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MINUTES OF THE THIRTEENTH BOARD OF STUDIES MEETING

Faculty: Biosciences

Board: Biotechnology


The Meeting of Board of Studies (BoS) was held as given below:

Name of the Body	BoS
Department	Biotechnology
Meeting No.	13th
Date and Time	16.08.2022
Venue	Department Instrumentation Room (1213)
Members Attended	The details are given in the ANNEXURE -I

AGENDA	
1.	Discussion on UG Curriculum for AY 2022-23 and onwards adopting R4 guidelines
2.	Discussion on UG syllabi for Part III – Core Courses for first Semester 2022-23 Batch
3.	Discussion on syllabus for Part III - Inter disciplinary Course (IDC) offered by Department of Chemistry
4.	Discussion on Part - I (Tamil/Hindi/French/Malayalam) offered by Language Department for 2022-23 Batch
5.	Discussion on Part -II (English) offered by English Department for 2022-23 Batch
6.	Discussion on Part – IV (AECC) Environmental Studies for 2022-23 Batch offered by Department of Microbiology
7.	Discussion on credits for Part - V Extension Activity for 2022-23 Batch
8.	Discussion on PG Curriculum for AY 2022-23 and onwards adopting R4 guidelines
9.	Discussion on PG syllabi for first semester courses 2022-23 Batch
10.	Discussion on PG DSE offered by Department of Biotechnology to other departments for 2022-23 Batch
11.	Discussion on PG Diploma program offered by Department of Biotechnology to other departments for 2022-23 Batch
12.	Discussion on Value Added Course (VACC)
13.	Any other matter



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MINUTES OF THE THIRTEENTH BOARD OF STUDIES MEETING

Faculty: Bioscience

Board: Biotechnology


The Chairman of BoS welcomed all the Panel members for the meeting. The items listed in the agenda were taken for discussion.

The following are the minutes of the meeting:

Item - 01	Discussion on UG Curriculum for AY 2022-23 and onwards adopting R4 guidelines
Discussion	Under regulation R4, UG Curriculum for AY 2022-23 have been designed and was presented for discussion.
Resolution	The Board unanimously approved the Curriculum.
Item - 02	Discussion on UG syllabi for Part III – Core Courses for first Semester 2022-23 Batch
Discussion	<p>223BT1A1CA: Cell Biology (New Course) Dr. Vijaya Padma suggested to remove repeating topic like Intercellular Signalling and to include signaling molecule and its response to the signaling pathway & termination of signaling pathways in Unit IV for better understanding of signal transduction in cells.</p> <p>223BT1A1CB: Biochemistry (New Course) Dr. Vijaya Padma suggested to shift from 3rd semester to 1st semester and 223BT1A3CB Biodiversity & Bioprospecting can be shifted to 3rd semester, to impart knowledge about Biomolecules and its roles.</p> <p>Dr. Vijaya Padma suggested to include topics in Unit I, like Glycolipids, Glyoxylate cycle, Glycogen synthesis and breakdown to know the role of storage carbohydrates in cellular metabolism.</p> <p>Dr. Prathima suggested to include Biosynthesis of amino acids and 3D structure determination of protein by amino acids in Unit II to know the role of amino acids in protein configuration and also to include Glycerophospholipids and Sphingoglycolipids to gain knowledge on cell membrane architecture in Unit III.</p> <p>223BT1A1CP: Cell Biology (Cell Biology and Biochemistry) As the Biochemistry core paper is shifted from Semester III to Semester I, the corresponding Biochemistry practical is merged with cell biology practical.</p>
Resolution	The Board unanimously approved the above syllabus
Item - 03	Discussion on syllabus for Part III - Inter Disciplinary Course (IDC) offered by Department of Chemistry
Discussion	<p>222CE1A1IA – Chemistry for Biologists (New Course) The syllabus approved by the Board of Studies in Chemistry was placed for endorsement.</p>



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Resolution	The Board unanimously approved the above syllabus
Item - 04	Discussion on Part I (Tamil/Hindi/French/Malayalam) offered by Language department for 2022-23 Batch
Discussion	221TL1A1TA/ 221TL1A1HA /221TL1A1FA /221TL1A1MA: Part I: Tamil-I: Ikkala Illakiyam / Hindi-I: Modern Literature/French-I: Grammar, Translation and Civilization/ Malayalam – I:Modern Literature respectively (New Course) The unified syllabi approved by the Board of Studies in Languages were placed for endorsement.
Resolution	The Board unanimously approved the syllabi.
Item - 05	Discussion on Part II (English) offered by department of English for 2022-23 Batch
Discussion	221EL1A1EA : Part II: Professional English I (New Course) The unified syllabus approved by the Board of Studies in English was placed for endorsement.
Resolution	The Board unanimously approved the syllabus
Item - 06	Discussion on Part IV (AECC) Environmental Studies offered by Department of Microbiology for 2022-23 Batch
Discussion	223MB1A1AA: Environmental Studies The unified syllabus approved by the Board of Studies in Microbiology was placed for endorsement.
Resolution	The Board unanimously approved the syllabus
Item - 07	Discussion on credits for Part V Extension Activity for 2022-23 Batch
Discussion	One credit to be awarded for participation in Extension activity like YRC/NCC/NSS/ RRC/Yoga/Sports/Clubs
Resolution	The Board members approved one credit for Extension activity
Item - 08	Discussion on PG Curriculum for AY 2022-23 and onwards adopting R4 guidelines
Discussion	Under regulation R4, PG Curriculum for AY 2022-23 has been designed and was presented for discussion.
Resolution	The Board unanimously approved the Curriculum.
Item -09	Discussion on PG-syllabi for Core Courses for first semester 2022-23 Batch
Discussion	223BT2A1CA: Molecular Biology and Genetics (New course) Dr. Prathima suggested to include topics like Introduction to Replication, Double strand Breakage Repair and Recent progress in CRISPR/ CAS9 Based genome engineering in Unit I to gain knowledge on DNA repair and DNA editing. Also suggested topics likes Post transcriptional Mechanisms, mRNA stability,



