



Course Outline Form

ODD SEMESTER 2019

Dear Student: Course outlines are intended to provide students with an overall plan for a course to enable them to function efficiently and effectively in the course.

*Academic Programs
BSc Biotechnology
EMEA College
Kondotty*

Course Outline : BTYB01 environmental biotchnology (2018-2019)

Name of the Stream	Science
Name of the Programme	BSc Biotechnology
Name of the Course	BTYB01 environmental biotchnology
Nature of the Course	Complementary Course
Semester	First
Lecturer(s)	Dr K.MASHHOOR AND SOMY SOMAN
Name of the Coordinator	Dr K.MASHHOOR
Year	2018-2019
No of Credits	2
No of Contact Hours	2
Course Description	The course is an introduction to environmental biotechnology and focuses on the utilization of microbial processes in waste and water treatment, and bioremediation. Topics included are microbial energy metabolism, microbial growth kinetics and elementary chemostat theory, relevant microbiological processes, microbial ecology ...
Course Objectives	Gain an understanding of the causes, types and control methods for Environmental Pollution. The objective of this course is to gain awareness about different Types of Environmental Pollution and Related Issues.
Course Outcome	Environmental Biotechnology helps to develop, efficiently use and regulate the biological systems and prevent the environment from pollution or from contamination of land, air and water.
Assessment Method	<ul style="list-style-type: none"> Assignments Homeworks Class Tests Unit Tests Practical Tests Term Exam Seminars Lab Experiments
Teaching Methods Used	Cooperative Learning
Textbook	Sylvia S. Mader. 2010. BIOLOGY, TENTH EDITION, McGraw-Hill Companies, Inc. 2. T. Srinivas. 2008, New Age International (P) Ltd., Publishers 3. Jogdand, G.N. 1995. EBT, Himalaya Publishing House. 4. EBT : Basic Concepts and Application: Indushekar Thakur (2006). I.K. International Publication. 5. Pelczar, M.J. 1998. Microbiology: Concept & Applications, McGraw.

References	Sylvia S. Mader. 2010. BIOLOGY, TENTH EDITION, McGraw-Hill Companies, Inc. 2. T. Srinivas. 2008, New Age International (P) Ltd., Publishers 3. Jogdand, G.N. 1995. EBT, Himalaya Publishing House. 4. EBT : Basic Concepts and Application: Indushekar Thakur (2006). I.K. International Publication. 5. Pelczar, M.J. 1998. Microbiology: Concept & Applications, McGraw.
Internet Resources	

Internal Exam Pattern

Items	Marks/20	Marks/15
Assignment	4	3
Test Paper(s)/Viva voce	8	6
Seminar/Presentation	4	3
Class Room Participation based on Attendance	4	3
Total	20	15

External Exam Pattern

Question Type	No of Question	Marks/Question	Total Marks
Short Questions(2-3 Sentences)	12	2	Ceiling 20
Paragraph / Problem Type	7	5	Ceiling 30
Essay Type	2 out of 4	10	10
Total			60
Time			2 hrs

Graduate Attributes	<p>Name of the Course: BTYB01 environmental biotechnology</p> <p>Knowledge</p> <p>Academic and Intellectual Skills</p> <p>Self Learning</p> <p>Collaborative Learning</p> <p>Professional Skills</p> <p>Team Work and Leadership</p> <p>Problem Solving Skills</p> <p>Research Skills</p> <p>Entrepreneur Aptitude</p> <p>Personal Skills</p> <p>Lifelong Learning</p> <p>Application Skills</p> <p>Attitude and Values</p> <p>Social Responsibility</p> <p>Ethical Commitment</p> <p>Global Citizen</p>
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Course Schedule

Fundamentals of Ecology: Biotic and abiotic environmental factors,	
energy flow through ecosystems, renewable and non-renewable resources,	Week 2
physiological and behavioural ecology.	Week 3
Major kinds of ecosystems.	Week 4
. Kinds of organism interactions	Week 5
, types of communities, characteristics population, succession,	Week 6
water Cycle,	Week 7
Biogeochemical cycles: carbon, nitrogen cycle, phosphorus and sulphur cycle.	Week 8
Human Influences on the ecosystem- Pollution,	Week 9

Carbon dioxide and global warming, ozone depletion, acid precipitation	Week 10
destruction of the tropical forests,	Week 11
loss of biodiversity.	Week 12
Eutrophication.	Week 13
Soil formation, Nutrient availability.	Week 14
Pollution control strategies.	Week 15
Pollution management: In process treatment, End of pipe treatment,	Week 16
Remediation of polluted sites	Week 17
Preserving non replaceable resources.	Week 18

Contact Details

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