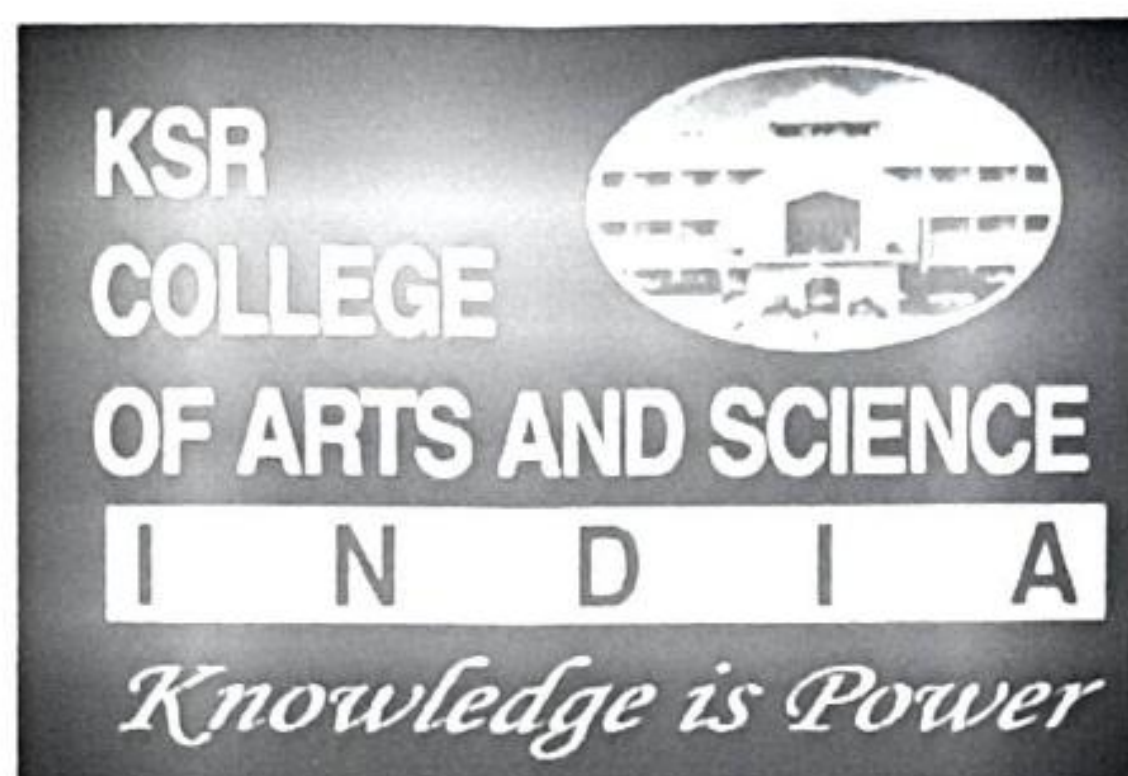


K.S.Rangasamy College of Arts & Science (Autonomous), Tiruchengode - 637215

Department of Biotechnology



BACHELOR OF SCIENCE (BIOTECHNOLOGY)

PROGRAMME OUTCOMES (PO)

After completion of the programme, the graduates will be able to

PO 1: Become knowledgeable in the subject of Biotechnology and apply the principles of the same to the needs of the society.

PO 2: Gain analytical skills in the field of Biotechnology.

PO 3: Determine and appreciate professional ethics, community living and Nation building initiatives.

PO 4: Justify societal, health, legal, environmental and biosafety related issues and understand his/her responsibilities.

PO 5: Analyze, evaluate and invent new process and products in the field of Biotechnology.

PROGRAMME SPECIFIC OUTCOMES (PSO)

After completion of the programme, the graduates will be able to

PSO 1: Assess and apply the basic concepts of Cell biology, Genetics, Biochemistry, Microbiology, Molecular biology and all the inter discipline domains of Biotechnology.

PSO 2: Apply the knowledge of Biotechnology in the domain of Environment, Agriculture, Health care Bioindustry or Molecular mechanics and interdisciplinary domain.

PSO 3: Apply the Contextual knowledge of Biotechnology to function effectively as an individual or a leader in multidisciplinary environments.

PSO 4: Perform procedures as per laboratory standards in the all life science related domain.

