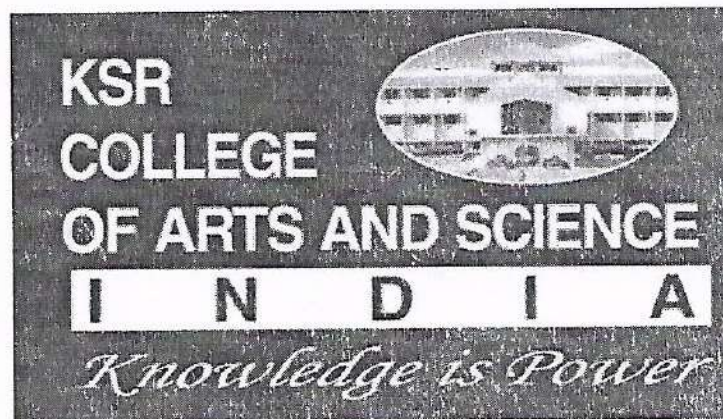


**K.S.Rangasamy College of Arts and Science,
(Autonomous), Tiruchengode-637 215**

DEPARTMENT OF MICROBIOLOGY

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



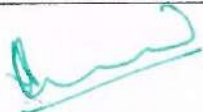
**MASTER OF SCIENCE
(APPLIED MICROBIOLOGY)**

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K. S. Rangasamy College of Arts & Science
(Autonomous)
TIRUCHENGODE - 637 215
Dist. Tamil Nadu. INDIA

K.S.Rangasamy College of Arts& Science, (Autonomous), Tiruchengode-637 215
Department of Microbiology - PG
Course content relevant to the local, national, regional and global development needs

SEMESTER I

Course Code	Course Name	Need				Remarks
		Local	National	Regional	Global	
18PMBM101	Core I: Fundamentals of Microbiology and Taxonomy	✓		✓	✓	Formulate and apply for maintenance of pure culture Assess the use of antibiotics to control pathogens and treatment of microbial diseases.
18PMBM102	Core II: Microbial Biochemistry and Physiology		✓	✓	✓	Assess structure, metabolism and importance of biomolecules for pharmaceutical aspects.
18PMBM103	Core III: Microbial Genetics		✓	✓	✓	Assess gene transfer mechanisms for production of novel products and evaluate the regulation system of gene for potent commercial products.
18PMBM104	Core IV: Immunology	✓	✓	✓	✓	Analyze and understand immune system to develop new monoclonal antibodies and vaccines to treat various immunogens.
18PMBM105	Core V: Bioinstrumentation		✓	✓	✓	Analyze the microbial products and molecular characters for drug evaluation.
18PMBMP101	Core Practical I		✓	✓	✓	Compute the characteristics of microorganisms based on standard biochemical techniques and apply serological analysis for the detection of various infections.


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SEMESTER II

Course Code	Course Name	Need				Remarks
		Local	National	Regional	Global	
18PMBM201	Core VI: Soil and Agricultural Microbiology	✓	✓	✓	✓	Compute and assess the disease established by phytopathogens and prepare effective biofertilizers for improving soil health.
18PMBM202	Core VII: Medical Microbiology		✓	✓	✓	Understand, analyze and diagnose the infections caused by bacteria, fungi, virus and parasites.
18PMBMP201	Core Practical II	✓	✓	✓	✓	Apply and evaluate the diagnosis knowledge to detect the unknown pathogens from clinical samples.
18PMBEL201	Elective I: Environmental Microbiology	✓	✓	✓	✓	Develop and evaluate remediation for control environmental pollution using microorganisms and assess commercial application of microbial products.
18PMBEL202	Elective I: Cell Biology		✓	✓	✓	Access and analyze cell cycle mechanism and signal transduction.
18PMBBCI201/ 18PMBBTI201	IDC I : Clinical Microbiology	✓	✓	✓	✓	Identify and evaluate the infectious disease caused by microorganisms and develop diagnose the disease based on molecular methods.
18PMBBCIP201/ 18PMBBTIP201	IDC Practical I: Clinical Microbiology	✓	✓	✓	✓	Identify and detect the pathogenic bacteria based on the morphological and physiological studies and evaluate the mycological diseases .


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SEMESTER III

Course Code	Course Name	Need				Remarks
		Local	National	Regional	Global	
18PMBM301	Core VIII: Genetic Engineering		✓	✓	✓	Apply cloning for developing novel recombinant products and develop transformants for production of various pharmacologically important products.
18PMBM302	Core IX: Biostatistics and Research Methodology		✓	✓	✓	Understand the concepts in writing thesis, proposal and result interpretation and Select the appropriate procedure for carrying out their research work.
18PMBMP301	Core Practical III	✓	✓	✓	✓	Assess and apply the molecular techniques for biomolecules analysis and develop economically important microbial products.
18PMBEL301	Elective II: Bioinformatics, Bioethics and IPR		✓	✓	✓	Apply the bioinformatics tools and sequence analysis for identification of microbes and apply intellectual property right for novel products.
18PMBEL302	Elective II: Pharmaceutical Microbiology	✓	✓	✓	✓	Optimize the production of pharmaceutical products And follow the protocols and regulations to validate pharmaceutical products.
18PMBBCI301 / 18PMBBTI301	IDC II: Industrial Microbiology	✓	✓	✓	✓	Develop and apply fermentation technology for production of microbial products.
18PMBBCIP30 1/ 18PMBBTIP30 1	IDC Practical II: Industrial Microbiology	✓	✓	✓	✓	Assess and evaluate antibiotic and enzyme production and produce industrially important products.

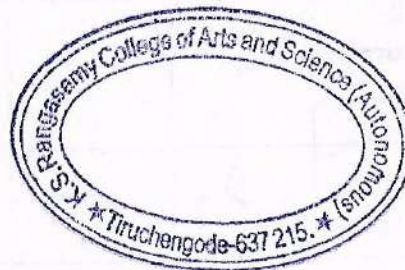

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SEMESTER IV

Course Code	Course Name	Need				Remarks
		Local	National	Regional	Global	
18PMBM401	Core X: Industrial Microbiology	✓	✓	✓	✓	Develop and apply recovery process for purification process of industrially important intra and extra cellular products.
18PMBM402	Core XI: Food and Dairy Microbiology	✓	✓	✓	✓	Evaluate spoilage of food products; food borne infections and intoxications for product development and preservation.

K. S. Rangasamy
Head of the Department

HEAD
Department of Microbiology
K.S.Rangasamy College of Arts & Science
(Autonomous),
TIRUCHENGODE - 637 215.



[Signature]
Principal

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