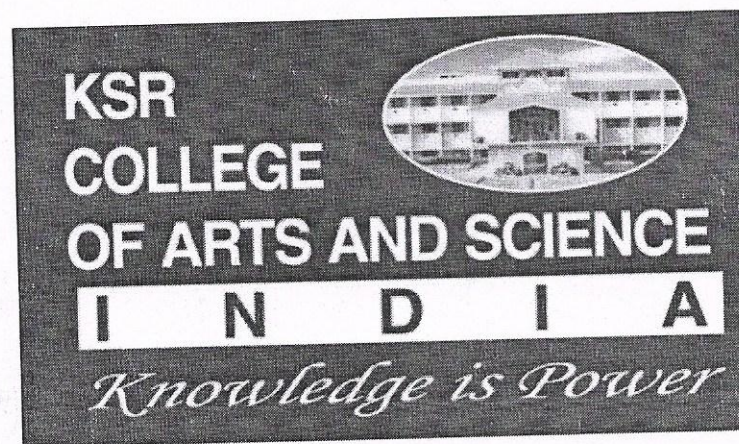


**K.S.Rangasamy College of Arts and Science,
(Autonomous), Tiruchengode-637 215**

DEPARTMENT OF MICROBIOLOGY

**COURSE CONTENT RELEVANT TO THE LOCAL, NATIONAL,
REGIONAL AND GLOBAL DEVELOPMENT NEEDS**



**BACHELOR OF SCIENCE
(MICROBIOLOGY)**
PRINCIPAL
K. S. Rangasamy College of Arts & Science
(Autonomous)
TIRUCHENGODE - 637 215
Namakkal-Dt. Tamil Nadu, INDIA

K.S.Rangasamy College of Arts & Science, (Autonomous),
Tiruchengode-637 215

Department of Microbiology - UG

Course content relevant to the local, national, regional and global development needs

SEMESTER I

Course Code	Course Name	Need				Remarks
		Local	National	Regional	Global	
18UMBM101	Core I: Basics in Microbiology		✓	✓	✓	Understand and assess the growth parameters to maintain the microbial pure culture in laboratory and to control pathogens.
18UMBMP101	Core Practical I: Basics in Microbiology	✓	✓		✓	Evaluate the microbial growth, purification of microbes and control using chemotherapy.
18UVE101	Value Education I: Yoga	✓	✓	✓	✓	Enhance and realize the importance of purity of thoughts and importance of human health.

SEMESTER II

Course Code	Course Name	Need				Remarks
		Local	National	Regional	Global	
18UMBM201	Core II: Microbial Taxonomy and Physiology		✓		✓	Analyze, assess the taxonomical character and their metabolic pathways to outline industrially important microorganisms.
18UMBMP201	Core Practical II : Microbial Taxonomy and Physiology		✓	✓	✓	Identify and discriminate the various types of microbes and their different phases of growth based on biochemical and environmental factors.
18UVE201	VALUE EDUCATION II: ENVIRONMEN TAL STUDIES	✓	✓		✓	Analyze the importance of natural resources, their exploitation and environmental problems.

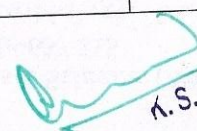

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SEMESTER III

Course Code	Course Name	Need				Remarks
		Local	National	Regional	Global	
18UMBM301	Core III: Molecular Biology		✓	✓	✓	Learning basic molecular mechanism, gene expression and apply the molecular techniques for disease diagnosis.
18UMBMP301	Core Practical III : Molecular Biology		✓	✓	✓	Determine the structure of genome and quantification of Biomolecules.
18UMBSB301	SBC I: Bioinstrumentation		✓	✓	✓	Analyze the microbial products and molecular characters.
18UMBAC301	Add on Course I: Mushroom Technology		✓	✓	✓	Motivate the entrepreneurship and create awareness o the society.


SEMESTER IV

Course Code	Course Name	Need				Remarks
		Local	National	Regional	Global	
18UMBM401	Core VI: Immunology		✓		✓	Analyze and understand immune system to develop new monoclonal antibodies and vaccines to treat various immunogens.
18UMBMP401	Core Practical IV: Immunology		✓	✓	✓	Utilize, analyze and evaluate various infections and serological diagnosis for the presence of antibody levels.
18UMSBP401	SBC II: Practical I		✓	✓	✓	Apply and evaluate the biomolecules by analytical techniques.
18UMBAC401	Add on Course II: Microbiology For Social Welfare	✓	✓	✓	✓	Understand and apply valuable microbial products for the betterment of the society and understand the government schemes and banking systems.