PSO 5: Synthesis, Compare and evaluate the mechanism involved and employed in Life Sciencedomain.

PRINCIPAL

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TIRUCHENGODE - 637 215
Namakkal Dt. Tamil Nadu, INDIA

SEMESTER- I

18UBTM101	CORE I: CONCEPTS OF CELL BIOLOGY
CO1	Explain the cell and its classification system.
CO2	Demonstrate the basic cellular organelles those constitute the cells.
CO3	Gain knowledge about the nuclear ingredients and its arrangements
CO4	Explain the cytoskeleton system and motility of the cell
CO5	Illustrate the process of cell cycle, Gametogenesis, Fertilization, Early Embryonic Development and Cell death.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	H	H	H	H	H	L	M	H	H
CO2	H	M	H	H	H	H	M	M	H	H
CO3	H	H	H	H	H	H	H	H	M	M
CO4	M	M	H	H	M	H	M	M	M	M
CO5	H	H	M	H	M	H	H	M	L	M

H-High; M-Medium; L-Low


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 Naniakkal-Dt. Tamil Nadu. INDIA


SEMESTER- II

18SUBTM201	CORE II: PRINCIPLES OF GENETICS
CO1	Explain the history, growth & scope of genetics.
CO2	Describe the Mendel's principles & experimental evidences.
CO3	Differentiate DNA and RNA.
CO4	Explain the evolutionary changes of organisms and their effects in population genetics.
CO5	Explain the common genetic disorders of human beings.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	M	M	L	H	H	M	M	L
CO2	H	H	L	M	M	H	M	M	M	L
CO3	H	H	M	L	H	H	H	M	H	H
CO4	H	M	H	H	M	M	L	M	M	M
CO5	H	H	H	H	M	H	H	M	M	M

H-High; M-Medium; L-Low


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18UCSBTA101	ALLIED I: COMPUTER FUNDAMENTALS AND OFFICE AUTOMATION
CO1	Explore the fundamental components of computer such as Input and output.
CO2	Create well defined documents with various tools in MS Word.
CO3	Interpret the various formulas, functions and chart preparations in MS Excel.
CO4	Enable a full featured Database Management System that organizes staggering information about Personal and Business Life.
CO5	Create slides, overhead transparencies, Handouts and Speaker Notes.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	M	H	L	M	M	L	L	L
CO2	L	M	L	L	L	M	L	M	L	L
CO3	H	H	L	M	H	M	L	M	L	L
CO4	M	M	M	L	L	M	M	H	M	M
CO5	L	M	L	H	H	L	L	M	L	M

H-High; M-Medium; L-Low


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 Namakkal-Dt., Tamil Nadu.


SEMESTER- III

18UBTM301	CORE III: MICROBIOLOGY
CO1	Contrast the contributions made by the Microbiologist.
CO2	Recognizes the parts of microscopy and apply the principles of staining techniques.
CO3	Use the compositions of different media and for isolation of microbes.
CO4	Extend the knowledge on sterilization techniques for practical applications.
CO5	Evaluate the properties of antimicrobial agents.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	H	H	L	L	L	M	M	H
CO2	H	H	L	M	M	L	M	M	M	H
CO3	H	M	H	H	L	M	M	L	M	H
CO4	M	H	M	L	H	H	M	M	L	M
CO5	M	L	H	M	H	H	H	L	M	H

H-High; M-Medium; L-Low



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18UCHBTA201	ALLIED II: CHEMISTRY
CO1	Analyse the bond formation in organic molecules.
CO2	Learn the mechanism of the reactions.
CO3	Compute the chemistry of co-ordination compounds.
CO4	Predict the chemistry behind polymers.
CO5	Demonstrate the working principles of cells and batteries.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	M	L	M	H	L	L	H	H
CO2	H	M	H	H	M	L	M	L	H	M
CO3	M	L	H	M	L	H	M	M	H	M
CO4	H	H	M	H	H	H	H	L	M	L
CO5	H	M	H	L	M	L	M	M	M	H

H-High; M-Medium; L-Low



 PRINCIPAL
 N. S. Rangasamy College of Arts & Science
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 FIRUCHENGODE - 637 215
 Tiruchengode, Tamil Nadu, INDIA

