leading to the B.Sc. degree shall be to produce competent bachelors in Medical Anatomy.

At the end of the training the person shall be able to:

* To impart a fundamental knowledge on the structure of the human body. * To understand the basic concepts of different tissues of the body and be able to understand them both grossly and microscopically.

* To understand basic concept of embryological development of human body. * Develop skills as self-directed learner, update oneself in continuing medical education, and use appropriate learning resources.

* Develop the clinical approach to the major variations and anomalies in human anatomy.

TEERTHANKERMAHAVEER UNIVERSITY

(Established under Govt. of U. P. Act No. 30, 2008)
Delhi Road, Moradabad (U.P)

Study & Evaluation Scheme of B. Sc. (Medical Anatomy)

SUMMARY

Programme **:** B. Sc. (Medical Anatomy) Duration **:** Three years full time (Annual System) Medium **:** English

Minimum Required Attendance **:** 75 percent

Maximum Credits **:** 90

Minimum credits required for the degree **:** 90

Assessment

Internal External Total 25 75 100

Internal Evaluation (Theory Papers)	**Class Test II**	7.5
	Class Test I	7.5
	Assignment(s)	**Total** 25
	Other Activity (Including attendance)	

Marks

Marks

Marks Marks Marks

Evaluation of Practical/Dissertations & Project Reports **:**

Internal External Total 50 50 100

External Internal 3 hrs. 1 ½ hr.

Duration of Examination **:**

To qualify the course a student is required to secure a minimum of 50% marks in aggregate including the year-end examination and teachers' continuous evaluation. (i.e. both internal and external).A candidate who secures less than 50% of marks in a course shall be deemed to have failed in that course.

A Candidate who has been placed under re-appear category shall be allowed to continue his/her studies in the next year but will have to appear in the supplementary examination to be conducted within three months after declaration of the result.

Note: For internal assessment purpose, there will be three Class Tests in a year and best two tests will be computed for the final result.

Question Paper Structure

1. The question paper shall consist of seven questions, out of which first question shall be of short answer type (not exceeding 50 words) and will be compulsory. Question No. 1 shall contain 5 parts representing the entire syllabus (weightage 3 marks each)

2. Out of the rest six questions, students shall be required to attempt any five questions. The weightage of questions no. 2 to 7 shall be 12 marks each.

B.Sc. (Medical Anatomy) Year-I
ELEMENTARY ANATOMY

THEORY

A. Elementary Anatomy

1. General Anatomy

2. Anatomical terminology, An anatomical plane, Anatomical positions, Clinical positions, Terms related to movements
3. Basics of cytology: Structure of cell wall, Cell organelles.

4. Musculoskeletal system:
   (a) Bones & classification, Morphology, ossification functions, blood supply
   (b) Muscles, Morphology, classification blood supply, innervations, functions
5. Integumentary system: Thick Skin, Thin skin layers of dermis epidermis, Skin appendages, blood supply, innervations, and functions
6. Cardiovascular system: Morphology of blood vessel, classification of blood vessels, blood capillaries, blood circulation, functions
7. Nervous system: Central Nervous system & Peripheral Nervous system, Gross basic Anatomy, Cranial nerves, Spinal nerves, Functions of nerves, Autonomic nervous system
8. Endocrine system: Classification, Hormone produces, Control of hormone secretion, basic functions 9. Lymphatic system: Formation of lymph, Lymphatic ducts, Thoracic duct, Lymph circulation, functions 10. Digestive system: Parts of digestive system, gross anatomy, and functions
11. Excretory system: Parts of excretory system, gross anatomy of kidney, ureter, urinary bladder penis and their functions
12. Reproductive system: Male reproduction system- gross anatomy of testis, epididymis, vas- deferens, seminal vesicles and prostate. Female reproductive system- gross anatomy of ovaries, uterine tube, uterus, vagina, menstruation cycle.

2. Gross Anatomy (Elementary)

1. Superior Extremities
2. Inferior Extremities
3. Thorax
4. Abdomen
5. Pelvis
6. Head, Neck & Face Region

3. General Histology

Tissues of Body: Light microscopic details and structural basis of function, regeneration, and degeneration.

4. General Embryology

Gametogenesis, Early Human Development, General Embryology.

B. English Language

To be taught and evaluated by Department of Education, Teerthanker Mahaveer University

B.Sc. MEDICAL ANATOMY Year 1
ELEMENTARY ANATOMY

PRACTICAL

Practical: Demonstration of the following on dissected parts

Gross anatomy

Dissection & demonstration of these parts of body

1. Superior Extremities
2. Inferiors Extremities
3. Thorax

4. Abdomen
5. Pelvis
6. Head, Neck & Face Region

Histology & Embryology:
Identification of normal organs in light microscopy. The studying of models of general and systemic embryology.

Assignments:
Chart, model preparation and other assignments.