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	<p>Localization, RNA processing and mRNA-based Therapeutics in Unit II for the better understanding of various modification in nascent RNA and the role of processed RNA in therapies.</p> <p>Dr. Prasad suggested to include topics like Translation and translational inhibitors as lucrative targets for drug design and development in Unit III.</p> <p>Dr. Vijaya Padma suggested to include topics like Application of Molecular genetics approaches to study the human evolution in Unit IV. Clinical applications of Molecular Genetics Discoveries to identify the molecules responsible for heredity in Unit V.</p> <p>223BT2A1CB: Biochemistry (New Course) Dr. Prathima suggested to include topics like glycosaminoglycans, Proteoglycans, Protein glycosylation and its significance in Unit I to know the importance of carbohydrates in cell surface and extra cellular matrices. Motifs, functional relationship between domains and function of protein in Unit III for the better understanding of protein folding.</p> <p>223BT2A1CC: Microbiology (New Course) Dr. Vijaya Padma suggested to include topics like Preservation and maintenance of microbes, Microbial Culture Collection centers – India and International organizations and modern diversity study NGS in Unit I.</p> <p>Fatty Acid Methyl Ester (FAME), 16S rRNA & 18S rRNA gene sequencing. Mol % G+C analysis, DNA-DNA hybridization, Molecular methods to study complex microbial communities: DGGE, SSCP, T-RFLP and FISH in Unit II.</p> <p>Dr. Prathima suggested to comprise Role of microorganisms in soil fertility, Food preservation, Food sanitation, Food poisoning, Food borne pathogens, and Quality control and Food laws in Unit III. Viral Diseases: Epidemiology, pathogenesis, prevention and Treatment - H1N1, HIV and SARS-COV-2 in Unit IV.</p> <p>Dr. Prasad suggested to include the topics like Chemotherapeutics and susceptibility test in Unit V.</p> <p>223BT2A1CD: Biodiversity and Bioprospecting (New Course) Dr. Prasad suggested to include the topics to strengthen the knowledge on Bioprospecting of plant products such as Natural Products from plants – Drugs, Antitumor agents and Anti-inflammatory agents in Unit II. Also insist to include such as antifoulants and anti-biofilm agent from microbes in Unit III.</p> <p>Traditional medicines, drug analysis tools and Product development producers and its policies in Unit IV, Rules and regulations in patenting and Intellectual property rights of bioprospecting products in India in Unit V.</p>
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	223BT2A1CP: Core Practical I: Molecular Biology & Genetics and Biochemistry (New Course) The syllabus approved by the Board of Studies in Biotechnology was placed for endorsement.
	223BT2A1CQ: Core Practical II: Microbiology and Biodiversity & Bioprospecting(New Course) Dr. Prathima suggested to remove UV mutagenesis, synthesis of Agar from algal species and dissection practical's.
Resolution	The Board approved the syllabi for the above courses
Item -10	Discussion on PG DSE offered by Department of Biotechnology to other departments for 2022-23 Batch
Discussion	223BT2A1DA: Discipline Specific Elective I: Applied Biotechnology (New Course) The unified syllabus approved by the Board of Studies in Biotechnology was placed for endorsement.
Resolution	The Board unanimously approved the syllabus
Item -11	Discussion on PG Diploma program offered by Department of Biotechnology to other departments for 2022-23 Batch
Discussion	Board members suggested to retain the same for both programs for 2022-23 Batch
Resolution	The Board unanimously approved the syllabus
Item – 12	Discussion on Value Added Certificate Course (VACC)
Discussion	The course title Plant Tissue Culture to be offered by internal faculty for 2021-22 batch was discussed
Resolution	The Board approved the same
Item – 13	Any other matters
Discussion	The board members discussed and recommended the Panel of Examiners
Resolution	The Board unanimously approved the Panel of Examiners

The chairman of Board of Studies (BoS) thanked all the members for their active participation and providing their valuable suggestions.

Date: 16.08.2022



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(Dr. P. Chidambara Rajan)
BoS Chairman/HoD
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13th

Syllabus Revision

Faculty: Bioscience

Board: Biotechnology

Semester: I

Course Code / Name: 223BT1A1CA / Cell Biology

Unit	Existing	Changes
I	History - cell theory - scope - types and shapes - organization of prokaryotic and eukaryotic cell and their differences. Cytoskeleton - microtubules. Nucleus, endoplasmic reticulum (rough and smooth), golgi apparatus, mitochondria, ribosomes, chromosome, chloroplast, lysosome, peroxisome	
II	Cell membrane - structure and function, transport of nutrients and ions across the membranes. Diversity of plasma membranes (Trilaminar, bimolecular leaflet, lattice, micellar, fluid mosaic model). Desmosomes, plasmodesmata. Cell junctions - adherent, gap and tight junctions.	
III	Membrane transport types. General classes of transport systems-uniport, symport, antiport. Diffusion- passive and facilitated. Active transport- primary and secondary. The P-type ATPases (Na+K + - ATPase), ion channels (ligand- gated and voltage-gated).	
IV	Intracellular signaling - categories of signaling - types of signal receptors - Receptors of special importance - Extra Cellular Matrix-Cell Interactions . Endocrine, paracrine, autocrine signaling and juxtaerine signalling.	Cell Signalling-Intercellular signaling & intracellular signaling-forms of cell signaling-types of receptors-Signalling molecules-Responses to the Signaling Pathway-Termination of Signaling Pathways
V	Cell cycle - Mitosis - meiosis and their significance. Cell Ageing - mechanism - theories (Free radical theory and somatic mutation theory). Cell death - necrosis, apoptosis. Difference between necrosis and apoptosis. Mechanism of apoptosis. Characteristics of cancer cell. Tumor cells - Stages of progression	

PERCENTAGE OF SYLLABUS REVISED : 16 %

COURSE FOCUS ON:

- ☒ Skill Development ☐ Entrepreneurial Development
☐ Employability ☐ Innovation
☐ Intellectual Property Rights (IPR)