18UBTBSB301	SBC I: CALCULATIONS FOR BIOLOGIST (100 % INTERNAL EVALUATION)
CO1	Summarize the basic knowledge of Scientific notation.
CO2	Solve the biological calculations to prepare the solution.
CO3	Interpret the mechanism of bacterial cell growth.
CO4	Develop the skills to quantitate the biological macromolecules.
CO5	Apply the knowledge for the population genetics.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	H	M	H	L	H	M	H	M
CO2	M	L	H	H	H	L	H	M	H	M
CO3	H	H	M	H	M	L	M	M	M	H
CO4	H	L	H	H	M	H	M	L	H	M
CO5	M	H	M	L	M	L	L	H	H	M

H-High; M-Medium; L-Low



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18UBCBTA301	ALLIED III : BIOCHEMISTRY(BIOMOLECULES)
CO1	Explain the structure of carbohydrates and their functions.
CO2	Describe the nature of Nature of amino acids, functions and structural organization of proteins.
CO3	Illustrate on characterization of lipids and their functions.
CO4	Interpret the classification, characteristics and basic concepts of enzyme action.
CO5	Elucidate the classification and clinical significance of micronutrients.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	H	M	M	H	H	M	M	H	H
CO2	M	M	M	H	M	H	M	M	H	H
CO3	M	H	H	M	M	H	M	M	H	H
CO4	H	M	M	M	H	H	M	M	H	H
CO5	M	H	M	H	H	H	M	M	H	H

H-High; M-Medium; L-Low


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 Namakkal-Dt. Tamil Nadu, INDIA

18UBTAC302	ADD ON COURSE I : ELECTROPHORESIS
CO1	Gain knowledge about the principles of electrophoresis.
CO2	Explain about the various types medium used in zone electrophoresis.
CO3	Describe about the types of electrophoresis.
CO4	Explain about the types of apparatus used in electrophoresis.
CO5	Describe about the types of dyes used in electrophoresis and also can analyse the bands.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	M	H	M	H	H	H	M	H
CO2	H	H	M	M	H	H	M	H	M	M
CO3	H	H	M	M	H	M	H	M	H	H
CO4	H	M	H	M	H	H	M	L	M	M
CO5	M	H	M	H	M	M	H	H	M	H

H-High; M-Medium; L-Low



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18UBTAC301	ADD ON COURSE I: MEDICAL TRANSCRIPTION
CO1	Gain knowledge about the types and process of medical transcription.
CO2	Explain about anatomy and physiology.
CO3	Describe about medical terminology
CO4	Explain about Emdat In Scribe software.
CO5	Describe about various surgical procedures and ethics.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	H	H	H	M	H	M	M	L
CO2	H	H	H	M	H	M	L	H	L	M
CO3	H	M	M	H	H	H	H	M	L	M
CO4	H	H	H	H	H	M	H	H	M	L
CO5	H	H	M	H	M	H	M	L	M	H

H-High; M-Medium; L-Low



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18UMABTA401	ALLIED IV: BIOSTATISTICS
CO 1	Learn the importance of statistics
CO 2	Understand the concepts of measures of central tendency
CO 3	Know the concepts of measures of dispersion
CO 4	Gain knowledge on correlation and regression analyses
CO 5	Test the samples using testing of hypothesis

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	L	M	H	M	M	L	H	H
CO2	H	M	H	M	H	M	M	L	H	H
CO3	M	M	L	H	M	M	M	L	H	H
CO4	H	H	H	M	H	M	M	L	H	H
CO5	M	M	L	H	M	M	M	L	H	H

H-High; M-Medium; L-Low


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 Namakkal-Dt. Tamil Nadu. INDIA


SEMESTER- IV

18UBTM401	CORE IV:BIOPHYSICS AND BIOINSTRUMENTATION
CO1	Explain the presence of bonds is essential to study chemistry in human body.
CO2	Differentiate the instruments based on its working principle and learn about handling with care.
CO3	Demonstrate the techniques of separation and purification of biomolecules based on its own property.
CO4	Illustrate blotting technique and centrifugation process
CO5	Find the technique for visual representation of interior parts of the body for clinical analysis

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	H	L	M	H	H	M	H	L
CO2	M	H	L	H	M	M	L	M	H	M
CO3	H	M	H	H	M	H	M	L	H	M
CO4	M	L	M	H	M	M	M	L	H	M
CO5	M	H	H	L	M	H	H	M	M	M

