

DEPARTMENT OF MOLECULAR BIOLOGY AND BIOCHEMISTRY

TEACHING FACULTY

Professor

Jatinder Singh, Ph.D.(GNDU)(Head)

P.K. Sehajpal, Ph.D. (Re-employed)

Assistant Professor

Rachna Hora, Ph.D.(JNU)

Anup Kumar Kesavan Ph.D.(MKU)

Gagandeep Kaur Gahlay Ph.D.(JNU)

Courses offered

- [M.Sc.](#)
- Ph.D.

Course Detail : M.Sc.

Distribution of seats

Course Name	Duration (Years)	System	Total Seats	Reserved Categories			
				SC/ST	BC	RA	Others
M.Sc.	2	Semester	50	12	3	4	6

Eligibility

- Bachelor of Science in any science subject (any combination) with at least 50% marks (45% for SC/ST) in aggregate.
- Any other examination recognized equivalent thereto.

Mode of Admission

Admission will be based on merit of the candidate in the Entrance Test to be conducted by the Department.

Dates

a)	Fee deposit date in State Bank of India (Any Branch)	05.06.2017 to 27.06.2017
b)	Last Date for Online application Form submission	07.06.2017 to 30.06.2017
c)	Entrance Test	11.07.2017 at 10.15 a.m. - 11.15 a.m.
d)	Admission Counseling	14.07.2017

Venue: Lecture Theatre Complex, GNDU, Amritsar.

Contact No.

Coordinator/Head 0183-2258802-09, 2450610-14 Extn. 3268

Fee (Approximate) Rs. 24060/- (1st.Sem.) Rs. 8500/- (2nd Sem.)

Syllabus for Entrance Test

Unit 1: Cell Biology: Structure and Functions of Plasma membrane; Endoplasmic reticulum; Mitochondria; Golgi complex Ribosomes; Lysosomes; Centrosome; Nucleus.

Unit 2: Animal/Plan Physiology and General Biochemistry: Mammalian Physiology: Digestion and absorption, Blood, Heart, Respiration, Excretion, Muscles, Neural Integration, Endocrines.

Plant Physiology: Photosynthesis, Nitrogen fixation.

General Biochemistry: Biochemistry and its scope, Carbohydrates, proteins, lipids and nucleic acids, their classification and function; Enzymes; Carbohydrate metabolism; Lipid metabolism; Lipogenesis, ketosis; Metabolism of aminoacids (oxidative deamination, transamination and decarboxylation) Hydrolysis of proteins, and urea cycle.

Unit 3: Genetics and Molecular Biology: Cell division; Chromosomes; Structure and organization of genetic material in chromosomes. Numerical changes in chromosomes; Mutations.

Chemical nature of genetic material: A detailed account of DNA and RNA structure and functions, Replication, Transformation and Transduction.

Genes: Fine structure, gene expression (Transformation, Translation), genetic code, regulation of gene expression (operon model); Elementary knowledge of DNA recombinant technology and its applications.

Unit 4: Elementary Immunology: Immune system; Cell and tissues; Humoral and cellular immune response; major histocompatibility complex; Cellular interactions in immune response.

Note:There will be 100 MCQs from the above syllabus to be attempted in one hour.

Special Features

The Department takes up fundamental and applied aspects of Molecular Biology and Biochemistry in its teaching and research programs. The primary emphasis is laid on the study of cell structure and function in relation to its molecular, biochemical and Immunological characteristics.