

PREVENT IT CURRICULA @SYMBIOSIS INTERNATIONAL UNIVERSITY



College Name : Symbiosis School of Biological Sciences

Course Name : Microbiology

Teaching faculty : Dr Sunil Saroj

Program Name: Post graduation Studies in Biochemistry
Type : Modernised

Nature : Complusary

Total Time : 60 Hours

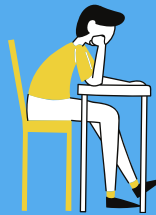
No. of students : 30

Semester : 1st

Course Code: T4072

Syllabus

- Microbial Communication: quorum sensing, strategies, interspecies, interkingdom, eaves dropping Disease, novel drugs
- AMR: antimicrobials, principles, usage, pharmacokinetics, pharmacodynamics
- genetic basis, pumps, transmission



Teaching Methodology

- Power point presentations
- Lecture

Scope and Objectives

- To study the core concepts of microbiology including host pathogen interactions, microbial ecology and analytic techniques in microbiology.
- To understand the factors affecting antimicrobial resistance, risk management and strategies to combat antimicrobial resistance
- To work and learn effectively both independently and collaboratively.



Recommended Material

- Allen R. Antimicrobial Resistance and Infection Control. Foster Academics. 2019
- Arch G.M., Pomeroy C. Management of Antimicrobials in Infectious Diseases: Impact of Antibiotic Resistance. Humana Press. 2010
- Chin-Yi C. Antimicrobial Resistance and Food Safety: Methods and Techniques. Academic Press, 2015

Evaluation Pattern

- Internal Evaluation 60 %
- External Evaluation 40 %

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PREVENT IT CURRICULA @SYMBIOSIS INTERNATIONAL



College Name : Symbiosis School of Biological Sciences

Course Name : Microbiology

Teaching faculty : Dr Sunil Saroj

Program Name: Post graduate studies in Biotechnology

Type : Modernised

Nature : Compulsory

Total Time : 60 Hours

No. of students : 30

Semester : First

Course Code: T4716

Syllabus

- Microbial Communication: quorum sensing, strategies, interspecies, interkingdom, eaves dropping Disease, novel drugs
- AMR: antimicrobials, principles, usage, pharmacokinetics, pharmacodynamics genetic basis, pumps, transmission
- Diagnosis of AMR



Teaching Methodology

- Power point presentations,

Lecture

Scope and Objectives

To study the core concepts of microbiology including host pathogen interactions, microbial ecology and analytic techniques in microbiology.

2. To understand the factors affecting antimicrobial resistance, risk management and strategies to combat antimicrobial resistance.
3. To work and learn effectively both independently and collaboratively.



Recommended Material

1. Allen R. Antimicrobial Resistance and Infection Control. Foster Academics. 2019
2. Arch G.M., Pomeroy C. Management of Antimicrobials in Infectious Diseases: Impact of Antibiotic Resistance. Humana Press. 2010
3. Chin-Yi C. Antimicrobial Resistance and Food Safety: Methods and Techniques. Academic Press, 2015

Evaluation Pattern

- Sessional Test
- End Term Examination

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PREVENT IT CURRICULA @SYMBIOSIS INTERNATIONAL



College Name : Symbiosis School of Biological Sciences

Course Name : Practicals in Microbiology

Teaching faculty : Dr Sunil Saroj

Program Name: Post graduation studies in Biotechnology
Type : Modernised

Nature : Compulsory

Total Time : 90 Hours

No. of students : 30

Semester : First

Course Code: T4060

Syllabus

Testing susceptibility of microbes to antimicrobials
/
Determination of MIC by agar diffusion and
microbroth dilution



Teaching Methodology

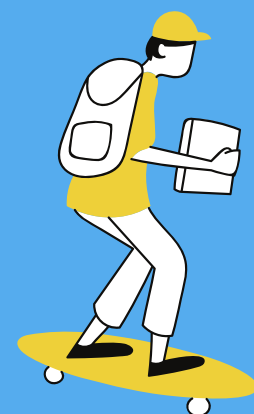
-Practical

-Lab Experiments



Scope and Objectives

1. Understand the concepts of microbial isolation and aseptic techniques.
2. The student should be able to plan, perform and analyse experiments independently.
3. Learn the concepts of antimicrobial resistance.



Recommended Material

1. Woolverton C.J., Sherwood L., Willey J. Prescott's Microbiology. McGraw-Hill Education, 2016
2. Cornelissen C.N., Harvey R.A., Fisher B.D. Microbiology Illustrated Reviews Volume 3 of Lippincott's Illustrated Reviews Series. Lippincott Williams & Wilkins, 2012
3. Talaro K.P., Chess B. Foundations in Microbiology. McGraw-Hill Education, 2014

Evaluation Pattern

-Internal Evaluation 60 %

-External Evaluation 40 %

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PREVENT IT CURRICULA @SYMBIOSIS INTERNATIONAL



College Name : Symbiosis School of Biological Sciences

Course Name : Food Microbiology

Teaching faculty : Dr Sunil Saroj

Program Name: Post graduation studies in Biochemistry

Type : Modernised

Nature : Compulsory

Total Time : 60 Hours

No. of students : 30

Semester : First

Course Code: T4738

Syllabus

-Microbial genetics, bacteriophages, CRISPR-cas system,
-Antimicrobials, Principles of antimicrobial usage, antibacterial
Role of public health laboratories, Antibacterial resistance and food chain, Nutrition, infection and antibacterial resistance,



Teaching Methodology

-Power point presentations,

Lecture

Scope and Objectives

To study the core concepts of microbiology including host pathogen interactions, microbial ecology and analytic techniques in microbiology.

2. To understand the factors affecting antimicrobial resistance, risk management and strategies to combat antimicrobial resistance.

3. To work and learn effectively both independently and collaboratively.



Recommended Material

1. Allen R. Antimicrobial Resistance and Infection Control. Foster Academics. 2019

2. Arch G.M., Pomeroy C. Management of Antimicrobials in Infectious Diseases: Impact of Antibiotic Resistance. Humana Press. 2010

3. Chin-Yi C. Antimicrobial Resistance and Food Safety: Methods and Techniques. Academic Press, 2015

Evaluation Pattern

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-External Evaluation 40 %

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