



**Course Code: C401**

**Course Name: B.Sc. (Hons.) - Biochemistry**

Course Structure under Choice Based Credit System (2016-17)

## Details of Course: B.Sc. (Hons.) - Biochemistry

Course Structure	Credits (Theory + Practical)
<b>I Core Courses (14 Papers)</b>	14 x 04 = 56
Core Course Practicals	14 x 02 = 28
<b>II Elective Courses (08 Papers)</b>	
a. Discipline Specific Electives DSE (04 Papers)	04 x 04 = 16
Discipline Specific Elective Practicals	04 x 02 = 08
b. Generic Electives/ Interdisciplinary (04 Papers)	04 x 04 = 16
Generic Electives/ Interdisciplinary Practicals	04 x 02 = 08
<b>III Ability Enhancement Courses</b>	
a. Ability Enhancement Courses Compulsory AECC (02 Papers of 02 credits each)	02 x 02 = 04
b. Ability Enhancement Courses Electives AECE (Skill based) (02 Papers of 02 credits each)	02 x 02 = 04
<b>Total Credits</b>	<b>= 140</b>

**PDM UNIVERSITY**  
**FACULTY OF LIFE SCIENCES**  
**COURSE: B.Sc. (Hons.) Biochemistry**  
**Scheme of course as per choice based credit system**

SEMESTER	MODULE TYPE	MODULE NAME	CREDITS
I	AEC-I	ENGLISH COMMUNICATIONS	2
	CORE-I	MOLECULES OF LIFE	4
	CORE-I PRACTICAL	MOLECULES OF LIFE LAB	2
	CORE-II	CELL BIOLOGY	4
	CORE-II PRACTICAL	CELL BIOLOGY LAB	2
	GE-I	GENERAL ELECTIVE-I	4
	GE-I PRACTICAL	GENERAL ELECTIVE-I LAB	2
II	AEC-II	ENVIRONMENTAL SCIENCES	2
	CORE-III	PROTEINS	4
	CORE-III PRACTICAL	PROTEINS LAB	2
	CORE-IV	ENZYMES	2
	CORE-IV PRACTICAL	ENZYMES LAB	2
	GE-II	GENERAL ELECTIVE-II	4
	GE-II PRACTICAL	GENERAL ELECTIVE-II LAB	2
III	CORE-V	METABOLISM OF CARBOHYDRATES AND LIPIDS	4
	CORE-V PRACTICAL	METABOLISM OF CARBOHYDRATES AND LIPIDS LABS	2
	CORE-VI	MEMBRANE BIOLOGY & BIOENERGETICS	4
	CORE-VI PRACTICAL	MEMBRANE BIOLOGY & BIOENERGETICS LABS	2
	CORE-VII	METABOLISM OF AMINO ACIDS AND NUCLEOTIDES	4
	CORE-VII PRACTICAL	METABOLISM OF AMINO ACIDS AND NUCLEOTIDES LABS	2
	SEC-I	SKILL ENHANCEMENT COURSE-I	2
	GE-III	GENERAL ELECTIVE-III	4
	GE-III PRACTICAL	GENERAL ELECTIVE-III LABS	2
IV	CORE-VIII	HUMAN PHYSIOLOGY	4
	CORE-VIII PRACTICAL	HUMAN PHYSIOLOGY LABS	2
	CORE-IX	GENE ORGANISATIONS, REPLICATION AND REPAIR	4
	CORE-IX PRACTICAL	GENE ORGANISATIONS, REPLICATION AND REPAIR LABS	2
	CORE-X	HORMONE : BIOCHEMISTRY AND FUNCTION	4
	CORE-X PRACTICAL	HORMONE : BIOCHEMISTRY AND FUNCTION LABS	2
	SEC-II	SKILL ENHANCEMENT COURSE-II	2
	GE-IV	GENERAL ELECTIVE-IV	4
	GE-IV PRACTICAL	GENERAL ELECTIVE-IV LAB	2
V	CORE-XI	CONCEPT IN GENETICS	4
	CORE-XI PRACTICAL	CONCEPT IN GENETICS LABS	2
	CORE-XII	GENE EXPRESSION	4
	CORE-XII PRACTICAL	GENE EXPRESSION LABS	2
	DSE-I	DISCIPLINE SPECIFIC ELECTIVE-I	4
	DSE-I PRACTICAL	DISCIPLINE SPECIFIC ELECTIVE-I LAB	2
DSE-II	DISCIPLINE SPECIFIC ELECTIVE-II	4	
	DSE-II PRACTICAL	DISCIPLINE SPECIFIC ELECTIVE-II LAB	2
VI	CORE-XIII	GENETIC ENGINEERING AND BIOTECHNOLOGY	4
	CORE-XIII PRACTICAL	GENETIC ENGINEERING AND BIOTECHNOLOGY LAB	2
	CORE-XIV	IMMUNOLOGY	4
	CORE-XIV PRACTICAL	IMMUNOLOGY LAB	2
	DSE-III	DISCIPLINE SPECIFIC ELECTIVE-III	4
	DSE-III PRACTICAL	DISCIPLINE SPECIFIC ELECTIVE-III LAB	2
DSE-IV	DISCIPLINE SPECIFIC ELECTIVE-IV	4	
	DSE-IV PRACTICAL	DISCIPLINE SPECIFIC ELECTIVE-IV LAB	2
<b>Total Credits</b>			<b>140</b>

