



**NISHITHA DEGREE COLLEGE
(AUTONOMOUS)
NIZAMABAD**

Affiliated to Telangana University, Accredited with 'A' Grade by NAAC
UGC Recognized Under Section 2(F) & 12B

DEPARTMENT OF B.SC (MLT)

UG SYLLABUS

I & II - SEMESTER

B.Sc (MLT) COURSE STRUCTURE

Syllabus for all the students admitted from the Academic Year
2025-26 Batch onwards

First Year Semester - I

category	Title of the paper	Credits No. of	Hrs Pw	Max marks			Total
				Internal exam	End exam	lab	
Theory							
	HUMAN ANATOMY PART-I	4	4	30	70	-	100
	HUMAN PHYSIOLOGY PART - I	4	4	30	70	-	100
	CLINICAL LABORATORY PRACTICE - I	4	4	30	70	-	100
	TELUGU	4	4	30	70	-	100
	ENGLISH	4	4	30	70	-	100
PRACTICAL							
	HUMAN ANATOMY PART-I	1	3			50	50
	HUMAN PHYSIOLOGY PART - 1	1	3			50	50
	CLINICAL LABORATORY PRACTICE - I	1	3			50	50
TOTAL		23		150	450	150	650

Sadhwik
Department of Anatomy

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SEMESTER – 1

Core Paper – I: HUMAN ANATOMY – Part – I

Theory : 4 Hours per Week	4 Credit	Internal Marks = 30
		External Marks = 70

Unit – I: HUMAN BODY, LOCOMOTION & SUPPORT

- 1.1 Definitions, Subdivisions of Anatomy, Terms of location and positions, Fundamental Planes.
- 1.2 Vertebrate structure of man and organization of the body cells and tissues.
- 1.3 Types of bones, structure of bone, divisions of the skeleton, Appendicular skeleton, Axial skeleton – names of all the bones and their parts.
- 1.4 Joints – classification, types of movements with examples.

Unit – II ANATOMY OF THE DIGESTIVE SYSTEM

- 2.1 Components of Digestive system, Alimentary tract, Anatomy of organs of Digestive system.
- 2.2 Anatomy of Mouth, Pharynx, Salivary Glands and Esophagus,
- 2.3 Anatomy of Liver, Biliary apparatus, Pancreas
- 2.3 Anatomy of Pancreas & Intestine.

Unit – III ANATOMY OF THE RESPIRATORY SYSTEM

- 3.1 Organs of Respiratory System – Nose – nasal cavity.
- 3.2 Anatomy of Larynx and Trachea.
- 3.3 Anatomy of Main Bronchi.
- 3.4 Anatomy of Lungs and Respiratory Membrane.

Unit – IV ANATOMY OF CIRCULATORY SYSTEM

- 4.1 Anatomy of circulatory system parts (Heart structure & Blood Components)
- 4.2 Anatomy of Blood Vessels (Arteries, Veins & Capillaries)
- 4.3 Anatomy of circulatory system circuits (The pulmonary circuit, The systemic circuit & Coronary circuit)
- 4.4 Anatomy of lymphatic system.

B. Sridhar

ANATOMY PART - 1

1. Demonstration to illustrate circulatory, digestive, excretory and reproductive systems.
2. Demonstration of various parts of male and female reproductive system from models
3. Demonstration of all bones
4. Demonstration of various joints & X-rays of all normal bones and joints
5. Demonstration of structural difference between skeletal, smooth and cardiac muscles

Sushwita
Department of Anatomy

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VC Nominee

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SEMESTER - 1

Core Paper – II: HUMAN PHYSIOLOGY – Part – I

Theory : 4 Hours per Week	4 Credit	Internal Marks = 30
		External Marks = 70

Unit – I: PHYSIOLOGY OF DIGESTIVE SYSTEM

- 1.1 Activities Occurring in the Mouth, Pharynx and Esophagus.
- 1.2 Activities of the Stomach (Composition of gastric juice, digestion in stomach
- 1.3 Activities of the Small Intestine (Composition of Pancreatic Juice, Bile Juice, Intestinal Juice and digestion in small intestine)
- 1.4 Absorption of food.

Unit – II: PHYSIOLOGY OF EXCRETORY SYSTEMS


- 2.1 Physiology of Urine Formation.
- 2.2 Properties and composition of normal urine, urine output.
- 2.3 Names & Abnormal constituents in urine, Micturition, Cystourethrogram.
- 2.4 Diuretics, Renal Function Tests; Actions of ADH, aldosterone, PTH on kidneys.

Unit – III: PHYSIOLOGY OF RESPIRATION SYSTEM

- 3.1 Respiration, Mechanics of Breathing & Control of Respiration.
- 3.2 External, Internal Respiration and Gas Transport.
- 3.3 Spirometry: Spirogram, Spirometer.
- 3.4 Respiratory Volumes & Capacities (Tidal Volume, Inspiratory reserve volume, Expiratory reserve volume, Residual volume, Vital capacity, Dead space volume, functional volume)

Unit – IV: PHYSIOLOGY OF CARDIOVASCULAR SYSTEM

- 4.1 Intrinsic conduction system of the Heart, The pathway of the conduction system.
- 4.2 Cardiac cycle, Heart Sounds and Cardiac Output.
- 4.3 Physiology of Circulation, ECG – Definition, determination, significance.
- 4.4 Cardiovascular Vital Signs (Blood Pressure, Pulse – Jugular & Radial pulse)