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13th

Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester: I

Course Code/ Name: 223BT1A1CB/ Biochemistry

Unit	Existing	Changed
I	Structure, classification and functions of carbohydrates, Glycolysis, gluconeogenesis and Regulation. Krebs's cycle. Electron transport chain and HMP shunt pathway,	Glycoproteins, Glycolipids, Glyoxylate cycle and Glycogen synthesis and breakdown.
II	Amino acid: Essential and non essential amino acids, Properties and Metabolism of amino acids (Glycine and Tryptophan). Protein: Classification and Properties – four levels of protein structure & conformations and Ramachandran Plot	Biosynthesis of amino acids and 3D Structure determination of protein by amino acid sequences.
III	Lipids: Nomenclature, Classification and biological significance. Simple Lipids and Compound lipids. Synthesis and metabolism of fatty acids (α , β and ω Oxidation of fatty acids). Cholesterol Biosynthesis and regulation.	Phospholipids and Glycolipids metabolism- Glycerophospholipids and Sphingoglycolipids.
IV	Nucleic acids: Classification, structure and functions of nucleic acids, Biosynthesis of Purines and pyrimidines -De novo pathway, Salvage pathway and Metabolism of Purine and pyrimidine.	Regulation for all pathway
V	Enzymes: Nomenclature and Classifications. Coenzymes, Abzymes and Ribozymes. Mechanism of enzyme actions - Active site, Lock and Key model & Induce fit Hypothesis, Enzyme substrate complex formation. Kinetics: Derivation of Michaelis- Menton equation, Types of inhibitions - Competitive, Non Competitive, Uncompetitive, Feedback and Allosteric enzymes inhibition.	Allosteric enzymes

PERCENTAGE OF SYLLABUS REVISED: 27%

COURSE FOCUS ON

☒ Skill Development

☐ Entrepreneurial Development

☒ Employability

☐ Innovation

☐ Intellectual Property Rights (IPR)



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Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester: I

Course Code/ Name: 223BT1A1CP/ Core Practical-I Cell biology & Biochemistry

Prg. No	Existing	Changes
1	Demonstration of Basic Laboratory Practices and instrument handling*	Calculations of Molarity, Normality and Percentage Solution and Preparation of buffer in different pH - Phosphate, Acetate, Tris buffer
2	Calculations of Molarity, Normality and Percentage Solution	
3	Preparation of buffer in different pH - Phosphate, Acetate, Tris buffer	
4	Preparation of equilibrated phenol	
5	Simple staining of Bacteria and observation under stereomicroscope*	
6	Microscopic observation of Monocot and Dicot Leaf, Root and Stem section	
7	Staining of plant cells – Onion epidermal cells	Estimation of DNA by diphenylamine method
8	Staining of starch granules	Estimation of Glucose by Anthrone method
9	Cell counting using Haemocytometer	Estimation of Fructose by Dinitro Salicylic Acid method
10	Blood smear preparation for blood cell identification	Estimation of Amino acids by Ninhydrin method
11	Mitotic preparation from onion root tip	Estimation of Ascorbic acid by DNPH method
12	Preparation of Herbaria – Five families (1 Plant from each family) with Authentication from authorized agencies*	Estimation of Protein by Lowry's or Bradford's method

PERCENTAGE OF SYLLABUS REVISED

: 87%

COURSE FOCUS ON:

☒ Skill Development

☐ Entrepreneurial Development

☒ Employability

☐ Innovation

☐ Intellectual Property Rights (IPR)



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Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester: I

Course Code/Name: : 222CE1A1IB– IDC Chemistry For Biologists

Unit	Existing	Changes
I	Unit I Coordination Chemistry and Fertilizers Coordination Chemistry: Nomenclature, Theories of Werner, Sidgwick, Pauling, Chelation examples, Haemoglobin, Chlorophyll. Applications in qualitative and quantitative analysis of EDTA. Fertilizers: Urea, ammonium sulphate, ammonium Nitrate, Potassium Nitrate, NPK, fertilizer, Triple superphosphate, Pollution of air, Water and Soil sources, remedies.	Solutions Normality, molarity, molality, mole fraction, mole concept. Primary and secondary standards – preparation of standard solutions. Principle of Volumetric analysis (with simple problems). Indicators – Theory of indicators- Oswald and quinonoid theory.
II	Unit II Chemical Bonding: Molecular Orbital Theory- bonding, anti-bonding and non-bonding orbitals. MO configuration of H ₂ , N ₂ , O ₂ , F ₂ - bond order- diamagnetism and paramagnetism.. Ionic Bond: Nature of ionic bond, structure of NaCl and CsCl, factors influencing the formation of ionic bond. Covalent Bond: Nature of covalent bond, structure of CH ₄ , NH ₃ , H ₂ O, shapes of BeCl ₂ , BF ₃ , based on VSEPR theory and hybridization.	Acids and Bases Acid base theories – Strength of acids and bases – Equilibrium constant and Ionic constant of water- pH, pKa, pKb, Buffer solution, pH and pOH simple calculations.
III	Unit III Basic Organic Chemistry : Electron displacement effect in organic compounds – Inductive effect – Electromeric effect – Resonance effect, Hyperconjugation and Steric effect. Isomerism, Symmetry of elements (Plane, Centre and Axis of symmetry), Molecules with one chiral carbon and two adjacent chiral carbons – Optical isomerism of lactic acid and tartaric acid, Enantiomers, Diastereomers – Separation of racemic mixture. Geometrical isomerism (maleic and fumaric acid). R/S and E/Z configuration assignments for simple molecules.	Unit III Types of bonding - Ionic Bond: Nature of ionic bond, factors influencing the formation of ionic bond, Covalent and coordinate bond- Molecular Orbital Theory- MO configuration of H ₂ , N ₂ , O ₂ - bond order- diamagnetism and paramagnetism.
IV	Unit IV Solutions Normality, molarity, molality, mole fraction, mole concept. Primary and secondary standards – preparation of standard solutions. Principle of Volumetric analysis (with simple problems). Indicators – Theory of indicators – Acid base and quinonoid. Strong and weak acids and bases – Ionic product of water – pH, pKa, pKb, Buffer solution, pH and pOH simple calculations.	Unit IV Stereo Chemistry : Electron displacement effect in organic compounds - Inductive effect – Electromeric effect - Resonance effect, Hyperconjugation and Steric effect. Isomerism, Structural isomerism- Symmetry of elements (Plane, Centre and Axis of symmetry), Optical isomerism of lactic acid and tartaric acid, Enantiomers, Diastereomers – Separation of racemic mixture, Geometrical isomerism (maleic and fumaric acid). R/S and E/Z configuration assignments for simple molecules.
V	Unit V Chemical Kinetics and Catalysis: Rate of reaction, rate law, order, molecularity, first order rate law, half-life period of first order equation, pseudo first order reaction, zero and second order reactions. Derivation of rate expression for I and II order kinetics. Catalysis – homogenous, heterogeneous and enzyme catalysis (definition only), enzymes used in industry, characteristics of catalytic reactions	


Percentage of Syllabus revised: 65%

Course Focus on:

<input checked="" type="checkbox"/> Skill Development	<input type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input type="checkbox"/> Innovation
<input type="checkbox"/> Intellectual Property Right (IPR)	



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Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester: I

Course Code/ Name: 221TL1A1TA / PART – I - TAMIL - I: IKKALA ILAKKIYAM

Unit	Existing	Changes
I	1. உயிர்-பெற்ற-தமிழர்-பாட்டு - பாரதியார் 2. படி - பாரதிதாசன் 3. போசாட்டி-புறப்பட்டு - தமிழ்-ஒளி 4. தமிழ்க் கொலை புரியாதீர் - புலவர் குழந்தை 5. திரைத்தமிழ்: அ)சும்மா கிடந்த நிலத்தை - எனத் தொடங்கும் பாடல் - பட்டுக்கோட்டை கல்யாண சுந்தரனார். ஆ) சமரசம் உலாவும் இடமுமே - எனத் தொடங்கும் பாடல் - மருதகாசி. இ) உன்னை அறிந்தால் - எனத் தொடங்கும் பாடல் - கண்ணதாசன்.	இலக்கிய வரலாறு - மறுமலர்ச்சி கவிஞர்களின் தமிழ்ப்பணிகள் பாரததேசம் - பாரதியார் தமிழரின் பெருமை - நாமக்கல் கவிஞர் திரைத் தமிழ் : விஞ்ஞானத்த வளர்க்கப் போறண்டி - உடுமலை நாராயணகவி
II	1. கடமையைச் செய் - மீரா 2. ஆம்மாவின்-பொய்கள் - ஞானசுந்தன் 3. செருப்புடன்-ஒரு-பேட்டி - மு.மேத்தா 4. சிங்கவால்-குரங்கின்-மரணம் - சிற்பி 5. சுடல்கோன்-2004 - முத்தமிழ்-விரும்பி 6. கரிகிறது தாய்ப்பால் - ஆரூர் தமிழ்நாடன் 7. ஐந்தாம் வகுப்பு 'அ' பிரிவு - நா. முத்துக்குமார் 8. ஹைகூ கவிதைகள் - 15 கவிதைகள்	இலக்கிய வரலாறு - புதுக்கவிதையின் தோற்றமும் வளர்ச்சியும் ஒப்பிலாத சமுதாயம் - அப்துல் ரசூமான் கன்னிமாடம் - மு.மேத்தா மலையாளக் காற்று - சிற்பி
III	1. ஒரு-கதவும்-கொஞ்சம்-கள்ளிப்பாலும் - தாமரை 2. நீரில்-அலையும் முகம் - அ. வெண்ணிலா 3. தொட்டி-செடி - இளம்பிறை 4. ஏறிந்த வித்தியாசங்கள் - மல்லிகா	தொலைந்து போனேன் - தாமரை தற்காதல் - பொன்மணி வைரமுத்து புதையுண்ட வாழ்க்கை - சுசந்தி சுப்ரமணியன்
IV	1. வேப்பமார் - ந.பிச்சமூர்த்தி 2. அகல்லை - புதுமைப்பித்தன் 3. ஒருபிடி-சோறு - ஜெயகாந்தன் 4. காய்ச்சமரம் - கி.ராஜநாராயணன் 5. நிராசை - பாமா 6. குறிரை-மசால்-நாத்தா - சு.வேணுகோபால்	இலக்கிய வரலாறு - சிறுகதையின் தோற்றமும் வளர்ச்சியும் கனகாம்பரம் - கு.ப.ராஜகோபாலன் ஆற்றங்கரைப் பிள்ளையார் - புதுமைப்பித்தன் பொம்மை - ஜெயகாந்தன் காட்டில் ஒரு மான் - அம்பை வேட்கை - சூர்யகாந்தன்
V	அ. இலக்கியவரலாறு 1. மறுமலர்ச்சி கவிஞர்களின் தமிழ்ப்பணிகள் 2. புதுக்கவிதையின் தோற்றமும் வளர்ச்சியும் 3. சிறுகதையின் தோற்றமும் வளர்ச்சியும் ஆ.இலக்கணம்:1.வல்லினம் மிகும், மிகா இடங்கள் (ஒற்றுப்பிழை நீக்கி எழுதுதல்) 2. ர,ற,ல,ழ, ள,ண, ந,ன வேறுபாடு (ஒலிப்பு நெறி, சொற்பொருள் வேறுபாடு அறிதல்) இ. படைப்பாக்கப் பயிற்சி 1. கவிதை, சிறுகதை எழுதுதல்	இலக்கிய வரலாற்றுப் பகுதி அந்தந்த அலகுகளுக்குத் தகுந்தாற் போல் மாற்றி அமைக்கப்பட்டுள்ளது.


PERCENTAGE OF SYLLABUS REVISED:
COURSE FOCUS ON:

44 %

<input checked="" type="checkbox"/> Skill Development	<input checked="" type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input checked="" type="checkbox"/> Innovation
<input type="checkbox"/> Intellectual Property Right (IPR)	



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Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester : I

Course Code/ Name: 221TL1A1HA/ PART - I - HINDI - I : MODERN LITERATURE

Unit	Existing	Changes
I	गद्य - नूतन गद्य संग्रह (जय प्रकाश) पाठ 1- रजिया पाठ 2- मक्रील पाठ 3- बहता पानी निर्मला पाठ 4- राष्ट्रपिता महात्मा गाँधी	-
II	कहानी कुंज- डॉ वी.पी. 'अमिताभ' (पाठ 1-4)	-
III	व्याकरण : शब्द विचार (संज्ञा, सर्वनाम, कर्मसूचक विशेषण)	व्याकरण : शब्द विचार (संज्ञा, सर्वनाम, विशेषण)
IV	अनुच्छेद लेखन	-
V	अनुवाद अभ्यास-III (केवल अंग्रेजी से हिन्दी में) (पाठ 1 to 10)	-


PERCENTAGE OF SYLLABUS REVISED: 25 %

COURSE FOCUS ON:

<input checked="" type="checkbox"/> Skill Development	<input checked="" type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input checked="" type="checkbox"/> Innovation
<input type="checkbox"/> Intellectual Property Right (IPR)	



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Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester : I

Course Code/ Name: 221TL1A1FA / PART – I FRENCH – I: Grammar, Translation and Civilization.

