5-Year Integrated M.Sc. in Biomedical Science – Program Outlay

Subject	Year I		Year II		Year III		Year IV		Year V	
	I	II	III	IV	V	VI	VII	VIII	IX	X
Microbiology	Microbiology (3+1)	Microbial Physiology (3+1)	Industrial Microbiology (3+1)	Immunology (3+1)	Parasitology and Virology (3+1)	Medical Microbiology (3+1)	Molecular Pathogenicity and Clinical Immunology (3+1)			
Environmental Sciences	Evolution and Adaptation (3)	Environmental Studies (3+1)	Systematics and Diversity (3+1)	Environmental Biotechnology (3+1)						
Cell and Molecular Biology	Cell Biology (3+1)	Molecular Biology: DNA and Replication (3+1)	Molecular Biology: Transcription and Translation (3+1)	Genetics (3+1)			Genomics, Proteomics and Metabolomics (3+1) Recombinant DNA Technology (3+1)	Stem Cell Biology (3+1) Cancer Biology (3+1)		
Health Sciences	Anatomy and Physiology (3+1)	Neurobiology and psychosocial development (3+1)	Developmental Biology (3+1)	Pathology (3+1)	Pharmacology and Toxicology (3+1) Clinical Nutrition (3+1)	Alternative Medicine Systems (3) Pharmaceutical Industry and Clinical Research (3)			Public Health (3+1)	
Chemistry		Physical and Analytical Biochemistry (3+1)		Organic and Inorganic Chemistry (3+1)	Biochemistry: Biomolecules (3+1)	Biochemistry: Metabolism (3+1)	Clinical Biochemistry (3+1)			
Inter-disciplinary	Mathematics for Biologists (3+1)		Biophysics (2+1)		Biostatistics (3+1)	Bioinformatics (1+2)		Nanobiology (3+1)	Bioanalytical Chemistry (3+1)	
Skill Building	Computers (1+2)	Effective Communication skills (3)	Leadership Skill Building (3)	Project Management Skills (3)	Research Methods (2+1)	Project (2)	Data Management Tools in Biomedicine (3+1)	Biomedical Ethics and Regulation (3+1)	Seminars in Biomedicine (3) IPR and Patenting (3+1)	Industrial Training/ Project (20)
Social Activity		Social Involvement Program (1)		Social Involvement Program (1)		Social Involvement Program (1)				
Credits	16 + 6 = 22	18 + 5 + 1 = 24	17 + 5 = 22	18 + 5 + 1 = 24	17 + 6 = 23	13 + 4 + 2 + 1 = 20	15 + 5 = 20	18 + 4 = 22	18 + 3 = 21	20
No. of h/wk	28	30	27	30	29	27	25	26	24	40

Electives (Credits)

Choose any of the two electives given below:

Semester VIII

1. Big Data Management (3)
2. *In Silico* Drug Designing (3)
3. Applications of Environmental Biotechnology (3)
4. Medicinal Chemistry (3)

Semester IX

5. Applications of Nanotechnology (3)
6. Molecular Oncology and Molecular Medicine (3)
7. Regenerative Medicine (3)
8. Basics and Applications of Pharmaceutical Formulations (3)

Figures in parenthesis indicate the number of credits. * (3+1) indicates 3 credits for lectures and 1 credit for practical/tutorial/project

For lectures, each credit consists of 15 h; for practical/tutorial/project/social work, each credit consists of 30 h