H-High; M-Medium; L-Low


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 TIRU. HE. ROAD - 637 215
 Nambakkal Dt. Tamil Nadu, INDIA

18UBTAC401	ADD ON COURSE II: CORPORATE BIOTECHNOLOGY
CO1	Explain about Corporate Biotechnology.
CO2	Recall about genetically modified crops.
CO3	Describe about the animal breeding and ethical guidelines.
CO4	Explain about aquaculture and arboriculture.
CO5	Produce biofertilizers and biopesticides.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	H	M	H	H	H	H	M	L	M
CO2	M	M	H	M	M	H	L	M	M	L
CO3	H	M	M	H	M	L	H	H	M	H
CO4	M	H	H	M	H	H	L	M	M	H
CO5	H	M	M	M	H	M	H	L	M	M

H-High; M-Medium; L-Low


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 Namakkal-Dt. Tamil Nadu, INDIA

18UBTSB401	SBC II: BIOSAFETY AND BIOETHICS (100 % INTERNAL EVALUATION)
CO1	Gain knowledge about the biosafety and its uses for environment and human health.
CO2	Identify the risk in laboratory and extend the knowledge on rDNA research.
CO3	Use genetically modified organisms
CO4	Illustrate about rDNA based products.
CO5	Describe about bioethical issues.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	L	M	M	H	H	H	M	L	L
CO2	M	M	H	H	M	M	L	M	H	L
CO3	H	H	M	H	H	H	M	H	H	M
CO4	M	H	L	M	H	M	H	M	M	M
CO5	L	H	M	H	L	M	H	L	L	M

H-High; M-Medium; L-Low


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K. S. Rangasamy College of Arts & Science
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FIRUPHENGODE - 637 215
Aruppukottai, Tamil Nadu, INDIA

SEMESTER- V

1SUBTM501	CORE V : MOLECULAR BIOLOGY
CO1	Explain the concepts of molecular biology
CO2	Demonstrate the mechanism behind the mutations
CO3	Describe the transfer of genetic information from parent to offspring
CO4	Explain the protein synthesis and modifications, its actions in cellular levels.
CO5	Illustrate the genetic level changes of proteins and enzymes.

MAPPING

PO, PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	H	M	H	H	H	M	H	H
CO2	M	H	M	H	M	H	H	M	M	H
CO3	H	H	H	M	H	H	M	M	M	H
CO4	H	M	H	H	M	H	M	M	M	H
CO5	M	H	H	M	H	H	M	M	M	H

H-High; M-Medium; L-Low



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 Namakkal-Dt. Tamil Nadu. INDIA

18UBTAC402	ADD ON COURSE II: ANIMAL PHYSIOLOGY
CO1	Explain about the basics of animal physiology.
CO2	Demonstrate about digestive system.
CO3	Describe about respiratory system.
CO4	Explain about nervous system.
CO5	Depict about integumentary system.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	M	H	H	M	M	L	M	M
CO2	H	H	H	H	M	M	H	H	M	M
CO3	M	H	M	H	H	H	H	M	M	H
CO4	H	H	H	M	H	H	H	M	L	M
CO5	H	H	M	H	M	M	H	H	H	M

H-High; M-Medium; L-Low


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 TIRUCHENGOORE - 637 215
 Namakkal-Dl. Tamil Nadu, INDIA

18UBTM503	CORE VII: INDUSTRIAL BIOTECHNOLOGY
CO1	Explain the isolation, screening and improvement of industrially important microorganisms
CO2	Demonstrate the design, functions and types of bioreactor as well as various fermentation methods.
CO3	Explain about the operations and applications of bioreactor.
CO4	Illustrate about the production of an organic acids, amino acids, enzymes and antibiotics at an industrial level.
CO5	Describe about downstream processing.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	L	M	L	M	H	M	M	L
CO2	M	M	H	H	M	M	M	M	L	L
CO3	H	M	L	M	M	M	M	M	M	M
CO4	M	H	H	M	H	M	H	L	M	M
CO5	M	H	M	L	M	M	M	M	M	M