Year-II Advance Anatomy

THEORY

B.Sc. (Medical Anatomy)

A. Gross Anatomy (Advance)
1. Superior Extremities
2. Inferiors Extremities
3. Thorax
4. Abdomen
5. Pelvis
6. Head, Neck & Face Region

Surface marking and radiology
Covering all regions of the body including CT scan, MRI and Ultrasound.

Neuroanatomy
1. Neuron doctrine.
2. Blood supply of the brain and spinal cord.
3. Anatomy and connections of the cerebellum.
4. Reticular formation of the brain.
5. Hypothalamus (anatomy and connections) – recent concepts.
6. Thalamus (anatomy and connections) – recent concepts.
7. Visual pathway and its blood supply.
8. Anatomy, connections and recent concept of the Rhinencephalon.
9. Central connections of the cranial nerves.
10. Structure of the cerebral cortex.
11. Anatomy of the commissural fibers of the brain.
12. Mode of termination of nerve fibers.

B. Systemic Histology

Cellular organization, light microscopic features, structure and functional correlation of all the systems and organs of the body.

C. Systemic embryology
1. Morphology and development of placenta.
2. Development of excretory system.
3. Development of genital system in the male.
4. Development of genital system in the female.
5. Development of nervous system.
6. Development of cardiovascular system
7. Development of respiratory system.
8. Development of GIT
9. Development of nervous system
10. Morphology of the membranes of the foetus.
11. Causes of congenital abnormalities.
12. Development of diaphragm

D. Computer Applications
To be taught and evaluated by CCSIT, Teerthanker Mahaveer University

B.Sc. (Medical Anatomy) Year-II
Advance Anatomy

PRACTICAL

GROSS ANATOMY

Dissection & demonstration of these parts of body

1. Superior Extremities

2. Inferiors Extremities

3. Thorax

4. Abdomen

5. Pelvis

6. Head, Neck & Face Region

7. Brain & Spinal cord

Histology & Embryology:

Identification of normal organs in light microscopy. The studying of models of general and systemic embryology.

Assignments:

Chart, model preparation and other assignments.

B.Sc. (Medical Anatomy) Year-III
CLINICAL ANATOMY

THEORY

Gross Anatomy, Recent advances and clinical anatomy
Upper limb
Lower limb
Thorax
Abdomen
Pelvis
Head & Neck
Brain & Spinal cord

Genetics
Normal and abnormal chromosomes, Molecular genetics, developmental genetics, immunogenetics, population genetics counselling. Human Chromosomes – Structure, number and classification, methods of chromosome preparation, banding patterns, Chromosome abnormalities, Autosomal abnormalities – syndromes, Sex chromosomal abnormalities – syndromes, Molecular and Cytogenetics. Single gene pattern inheritance, Autosomal and Sex chromosomal patterns of inheritance, Intermediate pattern and multiple alleles. Mutations, Non Mendelian inheritance, mitochondrial inheritance, Genomic imprinting, parental disomi. Multifactorial

pattern of inheritance: Criteria for multifactorial inheritance, Teratology, Structure of gene, Cancer Genetics – Haematological malignancies, Pharmacogenetics. Reproduction Genetic- Male infertility, Female Infertility, assisted reproduction, Pre implantation genetics, prenatal diagnosis, Genetic Counselling Ethic and Genetics.

Value Added Course

1. Anatomical basis of blood sampling
2. Anatomical basis of tracheostomy
3. Anatomical basis of Femoral tap
4. Anatomical basis of Pleural effusion
5. Anatomical basis of Ascitic tap
6. Anatomical basis of Lumbar puncture
7. Cardio-pulmonary Resuscitation (CPR)
8. Normal respiratory and heart sounds
9. Topography and palpation of different organs of abdomen
10. Auscultation of respiratory sounds and heart sounds

B.Sc. (Medical Anatomy) Year-III
CLINICAL ANATOMY

PRACTICAL

GROSS ANATOMY

1. Dissection of whole body
2. Special dissections
3. Preparation of specimens for museum [Elementary]
4. Embalming technique and preservation of bodies [Elementary]

NEUROANATOMY

1. Special dissections of brain
2. Clinical examination of neurological cases
3. Staining as mentioned under histology [Spinal cord, cerebrum, cerebellum, ganglia, peripheral nerves]

RECOMMENDED BOOKS

1. BD Chaurasia's Human Anatomy (Volume 1,2,3), CBS publishers
2. Vishram Singh, Textbook of Human Anatomy (Volume 1,2,3), Elsevier 3.
BD Chaurasia's, Handbook of General Anatomy, CBS publishers
4. Inderbir Singh, Human Embryology, Jaypee publishers

5. Essential of Genetics, Renu Chauhan, APC Publishers
6. Inderbir Singh, Human Histology, Jaypee publishers