



Integrated Bachelor and Master Programmes in Biomedical Science
IBMP (Biomedical Science) Semester (I)

Paper Code	IS01CBMC54	Periods per week	4
Title of the paper	Anatomy and Physiology -I	Exam Duration	3 Hrs
Total Credit of the Paper	04	Total Marks	100

Course Objectives:	<ol style="list-style-type: none">1. To understand fundamentals of anatomy and physiology.2. To comprehend various constituents of blood and their functions.3. To understand essentials of musculo skeletal system and nervous system4. To know the role of various organs of digestive system.
--------------------	---

Course Description		
Unit	Description	Weightage*
1.	General Principles of Anatomy and Physiology: Introduction to human anatomy and physiology, cell and tissues, homeostasis (positive and negative feedback mechanism, water balance and acid base balance, etc.)	20%
2.	Circulatory system: (a) Blood: Composition and functions of blood, morphology and functions of RBC, WBC and platelets, functions of haemoglobin, blood group (b) Heart: Anatomy of heart, functions, special junctional tissues, heart rate, cardiac cycle (c) Structure of artery and vein, arterial system, venous system, blood pressure	30%
3.	(a) Musculo Skeletal System: Bone, functions of bones, types of bones, bone structure, formation of new bone, bone cells, hormones involved in bone growth, joints, muscle tissues, types and functions of muscles, skeletal muscle cell and its structure (b) Nervous System: Types of nervous system- central and peripheral, structure of neurons and their function, nerve fiber and its functions, synapse, anatomy of hypothalamus and its functions, autonomic nervous system and its functions	30%
4.	Digestive System: Introduction to human digestive system, anatomy of mouth and salivary gland, esophagus, stomach, small intestine, large intestine; functions of digestive system, movements of gastro intestinal system, role of liver, pancreas and gall bladder in digestion	20%

* Units will have the same weightage in the evaluation as suggested in the course outline





Teaching-Learning Methodology	Regular class room teaching will be done with following tools: <ul style="list-style-type: none">• Conventional black board and chalk.• ICT tools such as projectors, smart boards, etc will also be used for better explanation of scientific components. Appropriate reference materials will also provide to the students as and when required from departmental library resources.
--------------------------------------	---

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination	15%
2.	Internal Continuous Assessment in the form of Viva-voce, Quizzes, Seminars, Assignments, Attendance	15%
3.	University Examination	70%
4.	Minimum Passing Criteria :40%	

Course Outcomes: Having completed this course, student will be able to (As per Guidelines – III)	
1.	Understand fundamentals of anatomy and physiology; constituents of blood and their functions as well as anatomy and specific functions of circulatory system, musculo skeletal system, nervous system and digestive system.

Suggested References: Include reference material from where a student is expected to study the said content in APA style. Reference websites can also be included.	
Sr. No.	Reference
1	Sembulingam, K., & Sembulingam, P. (2012). <i>Essentials of medical physiology</i> . JP Medical Ltd.
2	Waugh, A., & Ross, G. A. (2010). <i>Wilson anatomy and physiology in health and illness</i> . UK: Elsevier Health Sciences.
3	Hall, J. E., & Hall, M. E. (2011). <i>Guyton and Hall textbook of medical physiology 12th Edition</i> . Elsevier Health Sciences.
4	C.C. Chatterjee : Human Physiology- Volume I and II, 11 th Edition, Medical Allied Agency, Calcutta





On-line resources available that can be used as reference material

Sr. No.	On-line Resources
1	Hall, J. E., & Hall, M. E. (2020). <i>Guyton and Hall textbook of medical physiology e-Book</i> . Elsevier Health Sciences.