H-High; M-Medium; L-Low



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18UBTM502	CORE VI: IMMUNOLOGY
CO1	Describe the types of Immunity and lymphoid organs.
CO2	Illustrate the antigens and antibodies.
CO3	Explain the Antigen -Antibody interaction in the form of Precipitation and Agglutination reaction by electrophoresis and diffusion processes and also by ELISA.
CO4	Demonstrate the MHC complex, Antigen processing and presentation and cytokines.
CO5	Explain the Hypersensitivity, Autoimmunity, Transplantation immunology and vaccines.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	H	H	M	H	H	M	M	M
CO2	H	H	M	M	H	H	M	M	M	H
CO3	M	H	H	H	M	H	H	H	H	H
CO4	H	H	M	H	H	H	M	M	H	M
CO5	H	M	H	M	H	H	H	H	H	M

H-High; M-Medium; L-Low


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 Sakkarai-Dr. Tamil Nadu, India

18UBTEL501	ELECTIVE I: NANOBIO TECHNOLOGY
CO1	Understand the basic concepts and biomaterials
CO2	Gain knowledge about the methods and drug nanoparticles
CO3	Apply the applications of nanoparticles in medicine
CO4	Synthesize nanoparticles using biological materials
CO5	Diagnose and treat cancer and improve their Current Approaches and Challenges in nanotechnology

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	H	H	H	H	H	H	H	H	H
CO2	H	M	H	M	H	H	H	H	M	H
CO3	H	H	M	H	H	H	H	M	M	H
CO4	M	H	M	M	H	H	H	M	M	H
CO5	H	H	H	H	M	H	H	M	M	H

H-High; M-Medium; L-Low




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18UBTM504	CORE VIII: PLANT TISSUE CULTURE
CO1	Explain the applications, history of plant tissue culture and preparation of various types of plant tissue culture medium
CO2	Illustrate the methods of propagation of plants under <i>in vitro</i> condition and transformation techniques
CO3	Describe the embryo culture, Production of haploid, resistant and stress tolerant plants
CO4	Explain about somatic embryogenesis, Germplasm preservation, plant genome organization, synthetic seed technology and Genetic improvement of protein, lipids, carbohydrates, and vitamins.
CO5	Explain about Protoplast culture, Production of virus free plants, Somaclonal variation and Plant secondary metabolites.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	H	H	H	H	H	M	H	H
CO2	H	H	H	H	M	H	H	M	M	H
CO3	H	M	H	M	H	H	M	M	M	H
CO4	M	H	M	H	H	H	M	M	M	H
CO5	H	H	M	H	M	H	M	M	M	H

H-High; M-Medium; L-Low


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 Namakkal-Dt. Tamil Nadu, IN

18UBTSB501	SBC III: IPR FOR LIFESCIENCE (100 % INTERNAL EVALUATION)
CO1	Explain about IPR and its types, WTO, GATT, TRIPS and WIPO.
CO2	Describe about kinds of patents and inventions.
CO3	Elucidate about Patenting microorganisms, multicellular organism, patenting genes, patenting cells and tissue.
CO4	Describe about trade mark and trade secret.
CO5	Explain about copyrights.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	M	H	H	H	M	H	M	M
CO2	H	M	H	H	M	H	M	H	M	H
CO3	H	M	H	M	H	H	H	H	H	M
CO4	M	H	M	H	M	M	M	M	H	H
CO5	H	H	H	M	H	M	M	H	H	H

H-High; M-Medium; L-Low


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 Namakkal-Dt. Tamil Nadu, INDIA

18UBTEL502	ELECTIVE I: BIOINFORMATICS
CO1	Gain knowledge about basic computer components and concepts of biomolecules in computer
CO2	Understand the basic concepts and applications of Bioinformatics
CO3	Apply the ideas in deposition & retrieval of data's in biological database
CO4	Compare several data's for analyzing evolutionary relationship
CO5	Do the prediction of protein structure by several methods

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	M	H	M	H	M	H	M	H
CO2	H	M	H	M	H	H	H	M	M	H
CO3	M	H	H	M	H	H	H	M	M	M
CO4	H	M	H	H	H	H	M	M	H	H
CO5	H	H	M	H	M	H	M	M	M	H

H-High; M-Medium; L-Low


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 Namakkal-Dt. Tamil Nadu, INDIA