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PHYSIOLOGY PART - 1

1. Collection of blood and study of haemocytometry, haemoglobiometry.
2. Determination of specific gravity of blood
3. Red blood cell count, Leishman's staining and different WBC count
4. Determination of blood groups
5. Determination of erythrocyte sedimentation rate
6. Determination of packed cell volume

Sadhvika
Department of Anatomy

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SEMESTER - 1

Core Paper – III: CLINICAL LABORATORY PRACTICE – Part – I

Theory : 4 Hours per Week	4 Credit	Internal Marks = 30
		External Marks = 70

Unit – I: Laboratory Maintenance

- 1.1 Laboratory Services Levels of laboratories – Primary level, Secondary level and tertiary level.
- 1.2 Reference laboratories, Research laboratories and specific disease reference laboratories.
- 1.3 Infrastructure in the laboratories: Laboratory space – Reception, specimen collection, quality water supply, power supply, work area, specimen / sample / slide storage, cold storage, record room, wash room, biomedical waste room, fire safety, etc.
- 1.4 Qualifications as per NABL document, personal, training & Development.

Unit – II: Principles of Clinical Laboratory Practices – 1

- 2.1 Listing, cleaning, maintenance, SOP, Data Management.
- 2.2 Verification of performance: Internal quality control.
- 2.3 Accidents and emergencies in the laboratory and protection, Risk Management.
- 2.4 Quality assurance: Internal and external quality assessment.

Unit – III: Principles of Clinical Laboratory Practices – 2

- 3.1 Audit in a Medical Laboratory.
- 3.2 Introduction and Importance, NABL & CAP
- 3.3 Responsibility, Planning, Horizontal, Vertical and Test audit
- 3.4 Frequency of Audit & Documentation

Unit – IV: Principles of Clinical Laboratory Practices – 3

- 4.1 Awareness/Safety in a clinical laboratory, General safety precautions.
- 4.2 Safety: General safety measures, biosafety precautions.
- 4.3 Levels of biosafety laboratories: BSL1, BSL2, BSL3 & BSL4, Specimen Rejection record.
- 4.4 Patient management for clinical samples collection, transportation and preservation, pre examination process.

CLINICAL LAB PRACTICE PART – 1

1. Writing of SOP of equipment maintenance, practical procedures done in the laboratory
2. Internal/external quality control
3. Sample collection, labeling, storage, transportation
4. Bio-waste management
5. Biosafety

Sadhvi B.
Department of Anatomy

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Recognized u/s 2(f) and 12B by UGC, ISO 9001:2015 Certified Institution
B.Sc Semester 2024-25

I-INTERNAL ASSESSMENT

Name of the Student:
Subject:

Hall Ticket No:
Max Marks: 20 M

Section	I	II	III	Total
Marks				

SECTION - I

I. MULTIPLE CHOICE QUESTIONS

10*1/2=5 M

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

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II. Fill in the blanks :

10 x ½ = 5

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Section	I	II	III	Total
Marks				

III. Answer the following:

5 x 2 = 10

- 1.
- 2.
- 3.
- 4.
- 5.

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PATTERN OF QUESTION PAPER FOR BSC EXAMINATION

BSC MLT ALL SEMESTERS PRACTICAL EXAMINATION {REGULAR/BACKLOG}

TIME: 3HRS

MAX MARKS: 50

I.	Major	-20M
II.	Minor	-10M
III.	Spotters	-10M
IV.	Viva	-5M
V.	Record	-5M

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PATTERN OF QUESTION PAPER FOR BSC EXAMINATION
BSC MLT ALL SEMESTERS (REGULAR/BACKLOG) EXAMINATIONS

Section 1

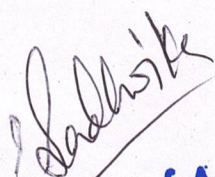
Answer any six of the following 6*5=30 marks

1. Unit 1
2. Unit 1
3. Unit 2
4. Unit 2
5. Unit 3
6. Unit 3
7. Unit 4
8. Unit 4

Section 2

Answer all questions 4*10=40 Marks

1. Unit 1
OR
Unit 1
2. Unit 2
OR
Unit 2
3. Unit 3
OR
Unit 3
4. Unit 4
OR
Unit 4


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S.N O	NAME	QUALIFICATI ON	COLLEGE NAME	EXPERIEN CE	MAIL I'D	MOBILE NUMBER
1	Dr. Sravanthi	Pathologist	Governm ent medical college Nizamaba d	6 years	sravanthi.navule@gmail.com	88978912 28
2	M. Santhosh	MSc Microbiology	Nalanda Degree College for Women Nizamaba d	19 years	San2.572518@gmail.com	98665725 18
3	M. Soujanya	MSc Microbiology	Governm ent TRMIS college	18 years	sspsoujanya@gmail.com	98493976 01
4	Dr. Dinesh	Pathologist	Governm ent medical college Nizamaba d	7 years	Kasturidinesh555@gmail.com	90300832 84
5	G.Dhillesh wari	Anaesthesiolo gist	School of Allied health care sciences	3 years	Dhilleswari.g14@gmail.com	81210874 06
6	B. Aakash	Anaesthesiolo gist	GIMS	4 years	Aakashbillada13@gmail.com	96761939 10

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