Unit	Existing			Changes
I	Objectifs de Communication	Tâche	Activités de réception et de production orale	-
	<ul style="list-style-type: none">• Saluer• Enter en contact avec quelqu'un.• Se présenter.• S'excuser	En cours de cuisine, premiers contacts avec les membres d'un groupe	<ul style="list-style-type: none">• Comprendre des personnes qui se saluent.• Échanger pour entrer en contact, se présenter, saluer, s'excuser.• Communiquer avec <i>tu</i> ou <i>vous</i>.• Comprendre les consignes de classe• Épeler son nom et son prénom. Computer jusqu'à 10.	
II	Objectifs de Communication	Tâche	Activités de réception et de production orale	-
	<ul style="list-style-type: none">• Demander de se présenter.• Présenter quelqu'un.	Dans la classe de français, se présenter et remplir une fiche pour le professeur.	<ul style="list-style-type: none">• Comprendre les informations essentielles dans un échange en milieu professionnel.• Échanger pour se présenter et présenter quelqu'un.	
III	Objectifs de Communication	Tâche	Activités de réception et de production orale	-
	<ul style="list-style-type: none">• Exprimer ses goûts.	Dans un café, participer à une soirée de rencontres rapides et remplir de taches d'appréciation.	<ul style="list-style-type: none">• Dans une soirée de recontres rapid comprendre des personnes qui échantent sur elles et sur leurs goût• Comprendre une personne qui parler des goûts de quelqu'un d'autre.	
IV	Objectifs de Communication	Tâche	Activités de réception et de production orale	<div>Demander à quelqu'un de faire quelque chose. Demander poliment. Parler d'actions passes.</div> <div>Organiser un programme d'activités pour accueillir une personne importante.</div> <div>Comprendre une personne demande un service à quelqu'un. Demander à quelqu'un de faire quelque chose. Imaginer et raconter au passé à partir de situations dessinées.</div>
	<ul style="list-style-type: none">• Présenter quelqu'un	Dans un café, participer à une soirée de rencontres rapides et remplir de taches d'appréciation	<ul style="list-style-type: none">• Exprimer ses goûts.• Comprendre une demande laissée sur un répondeur téléphonique.• Parler de ses projets de week-end.	
	Autoévaluation du module I Page 40 – Préparation au DELF A1 page 42			
V	Demander à quelqu'un de faire quelque chose. Demander poliment. Parler d'actions passes.	Organiser un programme d'activités pour accueillir une personne importante.	Comprendre une personne demande un service à quelqu'un. Demander à quelqu'un de faire quelque chose. Imaginer et raconter au passé à partir de situations dessinées.	Make in Own Sentences
	Tu veux bien? Page 46			

PERCENTAGE OF SYLLABUS REVISED: 25%

COURSE FOCUS ON:

<input checked="" type="checkbox"/> Skill Development	<input checked="" type="checkbox"/> Entrepreneurial Development
<input checked="" type="checkbox"/> Employability	<input checked="" type="checkbox"/> Innovation
<input type="checkbox"/> Intellectual Property Right (IPR)	



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Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester : I

Course Code/ Name: 221TL1A1MA / PART - I - MALAYALAM - I : MODERN LITERATURE

Unit	Existing	Changes
I	Novel : Alahayude penmakal	Novel : Pathummayude Adu
II	Novel : Alahayude penmakal	Novel : Pathummayude Adu
III	Short Story : Nalinakanthi	-
IV	Short Story : Nalinakanthi	-
V	Composition & Translation	Expansion of ideas, General Essay and Translation

PERCENTAGE OF SYLLABUS REVISED: 50%

COURSE FOCUS ON:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Skill Development | <input checked="" type="checkbox"/> Entrepreneurial Development |
| <input checked="" type="checkbox"/> Employability | <input checked="" type="checkbox"/> Innovation |
| <input type="checkbox"/> Intellectual Property Right (IPR) | |



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Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester: I

Course Code/ Name: 221EL1A1EA- Core Course: Professional English I

PERCENTAGE OF SYLLABUS REVISED: 100%

COURSE FOCUS ON:



Skill Development



Entrepreneurial Development



Employability



Innovation



Intellectual Property Rights (IPR)



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Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester: I

Course Code/ Name: 223MB1A1AA –Environmental studies

Unit	Existing	Changes
I	Introduction to Environmental studies& Ecosystems: Multidisciplinary nature of environmental studies; components of environment – atmosphere, hydrosphere, lithosphere and biosphere. Scope and importance; Concept of sustainability and sustainable development. Ecosystem - Structure and function of ecosystem; Energy flow in an ecosystem: food chain, food web and ecological succession. Case studies of the following ecosystems: Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).	
II	Natural Resources: Renewable and Non-renewable Resources: Land Resources and land use change; Land degradation, soil erosion and desertification. Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations. Water: Use and overexploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). Heating of earth and circulation of air, air-mass formation and precipitation. Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, case studies.	
III	Biodiversity and Conservation: Levels of biological diversity: genetic, species and ecosystem diversity; Biogeography zones of India; Biodiversity patterns and global biodiversity hot spots. India as a mega-biodiversity nation; Endangered and endemic species of India. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.	
IV	Environmental Pollution, Environmental Policies & Practices: Environmental pollution: types, causes, effects and controls; Air, water, soil, chemical and noise pollution. Nuclear hazards and human health risks. Solid waste management: Control measures of urban and industrial waste. Pollution case studies. Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture. Environment Laws: Environment Protection Act; Prevention & Control of Pollution Act – Air & Water. Wildlife Protection Act; Forest Conservation Act; International agreements; Montreal and Kyoto protocols and conservation on Biological Diversity (CBD). The Chemical Weapons Convention (CWC). Nature reserves, tribal population and rights, and human-wildlife conflicts in Indian context.	
V	Human Communities and the Environment& Field Work : Human population and growth: Impacts on environment, human health and welfare. Carbon-foot-print. Resettlement and rehabilitation of project affected persons; case studies. Disaster management: floods, earthquakes, cyclones and landslides. Environmental movements: Chipko, Silent valley, Bishnios of Rajasthan. Environmental ethics: Role of Indian and other religions and cultures in environmental conservation. Environmental communication and public awareness case studies (e.g., CNG vehicles in Delhi). Visit to an area to document environmental assets; river/forest/flora/fauna, etc. Visit to a local polluted site – Urban/Rural/Industrial/Agricultural. Study of common plants, insects, birds and basic principles of identification. Study of simple ecosystems-pond, river, Delhi Ridge, etc.	Population explosion – Family Welfare Programmes Role of Information Technology in Environment and human health. Role of the Colleges, Teachers and Students in village adoption towards clean, green and make in villages in various aspects.