18UBTM602	CORE X : ENVIRONMENTAL BIOTECHNOLOGY
CO1	Describe the various kinds of microorganisms
CO2	Explain the concept of pollution detection methods and waste water treatment Methods
CO3	Illustrate about Biological calcification, eutrophication, and Solid waste Management
CO4	Elaborate about metal pollution and biodegradation concepts in environment
CO5	Describe the Eco friendly bio-products in environmental health.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	H	H	M	H	H	M	M	H
CO2	H	M	H	H	M	H	H	H	M	M
CO3	M	H	H	M	L	H	H	M	L	M
CO4	H	M	H	M	H	M	H	M	M	H
CO5	H	H	M	M	H	M	H	M	M	H

H-High; M-Medium; L-Low



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Namakkal-Dt. Tamil Nadu. INDIA

SEMESTER- VI

18UBTM601	CORE IX: RECOMBINANT DNATECHNOLOGY
CO1	Enlist the functions of enzymes used in Recombinant DNA technology
CO2	Extend the usage of DNA cloning vectors
CO3	Produce DNA libraries & use the screening methods
CO4	Express the recombinant proteins.
CO5	Apply the skills for the molecular techniques.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	L	M	H	L	M	L	H	M
CO2	M	H	M	L	M	H	M	M	H	H
CO3	H	M	M	H	H	L	M	M	H	H
CO4	M	M	H	M	H	M	M	M	H	H
CO5	H	H	M	H	M	M	M	M	M	H

H-High; M-Medium; L-Low


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 Srirangapatna-Dt. Tamil Nadu, INDIA

18UBTEL601	ELECTIVE II: MEDICAL BIOTECHNOLOGY
CO1	Explain about genetic disease.
CO2	Demonstrate DNA in disease diagnosis
CO3	Describe the molecular basis of cancer, Gene rearrangements in Leukemia and lymphoma and DNA based tissue typing
CO4	Explain about pharmaceutical products.
CO5	Illustrate about stem Cells therapy and tissue engineering.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	M	H	L	M	M	M	L	M
CO2	H	L	M	M	M	H	M	L	M	M
CO3	H	H	L	H	M	M	M	L	M	M
CO4	H	M	H	M	L	H	M	M	L	M
CO5	M	H	M	M	M	H	H	M	M	M

H-High; M-Medium; L-Low


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18UBTM603	CORE XI: BASICS OF ANIMAL CELL CULTURE
CO1	Explain the history and types of animal tissue culture.
CO2	Describe the preparation of animal tissue culture medium and growth factors.
CO3	Illustrate the basic techniques of animal cell culture.
CO4	Depicts the cytotoxicity, tissue engineering and stem cells.
CO5	Explain about IVF and transgenic animals.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	M	H	H	H	H	M	M	H
CO2	M	H	H	M	H	H	H	M	H	H
CO3	H	H	M	H	H	H	H	H	M	H
CO4	H	H	M	M	H	H	M	H	M	H
CO5	H	M	H	H	H	H	M	H	H	H

H-High; M-Medium; L-Low


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18UBTBSB601	SBC IV: BASICS OF RESEARCH (100% INTERNAL EVALUATION)
CO1	Depict about research and its classification.
CO2	Describe about Problem Identification & Formulation, Research Question, Investigation Question, and hypothesis.
CO3	Explain about Literature collection and Literature citation.
CO4	Describe about Standard of Research journals - impact factors, and citation index.
CO5	Elucidate about thesis Report, Table, Figures, Format of Thesis.

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	M	H	H	M	H	H	H	M	M
CO2	H	H	H	M	H	H	H	H	M	H
CO3	H	M	H	M	H	H	M	H	H	H
CO4	H	M	H	H	H	H	H	M	H	H
CO5	H	H	M	H	M	H	H	H	M	H

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18UBTEL601	ELECTIVE II: FOOD BIOTECHNOLOGY
CO1	Find the knowledge about constituents of food
CO2	Understand about production of food fermentation and food processing
CO3	Demonstrate the principles and various methods of food preservation
CO4	Describe the role of food pathogens
CO5	Gain knowledge about different types of food hazards in food industry

MAPPING

PO,PSO CO	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	M	H	M	M	H	M	M	L
CO2	H	L	M	H	H	L	M	H	M	M
CO3	M	M	H	M	M	M	H	M	L	M
CO4	H	M	L	H	H	M	H	M	M	L
CO5	H	M	M	L	H	H	M	L	M	H

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