



BIRLA INSTITUTE OF TECHNOLOGY
MESRA, RANCHI – 835215, INDIA
Course Structure Session - 2016
UNDERGRADUATE (Full Time)

Program : **BACHELOR OF ENGINEERING**

Branch : **B.E. BIOTECHNOLOGY**

Semester : 1

Total Credits: 29

Subject Code	Subject Title	Credit
PH1201	PHYSICS	4.00
CH1401	ENGINEERING CHEMISTRY	3.00
ME1202	ENGINEERING GRAPHICS	3.00
CS1302	FUNDAMENTAL OF UNIX & C PROGRAMMING	3.00
CH1402	CHEMISTRY LAB	2.00
EC2002	BASIC ELECTRONICS ENGINEERING LAB	2.00
MA1201	ENGINEERING MATHEMATICS	4.00
AM1201	ENGINEERING MECHANICS	4.00
EC2001	PRINCIPLES OF ELECTRONICS ENGINEERING	3.00
Activity	(CHOICE FOR ONLY ONE)	
GA1002	NCC	1.00
GA1004	NSS	1.00
GA1006	PT & GAMES	1.00
GA1008	CREATIVE ARTS	1.00



BIRLA INSTITUTE OF TECHNOLOGY
MESRA, RANCHI – 835215, INDIA
Course Structure Session - 2016
UNDERGRADUATE (Full Time)

Program : **BACHELOR OF ENGINEERING**

Branch : **B.E. BIOTECHNOLOGY**

Semester : 2

Total Credits: 30

Subject Code	Subject Title	Credit
CH2203	ENVIRONMENTAL SCIENCE	3.00
CS2301	FUNDAMENTAL OF DATA STRUCTURE	4.00
EE2201	PRINCIPLES OF ELECTRICAL ENGG	4.00
HU1101	TECHNICAL ENGLISH	3.00
MA2201	ADVANCE ENGINEERING MATHEMATICS	4.00
ME2001	PRINCIPLES OF MECHANICAL ENGINEERING	3.00
AM2202	ENGINEERING MECHANICS LAB	2.00
CS2302	DATA STRUCTURE LAB	2.00
PE1202	WORKSHOP PRACTICE	2.00
PH1202	PHYSICS LAB	2.00
Activity	(CHOICE FOR ONLY ONE)	
GA2002	NCC	1.00
GA2004	NSS	1.00
GA2006	PT & GAMES	1.00
GA2008	CREATIVE ARTS	1.00



BIRLA INSTITUTE OF TECHNOLOGY
MESRA, RANCHI – 835215, INDIA
Course Structure Session - 2016
UNDERGRADUATE (Full Time)

Program : **BACHELOR OF ENGINEERING**

Branch : **B.E. BIOTECHNOLOGY**

Semester : **3**

Total Credits: **24**

Subject Code	Subject Title	Credit
BT3023	CELL & MOLECULAR BIOLOGY	3.00
BT3025	BIO-ANALYTICAL TECHNIQUES	3.00
BT3027	BIOMOLECULES& BIOENERGETICS	3.00
BT3029	CHEMICAL ENGINEERING I	3.00
EE3202	BASIC ELECTRICAL ENGINEERING LAB	2.00
BT3024	CELL &MOLECULAR BIOLOGY LAB	2.00
BT3026	BIO-ANALYTICAL TECHNIQUES LAB	2.00
BT3028	BIOCHEMISTRY LAB	2.00
Activity	(CHOICE FOR ONLY ONE)	
GA3002	NCC	1.00
GA3004	NSS	1.00
GA3006	PT & GAMES	1.00
GA3008	CREATIVE ARTS	1.00
Breadth Paper	(CHOICE FOR ONLY ONE)	
BT3021	BIOLOGICAL SCIENCE	3.00



BIRLA INSTITUTE OF TECHNOLOGY
MESRA, RANCHI – 835215, INDIA
Course Structure Session - 2016
UNDERGRADUATE (Full Time)

Program : **BACHELOR OF ENGINEERING**

Branch : **B.E. BIOTECHNOLOGY**

Semester : **4**

Total Credits: **23**

Subject Code	Subject Title	Credit
BT4021	CHEMICAL ENGINEERING-II	4.00
BT4023	MICROBIOLOGY	3.00
BT4025	IMMUNOLOGY	3.00
BT4027	THERMODYNAMICS OF CHEMICAL & BIOLOGICAL SYSTEMS	3.00
BT4022	CHEMICAL ENGINEERING I LAB	2.00
BT4024	MICROBIOLOGY LAB	2.00
BT4026	IMMUNOLOGY LAB	2.00
Activity	(CHOICE FOR ONLY ONE)	
GA4002	NCC	1.00
GA4004	NSS	1.00
GA4006	PT & GAMES	1.00
GA4008	CREATIVE ARTS	1.00
Elective - 1	(CHOICE FOR ONLY ONE)	
HU4001	FRENCH	3.00
HU4003	GERMAN	3.00



BIRLA INSTITUTE OF TECHNOLOGY
MESRA, RANCHI – 835215, INDIA
Course Structure Session - 2016
UNDERGRADUATE (Full Time)