PERCENTAGE OF SYLLABUS REVISED:

33 %

COURSE FOCUS ON:

<input checked="" type="checkbox"/>	Skill Development	<input type="checkbox"/>	Entrepreneurial Development
<input type="checkbox"/>	Employability	<input type="checkbox"/>	Innovation
<input type="checkbox"/>	Intellectual Property Rights (IPR)		



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Faculty: Biosciences

Board: Biotechnology

Semester: I

Course Code/ Name: 223BT2A1CA: Molecular Biology and Genetics

Unit	Existing	Changed
I	Over-view of Central dogma & Experimental proof for Semiconservative method. Enzymes & accessory proteins involved in DNA replication. Replication process in prokaryotic & Eukaryotic DNA. Regulations of Eukaryotic replication. Differences between Prokaryotic and eukaryotic replication. Other Replication models - Theta and Rolling circle model. DNA Repair mechanism- Nucleotide excision, Base excision, Mismatch repair, Photo-reactivation, SOS and recombination repair. Recombination: Homologous and site-specific recombination.	Introduction to Replication, Double-Strand Breakage Repair, Recent Progress in CRISPR/Cas9-based genome engineering
II	Importance of DNA binding Proteins, RNA polymerase. Mechanism of Transcription in prokaryotes & Eukaryotes. Transcriptional Regulation-Regulatory elements and mechanisms of transcription regulation, Transcriptional and post-transcriptional gene silencing. Modifications in RNA- 5' cap formation, transcription, 3'-end processing and polyadenylation, splicing, RNA Editing, Nuclear export of mRNA. r-RNA & t-RNA processing.	Posttranscriptional Mechanisms, mRNA Stability and Localization. RNA processing, and mRNA based therapeutics. and Transcription factors as drug targets: opportunities for therapeutic selectivity.
III	Overview of Genetic code, codon and anticodon concepts, wobble hypothesis*. The translation machinery, role of t RNA & ribosome. Mechanism of translation in Prokaryotes & Eukaryotes. Post translational modifications of proteins- Phosphorylation, Deformylation, Glycosylation, Acetylation, Amidation, Lipid attachment, S - Nitrosylation and Disulfide bond formation. Translation Regulation-Translational inhibitors, Control of gene expression at translational level. Protein targeting- Synthesis of Secretory and membrane proteins, import into nucleus, mitochondria and chloroplast.	Post translational modifications, and Translation & Translational inhibitors as lucrative targets for drug design and development.
IV	Overview on mendelian and non-mendelian inheritance. Human Genetics- Introduction to Human Genetics. Chromosomal changes resulting in abnormal phenotype: Numerical (Aneuploidy) changes resulting in genetic syndromes eg: Turner, Down & Klinefelter Syndromes. Structural changes resulting in genetic diseases: eg: Cri-du-chat syndrome. Genetic Diseases and Inheritance Pattern: Autosomal inheritance - Dominant (Eg: Adult polycystic kidney, Achondroplasia); Autosomal inheritance - Recessive (Eg: Albinism, Sickle Cell Anemia, Phenyl Ketonuria); X-linked: Recessive (Eg: Duchenne muscular dystrophy - DMD); X-linked: Dominant (eg: Xg blood group); Y-linked inheritance (Holandric - eg. Testes determining factor); Mitochondria disorders like LHON, DAD, MERRF and MELAS. Cancer genetics.	Application of molecular genetic approaches to the study of human evolution.
V	Pedigree analysis; Diagnosis of disease: Molecular cytogenetics, DNA markers - VNTR, STR, microsatellite, SNP and their detection techniques - RFLP genotyping, RAPD, AFLP. Prevention of disease: Prenatal diagnosis; Genetic counseling. Population genetics: Organization and measure of genetic variation: Random mating population, Hardy-Weinberg principle. Sources responsible for changes in gene frequencies: Mutation, selection, migration and isolation; random genetic drift; insights into human migration, natural selection and evolution.	Clinical Applications of Molecular Genetic Discoveries

PERCENTAGE OF SYLLABUS REVISED: 25%

COURSE FOCUS ON:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Skill Development | <input type="checkbox"/> Entrepreneurial Development |
| <input checked="" type="checkbox"/> Employability | <input type="checkbox"/> Innovation |
| <input type="checkbox"/> Intellectual Property Rights (IPR) | |



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Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester: I

Course Code/ Name: 223BT2A1CB/ Biochemistry

Unit	Existing	Changed
I	Classification and reactions: occurrence, properties and biological reactions. Structural features of carbohydrates; Glycolysis and TCA cycle; Glycogen breakdown and synthesis; Gluconeogenesis; interconversion of hexoses and pentoses. Carbohydrate metabolic disorders. Glycogen storage diseases. Lectins – characteristics and functions in biological system	glycosaminoglycans, Proteoglycans, Protein glycosylation and its significance
II	Classification, Structure, functions and reactions of Lipids, Biosynthesis of fatty acids. Triglycerides, phospholipids and Sterols, Catabolism of Fatty acids - Oxidation(α , β and ω), Catabolism of triglycerides and phospholipids, Essential fatty acids and their physiological functions. Disorders associated with lipid metabolism and its therapeutic intervention - ketone bodies and ketosis; fatty liver, atherosclerosis.	
III	Classification and Biosynthesis. Peptides, Classification of Protein, Primary structure of proteins, structural comparison at secondary and tertiary levels (Ramachandran Plot), quaternary and domain structure and architecture. Regulation of Protein metabolism. Protein metabolism in prolonged fasting. Disease related to protein folding – Alzheimer's and mad cow disease	Motifs, functional relationship between domains and function of protein
IV	IUBMB classification of enzymes, active site, Lock and key Model and induced fit hypothesis. Mechanism of enzyme catalysis: Lysozyme, Enzyme kinetics- Michaelis – Menten (MM) equations, Transformations of MM equation and their significance, Enzyme inhibition: Reversible – Competitive, Noncompetitive, Uncompetitive, Irreversible inhibition, Kinetics of Enzyme inhibition. Isoenzymes, allosteric enzymes, ribozymes, abzymes and artificial enzymes. Diseases Caused By Deficiency Of Digestive Enzymes- Obesity, Galactosemia, Maple Syrup Urine Disease.	Factors affecting enzyme activity
V	Classification, structure, functions and reactions of nucleic acids, Conformation of Nucleic acids: Structural characteristics of A, B and Z-DNA. 3D structure of t-RNA, ribozymes and riboswitches. Biosynthesis of Nucleotides –De nova and Salvage pathway, Regulations of Purines and Pyrimidine, Metabolism of Purine and Pyrimidine. Disorders of nucleic acids metabolism- Gout, Lesch-Nyhan syndrome, oroticaciduria, and xanthinuria	