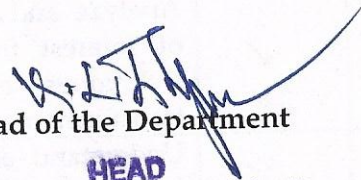

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SEMESTER VI

Course Code	Course Name	Need				Remarks
		Local	National	Regional	Global	
18UMBM601	Core IX: Fermentation Technology		✓	✓	✓	Analyze and assess the techniques used in industrial production of alcoholic beverages and enzymes and create improved technology for antibiotics production.
18UMBM602	Core X: Genetic Engineering		✓	✓	✓	Analyze and assess the preparation of gene of interest for cloning and explore the techniques used in creating the stable transformants.
18UMBM603	Core XI: Food And Dairy Microbiology		✓	✓	✓	Understand and analyze the spoilage of food products, food borne infections and intoxications for product development and preservation and evaluate different kinds of food preservation methods for product safety.
18UMBME601	Elective II: Pharmaceutical Microbiology		✓	✓	✓	Develop and optimize the pharmaceutical products without contamination and spoilage follow the protocols and regulations to validate pharmaceutical products.
18UMBEL602	Elective II: Basic And Applied Botany	✓		✓	✓	Understand, assess and apply the advanced botany techniques in agriculture system and create and develop the employable and entrepreneur opportunity in botany.
18UMBMP601	Core Practical VI	✓		✓	✓	Apply the molecular techniques for biomolecules analysis and analyze medically important parasites.


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18UMBSBP601	SBC IV: Practical II : Microbial Technology	✓		✓	✓	Assess and evaluate the production of industrial important enzymes and products for commercial application.
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 Head of the Department
HEAD
 Department of Microbiology
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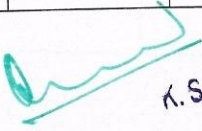



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18UMBNM301	NMEC I: Personal Hygiene	✓	✓	✓	✓	Follow best hygienic practices and plan for periodic examination against common infections.
18UMBNM401	NMEC II: Microbes In Human Health	✓	✓	✓	✓	Assess and evaluate the role of normal microbial flora in human body and prevention measures against bacterial and viral diseases.
18UMBAL401	Advanced Learners Course I: Biofertilizer Technology	✓	✓		✓	Understand and apply the formulation and cultivation methods for biofertilizer production.

SEMESTER V

Course Code	Course Name	Need				Remarks
		Local	National	Regional	Global	
18UMBM501	Core V: Fundamentals Of Virology		✓	✓	✓	Understand and compute the anti viral drugs for controlling the viral infections and assess the importance of prevention and control of plant viruses.
18UMBM502	Core VI: Environmental Microbiology		✓	✓	✓	Develop and evaluate remediation for control environmental pollution using microorganisms and Assess commercial application of microbial products.
8UMBM503	Core VII: Soil & Agricultural Microbiology	✓	✓	✓	✓	Compute and assess the disease established by phytopathogens and prepare effective biofertilizers for improving soil health.
18UMBM504	Core VIII: Medical Bacteriology	✓	✓	✓	✓	Understand, analyze and diagnose the infections caused by Gram positive and gram negative pathogens and create awareness for parasitical infestation.


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18UMBEL501	Elective I: Medical Mycology And Parasitology		✓	✓	✓	Understand, analyze, and diagnose the infections caused by fungi and parasites and develop laboratory techniques in mycology and parasitology.
18UMBEL502	Elective I: Nano Microbiology		✓	✓	✓	Assess the various methods for susceptibility testing of nanoparticles and prepare effective nano-based drug delivery systems for infectious disease.
18UMBMP501	Core Practical V	✓	✓	✓	✓	Evaluate the purity of the water and analyze the pollutants present in water bodies and apply the diagnosis knowledge to detect the unknown pathogens from clinical samples.
18UMBSB501	SBC III: Microbial Technology	✓	✓	✓	✓	Assess and demonstrate the microbial production of enzymes and fermented foods and develop methods for sewage treatment and biodegradation technology.
18UMBAL501	Advanced Learners Course II: Marine Microbiology	✓	✓	✓	✓	Apply the marine microbes for biodegradations of various pollutant and create and develop the employable and entrepreneur opportunity in marine microbiology.


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