

**COURSE & PROGRAM OUTCOMES
OF PHYSIOLOGY HONOURS (B.SC.)
UNDER CBCS**

The syllabus for Physiology at undergraduate level using the Choice Based Credit System has been framed in compliance with UGC CBCS Guidelines and adhering the model syllabus in Physiology framed by WBSCHE. The purpose of the course is to standardize physiology teaching at undergraduate level throughout the state. The syllabus will equip all undergraduate students with knowledge on basic physiological mechanisms for the set point control of different physiological variables in healthy human beings with special references to their implications in pathogenesis of disease and the physiological basis of their management. The ultimate goal of the syllabus is that the students at the end are able to secure a job. The syllabus has also been framed in such a way that the basic skills of subject are taught to the students, and everyone might not need to go for higher studies and the scope of securing a job after graduation will increase. The objective of framing this new syllabus is to give the students a holistic understanding of the subject giving substantial weightage to both the core content and techniques used in Physiology. The course content also lists new practical exercises, so that the students get a hands-on experience of the latest techniques that are in current usage both in the advanced research laboratories and in Industry.

The department of Physiology has pointed out following outcomes of the course.

Course Outcomes

Semester	Course code	Outcomes
Semester I	CCT-1	To understand basic concept of cell, cell cycle, cellular transport and cell signaling
	CCP-1	To study and identify the stained sections of different mammalian tissues and organs
	CCT-2	To know the concept of biophysics and enzymes
	CCP-2	To learn the determination of blood pressure and enzyme activity

Semester II	CCT-3	To learn the physiology of nerve and muscle, electrical properties of nerve and muscle, synaptic transmission, muscle contraction-relaxation, initiation of impulses in sense organs, clinical aspect of nerve and muscle
	CCP-3	To study the nerve and muscle histologically and experimentally
	CCT-4	To develop concept on carbohydrates, proteins and lipids, DNAs and RNAs in terms of their classification, structure, properties and functions
	CCP-4	To know qualitative identification of physiologically important substances
Semester III	CCT-5	To develop the basic concept about blood and blood components, blood group, lymph
	CCP-5	To learn hematological experiment
	CCT-6	To develop the idea about the circulation including heart, electrical activities of heart, circulation through special region, different types of cardiovascular diseases
	CCP-6	To learn cardiovascular experiment to develop the better understanding about the effect of different ions, temperature and drug on the cardiovascular activity
	CCT-7	To get the better idea about the functions of nervous system including reflexes, different types of sensation, different neural pathway carrying the sensation, balance and body posture regulation, physiology of sleep, behavior, learning and memory
	CCP-7	To know the neurological experimental procedure including the determination of superficial (plantar) and deep (knee jerk) reflex, measurement of grip strength
	SEC-1	To understand the principles of hematology, blood physiology, functions, and disorders and explain the pathophysiology of common

		hematological disorders, discuss the anatomy, functional organization and characteristics of the hematopoietic system.
Semester IV	CCT-8	To develop a better understanding in energy balance, metabolism, nutrition
	CCP-8	To estimate percentage of glucose, sucrose and amino nitrogen in a sample
	CCT-9	To learn about some part of the fundamental human physiology like digestion & absorption, functional anatomy of G.I. system, regulation of the gastric secretion, intestinal motility, different clinical aspects related to G.I. system
	CCP-9	To understand gastrointestinal function by the experiment
	CCT-10	To learn the basic concept of respiration including pulmonary function, gas transport, regulation, respiratory diseases
	CCP-10	To develop practical knowledge about the measurement of peak expiratory flow rate, oxygen saturation by pulse oxymeter before and after exercise
	SEC-2	To know tissue fixation, tissue processing, microtomy and staining using routine and specialized techniques, preparation of routine formalin-fixed, paraffin-embedded tissue sections, haematoxylin and eosin staining and few selected special staining methods by demonstration
Semester V	CCT-11	To know the concept of special senses including vision, hearing, smell, taste
	CCP-11	To develop the practical concept about the determination of visual acuity, color blindness and histological experiments
	CCT-12	To know the different endocrine glands and their functions, different clinical aspects of endocrine disorder
	CCP-12	To learn the endocrine assay
	DSE-T-1	To know different statistical measures
	DSEP-1	To develop practical knowledge to

		interpret results by using statistical analysis
	DSE-T-2	To get the proper knowledge about bacteria, viruses and their life cycle, pathogenicity, concept of antigen antibody, immune system, development of vaccine, physiology of autoimmunity
	DSE-P-2	To know the identification procedure of Gram positive and Gram negative bacteria practically, and also to know immunological technique
Semester VI	CCT-13	To learn proper understanding of reproductive function
	CCP-13	To develop practical knowledge about the reproductive function including study of estrous cycle, pregnancy test, estimation of estrogen
	CCT-14	To learn anatomy of kidney, different functions, urine formation, regulation of blood volume, renal failure, concept of renal dialysis
	DSE-T-3	To learn the basic concept of sports and exercise and their influences in health and wellbeing
	DSE-P-3	To gain practical knowledge about physical fitness status and how they will increase their cardiorespiratory fitness
	DSE-T-4	To develop proper understanding about human nutrition and dietetics
	DSE-P-4	To develop practical knowledge regarding their nutritional demand in their daily life and how they will fulfill their demand in low cost budget, preparation of diet chart, community health awareness