



Course Outline Form

EVEN 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 : **BTY6B17. MEDICAL BIOTECHNOLOGY** (2018-2019)

Name of the Stream	Science
Name of the Programme	BSc Biotechnology
Name of the Course	BTY6B17. MEDICAL BIOTECHNOLOGY
Nature of the Course	Core Course
Semester	Sixth
Lecturer(s)	SOMY SOMAN
Name of the Coordinator	SOMY SOMAN
Year	2018-2019
No of Credits	3
No of Contact Hours	3
Course Description	The course is the large subset of microbiology that is applied to medicine, is a branch of medical science concerned with the prevention, diagnosis and treatment of infectious diseases. In addition, this field of science studies various clinical applications of microbes for the improvement of health.
Course Objectives	<ol style="list-style-type: none"> 1. Gain knowledge on the structural and functional aspects of living organisms 2. To understand the properties of antigens and antibodies and the concept of antigen-antibody interactions 3. To understand the morphological characteristics and cultivation of bacteria and the pathogenicity of this bacteria 4. To understand various human diseases caused by bacteria, virus and fungi
Course Outcome	<ol style="list-style-type: none"> 1. Acquire the knowledge of concepts of cell injury, neoplasia and changes produced thereby in different tissues and organs 2. Understand in brief, about the hematological diseases and investigations necessary to diagnose them 3. Demonstrate various antigen-antibody interactions and techniques 4. Evaluate the working principle of microscope in diagnosis of infectious and non-infectious diseases 5. Recognize the fundamental concepts in the structure and functioning of a cell 6. Acquire knowledge of common immunological techniques for disease diagnosis Module
Assessment Method	Assignments Homeworks Class Tests Unit Tests Practical Tests Term Exam Seminars Lab Experiments
Teaching Methods Used	
Textbook	<ol style="list-style-type: none"> 1. Ananthanarayanan : Textbook of Microbiology, 1994, Oriental Publishers. 2. Peleczar : Microbiology. 3. Prescott : Microbiology.

References	1. Ananthanarayanan : Textbook of Microbiology, 1994, Oriental Publishers. 2. Peleczar : Microbiology. 3. Prescott : Microbiology.
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)	15	2	Ceiling 25
Paragraph / Problem Type	8	5	Ceiling 35
Essay Type	2 out of 4	10	20
Total			80
Time			2.5 hrs

Graduate Attributes	Name of the Course: BTY6B17. MEDICAL BIOTECHNOLOGY
	Knowledge
	Academic and Intellectual Skills
	Self Learning
	Collaborative Learning
	Professional Skills
	Decision Making
	IT Skills
	Problem Solving Skills
	Research Skills
	Entrepreneur Aptitude
	Personal Skills
	Application Skills
Life Skills	
Attitude and Values	
Social Responsibility	
Ethical Commitment	

Course Schedule

Morphology and Physiology of Bacteria	Week 1
Sterilisation and Disinfection	Week 2
Culture Media and Culture Methods	Week 3
General identification procedurs for various pathogenic bacteria & fungi.	Week 4
Infection & immunity, Antigen & antibody, Antigen & antibody reactions,	Week 5
Complement system. Structure & functions of immune system. ASSIGNMENT	Week 6
General properties of the following bacteria Staphylococcus Streptococcus	Week 7
Pneumococcus Clostridium Enterobacteriaceae I : Coliforms II : Sheigella III : Salmonella Vibrio	Week 8
Pseudomonas Mycobacterium I : tuberculosis Spirochetes & Mycoplasma Rickettesia & Chlamydea FIRST INTERNAL	Week 9
General properties of viruses: Virus host interaction	Week 10
Pox viruses, Herpes virus	Week 11
Adenonirus	Week 12
Rhabdoviruses	Week 13
Hepatitis	Week 14
Oncogenic viruses, H1N1 disease control and prevention	Week 15
Human Immunodeficiency Virus ,AIDS Normal Microflora of Human body SECOND INTERNAL	Week 16
Acute diarrhoeal diseases Antimicrobial therapy	Week 17
Immunoprophylaxis & Immunotherapy Nasocomial infections MODEL EXAM	Week 18

Contact Details

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