**List of Core modules (Each module consists 6 credits, Theory + Lab or Tutorial)**

BIOC4001 & BIOC4002: Molecules of Life & Lab  
BIOC4003 & BIOC4004: Cell Biology & Lab  
BIOC4005 & BIOC4006: Proteins & Lab  
BIOC4007 & BIOC4008: Enzymes & Lab  
BIOC4009 & BIOC4010: Metabolism of Carbohydrates and Lipids & Lab  
BIOC4011 & BIOC4012: Membrane Biology and Bioenergetics & Lab  
BIOC4013 & BIOC4014: Metabolism of Amino Acids and Nucleotides & Lab  
BIOC4015 & BIOC4016: Human Physiology & Lab  
BIOC4017 & BIOC4018: Gene Organization, Replication and Repair & Lab  
BIOC4019 & BIOC4020: Hormone: Biochemistry and Function & Lab  
BIOC4021 & BIOC4022: Concepts in Genetics & Lab  
BIOC4023 & BIOC4024: Gene Expression and Regulation & Lab  
BIOC4025 & BIOC4026: Genetic Engineering and Biotechnology & Lab  
BIOC4027 & BIOC4028: Immunology & Lab

**List of Discipline Specific Elective modules (Each module consists of 6 credits, Theory + Lab)****Choose four of the following (DSE-I to DSE-IV)**

BIOC4101 & BIOC4102: Nutritional Biochemistry & Lab  
BIOC4103 & BIOC4104: Basic Microbiology & Lab  
BIOC4105 & BIOC4106: Molecular basis of non-infectious human diseases & Lab  
BIOC4107 & BIOC4108: Molecular basis of infectious diseases & Lab  
BIOC4109 & BIOC4110: Advanced cell biology & Lab  
BIOC4111 & BIOC4112: Plant Biochemistry & Lab

**List of General Elective modules (The student has to take 04 papers of any one discipline, each module consists of 6 credits, Theory + Lab or Tutorial) GE-I to GE-IV****Physics & Lab**

PHYS4201 & PHYS4202: Mechanics & Lab  
PHYS4203 & PHYS4204: Electricity & Magnetism & Lab  
PHYS4205 & PHYS4206: Thermal Physics & Lab  
PHYS4207 & PHYS4208: Waves & Optics & Lab  
PHYS4209 & PHYS4210: Digital, Analog & Instrumentation & Lab  
PHYS4211 & PHYS4212: Embedded Systems & Lab

**Chemistry & Lab**

CHEM4201 & CHEM4202: Atomic Structure, Bonding & General Organic Chemistry & Lab  
CHEM4203 & CHEM4204: Chemical Energetics & Lab  
CHEM4205 & CHEM4206: Transition Metal Chemistry & Lab  
CHEM4207 & CHEM4208: Organometallic Chemistry & Bioinorganic Chemistry & Lab  
CHEM4209 & CHEM4210: Molecules of Life & Lab  
CHEM4211 & CHEM4212: Chemistry of Main Group Elements & Lab

**Computer Science & Lab**

COMP4201 & COMP4202: Computer Fundamentals & Lab  
COMP4203 & COMP4204: Introduction to Database & Lab  
COMP4205 & COMP4206: Introduction to Programming & Lab  
COMP4207 & COMP4208: Computer Network & Internet & Lab  
COMP4209 & COMP4210: Multimedia & Lab

**Microbiology & Lab**

MICR4201 & MICR4202: Introduction & Scope of Microbiology & Lab

MICR4203 & MICR4204: Bacteriology & Virology & Lab

MICR4205 & MICR4206: Industrial Food Microbiology & Lab

MICR4207 & MICR4208: Microbes in Environment & Lab

MICR4209 & MICR4210: Genetic Engineering & Biotechnology & Lab

**List of Skill Enhancement Modules (SEC-I & SEC-II) Choose any 2**

SKIL1001: Basics of Information Technology

SKIL1002: Competitive Examination Preparedness

SKIL1003: Business Communication & Creative Writing

SKIL1004: Finance & Accounting Skills

SKIL1005: New Venture Planning (Entrepreneurship)

SKIL1006: Personality Development

SKIL1007: Basic Workshop

SKIL1008: Electrical Circuits & Network

SKIL1009: Mobile Application Development

SKIL1010: E-Commerce (Principles & Practices)

SKIL1011: Leadership Strategy & Organizational Behavior