Program : **BACHELOR OF ENGINEERING**

Branch : **B.E. BIOTECHNOLOGY**

Semester : 5

Total Credits: 22

Subject Code	Subject Title	Credit
BT5021	BIOPROCESS ENGINEERING	3.00
BT5023	CHEMICAL ENGINEERING III	4.00
BT5025	FUNCTIONAL GENOMICS AND RDNA TECHNOLOGY	3.00
BT5027	REACTION ENGINEERING	3.00
BT5022	BIOPROCESS ENGINEERING LAB	2.00
BT5024	CHEMICAL ENGINEERING LAB. II	2.00
BT5026	rDNA TECH. LAB	2.00
Breadth Paper (CHOICE FOR ONLY ONE)		
PE5011	PROJECT ENGINEERING	3.00
MSH1125	ORGANISATION BEHAVIOUR	3.00
MSH1131	PRINCIPLES OF MANAGEMENT	3.00
PE5009	INDUSTRIAL ORGANIZATION AND MANAGEMENT	3.00



BIRLA INSTITUTE OF TECHNOLOGY
MESRA, RANCHI – 835215, INDIA
Course Structure Session - 2016
UNDERGRADUATE (Full Time)

Program : **BACHELOR OF ENGINEERING**

Branch : **B.E. BIOTECHNOLOGY**

Semester : 6

Total Credits: 21

Subject Code	Subject Title	Credit
BT6021	BIOSEPARATION ENGINEERING	3.00
BT6023	PLANT & AGRICULTURE BIOTECHNOLOGY	3.00
BT6025	FOOD & ENZYME TECHNOLOGY	3.00
BT6027	PROCESS MEASUREMENT AND CONTROL	3.00
BT6022	BIOSEPARATION ENGINEERING LAB	2.00
BT6024	PLANT CELL TECHNOLOGY LAB	2.00
BT6026	ENZYME TECHNOLOGY LAB	2.00
Elective - 1	(CHOICE FOR ONLY ONE)	
MSH1115	HUMAN RESOURCE MANAGEMENT	3.00
MSH1121	MARKETING MANAGEMENT	3.00
MSH1123	OPERATION RESEARCH	3.00
MSH1137	ECONOMICS	3.00
PE6009	ENGINEERING ECONOMY	3.00



BIRLA INSTITUTE OF TECHNOLOGY
MESRA, RANCHI – 835215, INDIA
Course Structure Session - 2016
UNDERGRADUATE (Full Time)

Program : **BACHELOR OF ENGINEERING**

Branch : **B.E. BIOTECHNOLOGY**

Semester : 7

Total Credits: 26

Subject Code	Subject Title	Credit
BT8021	BIOTECHNOLOGY MANAGEMENT	3.00
BT7021	BIOLOGICAL WASTE MANAGEMENT	3.00
BT7023	BIOREACTOR AND BIOPROCESS DESIGN	3.00
BT7022	ENVIRONMENTAL BIOTECHNOLOGY LAB	2.00
BT7024	BIOINFORMATICS LAB I	2.00
BT7050	DEPT. PROJECT I	4.00
Breadth Paper	(CHOICE FOR ONLY ONE)	
MSH1117	FINANCIAL MANAGEMENT	3.00
MSH1109	ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT	3.00
MSH1103	BUSINESS ETHICS	3.00
Elective - 1	(CHOICE FOR ONLY ONE)	
BT7025	BIOENERGY	3.00
BT7027	BIOREMEDIATION	3.00
BT7029	PHARMACEUTICAL BIOTECHNOLOGY	3.00
BT7031	MINERAL BIOTECHNOLOGY	3.00
BT7033	ANIMAL & STEM CELL TECHNOLOGY	3.00
BT7035	IPR, BIOSAFETY & BIOETHICS	3.00
Free Elective	(CHOICE FOR ONLY ONE)	
ME7015	CFD	3.00
ME7033	POWER PLANT ENGINEERING	3.00
ME7039	MECHATRONICS	3.00
EE3207	ELECTRIC ENERGY GENERATION & CONTROL	3.00
EE3201	INTRODUCTION TO SYSTEM THEORY	3.00
CE7021	ENVIRONMENTAL ENGINEERING	3.00
CE7023	GEOTECHNICAL ENGINEERING	3.00
MEC1047	SENSORS AND TRANSDUCERS	3.00
PE7021	MAINTENANCE ENGINEERING	3.00
PE7005	COMPETITIVE MANUFACTURING STRATEGIES	3.00
MEC2019	MICRO-ELECTRO-MECHANICAL-SYSTEMS	3.00



BIRLA INSTITUTE OF TECHNOLOGY
MESRA, RANCHI – 835215, INDIA
Course Structure Session - 2016
UNDERGRADUATE (Full Time)

Program : **BACHELOR OF ENGINEERING**

Branch : **B.E. BIOTECHNOLOGY**

Semester : **8**

Total Credits: **7**

Subject Code	Subject Title	Credit
BT8050	DEPT. PROJECT II	4.00
BT8040	INDUSTRIAL TRAINING	0.00