PERCENTAGE OF SYLLABUS REVISED: 10%

COURSE FOCUS ON:

☒ Skill Development

☐ Entrepreneurial Development


☒ Employability

☐ Innovation

☐ Intellectual Property Rights (IPR)



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	<p align="center">Dr. N.G.P. ARTS AND SCIENCE COLLEGE (An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore) Approved by Government of Tamil Nadu & Accredited by NAAC with 'A++' Grade (3rd Cycle-3.64 CGPA) Dr. N.G.P.-Kalapatti Road, Coimbatore-641 048, Tamil Nadu, India. Website: www.drngpasc.ac.in Email: info@drngpasc.ac.in. Phone: +91-422-2369100</p>	<p align="center">BoS</p> <hr/> <p align="center">13th</p>
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Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester: I

Course Code/ Name: 223BT2A1CC/ Microbiology

Unit	Existing	Revised
I	Microbial Diversity: Concepts of species and hierarchical taxa—Bacterial nomenclature—Bergey's system of classification: Family Enterobacteriaceae, Pseudomonadaceae, Bacillaceae, Chlamydiaceae, Flavobacteriaceae—Classification of Viruses and Fungi—Polyphasic taxonomy.	Preservation and maintenance of microbes, Microbial Culture Collection centers – India and International organizations, Modern methods to study microbial diversity: NGS.
II	Ultrastructure of Archaea (Methanococcus); Eubacteria (E. coli); Unicellular Eukaryotes (Yeast) and viruses (Bacterial, Plant, Animal and Tumor viruses); Microbial growth: Batch, fed-batch, continuous, method of growth estimation; string response, death of a bacterial cell. Microbial physiology: Physiological adaptation and lifestyle of Prokaryotes, Unicellular Eukaryotes.	Microbial Identification through physiological and biochemical methods (BIOLOG, Vitex). Techniques used in diversity analysis – Fatty Acid Methyl Ester (FAME), 16S rRNA & 18S rRNA gene sequencing. Mol % G+C analysis, DNA-DNA hybridization, Molecular methods to study complex microbial communities: DGGE, SSCP, T-RFLP and FISH.
III	Host-Pathogen interactions; Microbes infecting humans—Urinary tract infection, Sexually transmissible infection, Oral cavity and respiratory infection, Nosocomial infection. Diseases caused by Viruses: Chicken pox, Rabies virus, hepatitis, Dengue. Case study: Emerging Diseases (Swine flu, Chikungunya, Ebola)	Spoilage of food – Principles and types; Food preservation: physical and chemical- Food sanitation – Food poisoning – Food borne pathogens – Quality control and Food laws. Role of microorganisms in soil fertility – Role of nif gene in Biological nitrogen fixation, Plant microbe interaction: Biopesticides (B. thuringiensis and NPV) - Biofertilizers - PGPR-mycorrhiza.
IV	Role of microorganisms in natural system and artificial system; Influence of Microbes on the Earth's Environment and Inhabitants; Ecological impacts of microbes; Symbiosis (Nitrogen fixation and ruminant symbiosis); Microbes and Nutrient cycles	Bacterial Diseases: Host-parasite relationship, epidemiology, pathogenesis, prevention and treatment – Mycobacterium, Salmonella and Yersinia. Viral Diseases: Epidemiology, pathogenesis, prevention and Treatment - H1N1, HIV, SARS-COV-2. Fungal Diseases: Infections caused by yeast: Candida. Filamentous Fungi: Aspergillus sp. Protozoan Diseases: Malaria, Leishmaniasis.
V	Fermented foods and beverages—Microbes and their use in pickling, producing colours and flavours, alcoholic beverages and other products; Process wastes—whey, molasses, starch substrates and other food wastes for bioconversion to useful products	Concept of sterilization and disinfection. Physical and chemical methods of microbial control. Chemotherapeutics, susceptibility test (broth procedures and diffusion methods), mode of action of antibiotics, narrow and broad spectrum (Penicillin, ampicillin, sulfonamide, vancomycin, tetracycline, chloramphenicol), antifungals (clotrimazole, fluconazole), antiretroviral (tenofovir, AZT)

PERCENTAGE OF SYLLABUS REVISED

: 100%

COURSE FOCUS ON:

☒ Skill Development

☐ Entrepreneurial Development

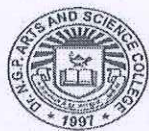
☒ Employability

☐ Innovation

☐ Intellectual Property Rights (IPR)



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Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester: I

Course Code/ Name: 223BT2A1CD/ Biodiversity & Bioprospecting

Unit	Existing	Changes
I	Biodiversity- Facts about global & Indian biodiversity- Hot spots of Indian Biodiversity- Types of Biodiversity- Measures of Biodiversity (alpha, beta & gamma)-Threats to Biodiversity, Endemic, threatened, Red List of IUCN- National biodiversity strategy and action plan (Initiatives to conservation (international & national)- Organization involved in Biodiversity conservation and research (NBA,BSI, and ZSI)- The biological diversity act 2002	NIL
II	BMC-Biodiversity Management Committee (Roles & Responsibility,Functions) Operationalisation of BMC People's Biodiversity Registers SBB State Biodiversity Boards roles and responsibilities Biodiversity informatics(Global & Indian perspectives)-Biodiversity-mapping (History, techniques & uses)	Drugs derived from plants, Antitumor agent - Etoposide, Colchicine, Taxol, Vinblastine, Vincristine. Cardiotonic - Convallatoxin, Acetyldigoxin, Adoniside. Antiinflammatory - Aescin, Bromelain. Choloretic - Curcumin. Laxatives, Antimalarial Quinine- Cinchona. Morphine-Opium plant-analgesic. Volatile, pigments and terpenes, Phenols, flavonoids.
III	Bioprospecting-Methods Major areas sustainable utilization of bio resource practices types Challenges Access and Benefit-sharing policies INBio&Merck agreement Kani tribes benefit-sharing model Economically valuable Products from plant, animals and other bioresources- Bio piracy issues	Screening for bioactivity, antimicrobials, pharmacologically active agents of microbial origin, bioprospecting for industrial enzymes, plant growth promoting agents, antifoulants and anti-biofilm agents from microbes. Bioprospecting of marine organisms. Bio piracy issues
IV	Screening for different bioactivity- Antimicrobial activity- Enzymes- Plant growth-promoting Activity- Antifouling & biofilm activity- anti cancer activity- Anti diabetic activity- High-throughput screening- Drug discovery and development.	Drug discovery and product development: Discovery from traditional medicine. Modern tools in drug discovery. Role of chromatography in drug analysis including HPLC, GC and LC and GC Mass spectrometry, FT IR, -NMR their principles and merits. Product development procedures and policies
V	Regulations on bio-prospecting, access and benefit-sharing (National Environmental Management: Biodiversity act, 2004)- Bioprospecting case studies Regulatory innovations for bioprospecting in India Regulation of Bio-Prospecting and Related Intellectual Property Rights in India	Rules and regulations in patenting and Intellectual Property Rights of Bio-Prospecting products in India

