

Programme specific Outcome:

M.Sc clinical Biochemistry

The broad objective of the programme is to impart in-depth knowledge about the basic and fundamental aspects of clinical biochemistry, to train the students on the basic techniques used in clinical diagnostics and at the same time get exposure to the recent advances in the field. At the end of the program, students should be able to:

PSO1: Develop insight about the basic fundamental concepts and practices of clinical biochemistry and its processes.

PSO2: Understand the nature and scope of different basic and applied branches of Clinical biochemistry like human physiology, clinical pathology, clinical genetics, clinical immunology, Endocrinology, Haematology etc.

PSO3: Analyse and perform experimental procedures as per established laboratory standards in the areas of biochemistry, microbiology, molecular biology, immunology, recombinant DNA technology and clinical diagnostics

PSO4: Develop experimental expertise in the field of Clinical diagnostics by providing the students a first-hand exposure to hospital setup through lab school in University Health Centre, University of Kashmir.

PSO5: Gain skill and training to carry out their own research work in the form of M.Sc. Project work in diverse research areas of clinical biochemistry particularly in institutes of National repute such as IISc Bengaluru, AIIMS, JNU, CDFD etc. so as to develop confidence and analytical ability for answering a problem in real time.

PSO6: Motivate students to uptake higher education i.e., PhD in Internationally reputed institutes of India after completing their course.

PSO6: Encourage and counsel students for preparation of National and international competitive exams such as NET, GATE, GRE, TOEFL etc. which are of importance for enrolment in PhD program.

PSO7: Contribute to society in the realms of different health issues concerning the local population by conducting routine extension and awareness programs.

PSO8: Develop independent, creative and critical thinker with a passion of life-long learning by exposing them to the real clinical/hospital setup.

Basic Structural framework of the course;

Course Code	Title of Paper	Type	Hrs/WK L:T:P	Credits	Max. Marks		Name of Instructor
					Ext.	Int.	
Semester I							
CLB18101 CR	Biomolecules – I: Biochemistry and Disorders	Core	4:0:0	4	80	20	
CLB18102 CR	Biomolecules – II: Biochemistry and Disorders	Core	4:0:0	4	80	20	
CLB18103 CR	Clinical Genetics	Core	1:2:0	2	40	10	
CLB18104 CR	Lab Course-I	Core	0:0:8	4	80	20	
CLB18105 DCE	Cell Biology	Elective (DCE)	3:2:0	4	80	20	
CLB18106 DCE	Biophysical Techniques	Elective (DCE)	1:2:0	1 + 1 = 2	40	10	
CLB18107 DCE	Molecular Biology - I	Elective (DCE)	1:2:0	1 + 1 = 2	40	10	
CLB18108 OE	Basic concepts in Clinical Biochemistry	Elective (OE)	1:2:0	1 + 1 = 2	40	10	
	Total Credits: 24 (... contact hours)				Total Marks: 600		
Semester-II							
CLB17201 CR	Molecular Biology - II	Core	4:0:0	4	80	20	
CLB17202 CR	Clinical Immunology	Core	4:0:0	4	80	20	
CLB17203 CR	Microbiology	Core	4:0:0	2	40	10	
CLB17204 CR	Lab Course-II	Core	0:0:8	4	80	20	
CLB17204 DCE	Techniques in Cell and Molecular Medicine	Elective (DCE)	3:2:0	4	80	20	
CLB17205 DCE	Cell Signalling & Disorders	Elective (DCE)	1:2:0	1 + 1 = 2	40	10	
CLB17308 GE	Cell cycle and Cancer Biology	Elective (DCE)	1:2:0	1 + 1 = 2	40	10	
CLB15208 GE	Protein Biophysics	Elective (GE)	1:2:0	1 + 1 = 2	40	10	
CLB17209O E	Life style diseases and Lab. Diagnosis	Elective (Open)	1:2:0	1 + 1 = 2	40	10	
	Total Credits: 26 (.... contact hours)				Total Marks:650		

Semester-III							
CLB17301 CR	Respiratory and Excretory organ systems: Physiology and Diseases	Core	4:0:0	4	80	20	
CLB17302 CR	Gastrointestinal and Hepatobiliary organ systems: Physiology and Diseases	Core	4:0:0	3	60	15	
CLB17303 CR	Neuromuscular and Skeletal systems: Physiology and Diseases	Core	2:0:0	3	60	15	
CLB17303 CR	Lab Course-III	Core	0:0:8	4	80	20	
CLB17304 DCE	Advanced Endocrinology	Elective (DCE)	3:2:0	4	80	20	
CLB17305 DCE	Haematology & Cardiovascular System	Elective (DCE)	1:2:0	1 + 1 = 2	40	10	
CLB17306 DCE	High Risk Pregnancy & Neonatology	Elective (DCE)	1:2:0	1 + 1 = 2	40	10	
CLB17107 GE	Clinical Pathology	Elective (GE)	1:2:0	1 + 1 = 2	40	10	
	Total Credits: 24 (... contact hours)				Total Marks: 600		
Semester-IV							
CLB17401 CR	Internship Dissertation	Core	0:0:24	12	300	-	
CLB17402 CR	Host Institute Grading	Core	0:0:6	3	75	-	
CLB17403 CR	Internship Assessment	Core	0:6:0	3	75	-	
CLB17405 DCE	Automation, Diagnostic Procedures, Interpretations & Clinical Co-relations (Self Study Paper)	Elective (DCE)	4:0:0	4	100	-	
CLB17406 GE	Epigenetics & Gene Expression	Elective (GE)	1:2:0	1 + 1 = 2	40	10	
CLB17407 GE	Basics in Cellular Signalling	Elective (GE)	1:2:0	1 + 1 = 2	40	10	
	Total Credits: 26 (..... contact hours)*				Total Marks: 650		

CR-Core; DCE-Discipline Centric Elective; GE- General Elective; OE- Open Elective

Ph.D Clinical Biochemistry

The main objective of the programme is to take up research work on various aspects of Clinical biochemistry leading to the award of PhD degree in Clinical Biochemistry. The focused area of the research at present in the department are: Clinical diagnostics, cancer biology, protein aggregation/misfolding, medicinal plant proteomics and metabolomics for identification and characterization of bioactive molecules

PSO1: Create expertise, talent and skill for making indispensable manpower in the field of Clinical diagnostics, Protein misfolding, recombinant antibody technology and Cancer biology. The knowledge perceived shall aid the generated manpower them to achieve success in their respective fields.

PSO2: Attain expertise in their field of fundamental clinical research which will be useful to share and disseminate knowledge among others and train the students for future generations. This shall help to develop more efficient and effective manpower pool.

PSO3: Facilitate publications of research findings of scholars preferably in Internationally reputed scientific journals and also become capable of presenting and defending their research among experts from their relevant and allied fields..

PhD Coursework:

Paper code	Paper Name	
	Research Methodology	Common course for all life science Ph.D. students offered by the university
	Recent Advances in the clinical biochemistry research	
	Subject specific course	