PERCENTAGE OF SYLLABUS REVISED

: 100%

COURSE FOCUS ON:

☒ Skill Development

☐ Entrepreneurial Development


☒ Employability

☐ Innovation

☐ Intellectual Property Rights (IPR)



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Syllabus Revision

Faculty: Biosciences

Board: Biotechnology

Semester: I

Course Code/ Name: 223BT2A1DA / Applied Biotechnology

PERCENTAGE OF SYLLABUS REVISED : 100%

COURSE FOCUS ON:

☒ Skill Development

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☐ Innovation

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Syllabus Revision

Faculty: Biotechnology

Semester: I

Course Code / Name: 223BT2A1CQ / Core Practical II: Microbiology and Biodiversity
& Bioprospecting

Prg. No	Existing	Changes
1	Isolation of enzyme producing Bacteria from soil	
2	Isolation of Fungi from spoiled food	
3	Isolation of Antibiotic producing microorganisms against given pathogen	
4	Observation of Bacterial growth rate	
5	UV-mutagenesis	Sampling and analysis of microbial load on food contact surfaces.
6	Morphological Analysis of Microbes using stereomicroscope	
7	Observation of fungal morphology using Phase contrast microscopy	
8	Synthesis of agar using algal species	Methylene blue reductase test for milk.
9	Phytochemical Analysis of same plant species grown in different geographic locations	
10	Learning dissection and anatomy of marine species obtained from different water bodies (fish, oyster, crab)	TLC analysis of the secondary metabolites of same plant species grown in different geographic locations
11	To identify and classify 5 different types of pollen and note the observation under stereomicroscope	
12	To run column chromatography of a single phytochemical (alkaloid, flavonoid, tannin) obtained from different sources (fruits, vegetables, leaves etc)	

PERCENTAGE OF SYLLABUS REVISED
COURSE FOCUS ON:

: 25 %

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☒ Employability

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ATTENDANCE OF THE THIRTEENTH BOARD OF STUDIES MEETING

Faculty: Biosciences

Board: Biotechnology

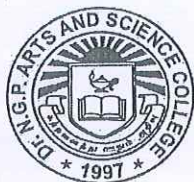
Date : 16/08/2022

Time : 10.00 a.m

Venue : Department of Biotechnology (Room. No: 1203)

The following members were present for the Board of Studies meeting

S. No	Name	Designation	Signature
1.	Dr. P. Chidambara Rajan Professor and Head	Chairman	
2.	Dr. V. Vijaya Padma Professor, Department of Biotechnology Bharathiar University, Coimbatore	University Nominee	
3.	Dr. S. Nakkeeran Dean i/c, Agricultural College and Research Institute, Kudumiyamalai, Pudukkottai.	Subject Expert	ABSENT
4.	Dr. P.T. Prathima, Senior Scientist, Crop Improvement Division, ICAR-Sugarcane Breeding Institute, Coimbatore-641007	Subject Expert	
5.	Dr. M. Prasad R&D Executive – Industrial Enzymes Marisym Biologicals Private Limited, Coimbatore	Industrial expert	
6.	Dr. N. Karthikeyan Project Coordinator, Regional Sericulture & Research Center, Salem	Alumni	ABSENT
7.	Ms. Harshini V P – III B.Sc Biotechnology	Student Representatives	Harshini.vp
	Ms. Beula Gracy R – II M.Sc Biotechnology		Beulah Gracy R
8.	Part I (Language I) Dr. N. Kuppuswamy Professor and Head Department of Tamil	Co-opted member	 16/8/22



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9.	Part II (Language II) Dr. R. Vithya Prabha Professor and Head Department of English	Co-opted member	R.V.P.P. 16/8/22
10.	Allied - IDC- Chemistry Dr. M. Suganthi Assistant Professor and Head Department of Chemistry	Co-opted member	M. Suganthi 16.08.22
11.	Allied - IDC- Computer Sciences Dr. B. Rosiline Jeetha Professor and Head Department of Computer Science	Co-opted member	B. Rosiline Jeetha 16/8/2022
12.	Allied - IDC- Mathematics Dr. R. Sowrirajan Assistant Professor and Head Department of Mathematics	Co-opted member	R. Sowrirajan 16/8/22
13.	Allied - IDC- Physics Dr. C. Selva Kumar Professor and Head Department of Physics	Co-opted member	C. Selva Kumar 16/08/2022
14.	Dr. K. Arungandhi Professor	Internal Member	K. Arungandhi 16/8/22
15.	Dr. M.N. Kathiravan Professor	Internal Member	M.N. Kathiravan 16/8/22
16.	Dr. Arun. P Professor	Internal Member	Arun. P 16/8/22
17.	Dr. M.Poongothai Associate Professor	Internal Member	M. Poongothai 16/8/22
18.	Dr. Radha Palaniswamy Assistant Professor	Internal Member	Radha Palaniswamy 16/8/22
19.	Dr. S. Saranya Assistant Professor	Internal Member	S. Saranya 16/8/22
20.	Dr. P. Deepak Assistant Professor	Internal Member	P. Deepak 16/8/22

Date: 16/08/2022

(Signature)

(Dr. P. Chidambara Rajan)

BoS Chairman/HoD
Department of Biotechnology
Dr. N. G. P. Arts and Science College
Coimbatore - 641 048

