



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
Web : www.dnmgpsc.ac.in | Email : info@dnmgpsc.ac.in | Phone : +91-422-2369100

BoS

15th

MINUTES OF THE FIFTEENTH BOARD OF STUDIES MEETING

Faculty: Biosciences

Board: Clinical Laboratory Technology

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

Name of the Body	Board of Studies
Department	Clinical Laboratory Technology
Meeting No.	15
Date and Time	09.06.2023, 10.30 a.m.
Venue	Innovation center
Members Attended	The details are given in the ANNEXURE -I

Item	AGENDA
01	Discussion on UG syllabi for Part III in Third Semester for 2022-23 Batch
02	Discussion on syllabus for Part III - Inter Disciplinary Course (IDC) offered by Department of Food and Nutrition in Third Semester for 2022-23 Batch
03	Discussion on syllabi for Part I (Tamil/Hindi/French/Malayalam) offered by Language departments for 2022-23 Batch
04	Discussion on syllabus for Part II offered by English department for 2022-23 Batch
05	Discussion on UG curriculum and syllabi for Part III - Core Courses for First Semester for 2023-24 Batch
06	Discussion on syllabi for Part III - Inter Disciplinary Course (IDC) offered by Department of Information Technology and IDC offered to Department of Microbiology for 2023-24 Batch
07	Discussion on syllabi for Part I (Tamil/Hindi/French/Malayalam) offered by Language departments for 2023-24 Batch
08	Discussion on syllabus for Part II offered by English department for 2023-24 Batch
09	Discussion on syllabus for Part IV (AECC) -Environmental Studies for 2023-24 Batch offered by Department of Microbiology
10	Discussion on credits for Part V- Extension Activity for 2023-24 Batch
11	Discussion on PG Diploma programme offered by Department of Clinical Laboratory Technology to other departments for 2023-24 Batch
12	Discussion on Value Added Certificate Courses (VACC)
13	Any other matter





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15th

MINUTES OF THE FIFTEENHBOARD OF STUDIES MEETING

Faculty: Biosciences

Board: Clinical Laboratory Technology

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 syllabi for Part III in Third Semester for 2022-23 Batch
Discussion	<p>223CL1A3CA- Clinical Pathology Dr. Karthikeyan suggested to shift Isomorphic and Dysmorphic RBCs from Unit III to Unit II and to include the following topics to gain the knowledge on real time laboratory practices.</p> <ul style="list-style-type: none">• Unit IV: Collection, Preservation and Biochemical analysis of Body Fluids• Unit V: Sample collection protocol <p>223CL1A3CB- Histopathology Dr. Muthusami recommended to include the following topics to inculcate safety measures and recent automated analysers.</p> <ul style="list-style-type: none">• Unit I: Introduction to different types of stain, discarding of histopathological specimen and safe disposal of reagents.• Unit II: Difference between Manual tissue processor and Automated tissue processor, Automated cover slipper and Digital slide scanner. <p>Dr. Karthikeyan recommended to add the following topics:</p> <ul style="list-style-type: none">• Unit III: Principle and Types of Microscopes• Unit IV: Care of cryostat• Unit V : Wax blocks <p>223CL1A3SA- Laboratory Automation and Quality Control Dr. Muthusami suggested to include the following topics to emphasize the applications of analysers for diagnosis and treatment.</p> <ul style="list-style-type: none">• Unit II: Cleaning of common laboratory glasswares• Unit IV: Ion selective electrodes (ISE), ESR Analyser, Peripheral smear makers and stainers, Platelet aggregation analysers.
Resolution	The Board unanimously approved the above syllabi.
Item - 02	Discussion on syllabus for Part III - Inter Disciplinary Course (IDC) offered by Department of Food and Nutrition in Third Semester for 2022-23 Batch
Discussion	223FN1A3IA – Clinical Nutrition The syllabus approved by the Board of Studies in Food and Nutrition was placed for endorsement.
Resolution	The Board unanimously approved the above syllabus

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Item - 03	Discussion on syllabi for Part I (Tamil/Hindi/French/Malayalam) offered by Language departments for 2022-23 Batch
Discussion	221TL1A3TA/ 221TL1A3HA /221TL1A3MA /221TL1A3FA: Part I:Tamil-III / Hindi-III/ / Malayalam -III/ French- III respectively The unified syllabi approved by the Board of Studies in Languages were placed for endorsement.
Resolution	The Board unanimously approved the syllabi.
Item - 04	Discussion on syllabus for Part II offered by English department for 2022-23 Batch
Discussion	221EL1A3EA : Part II: Professional English -III The unified syllabus approved by the Board of Studies in English was placed for endorsement.
Resolution	The Board unanimously approved the syllabus.
Item - 05	Discussion on UG curriculum and syllabi for Part III – Core Courses for First Semester for 2023-24 Batch
Discussion	The UG Curriculum for AY 2023-24 was presented for discussion. 233CL1A1CB: General Biochemistry Dr. Gayathri Devi suggested to incorporate Cell definition and Cytosol in Unit I and Characteristic features of enzymes in Unit V.
Resolution	The Board unanimously approved the curriculum and syllabi for the above courses.
Item - 06	Discussion on syllabi for Part III - Inter Disciplinary Course (IDC) offered by Department of Information Technology and IDC offered to Department of Microbiology for 2023-24 Batch
Discussion	234IT1A1IA - Basics of Information Technology 233CL1A1IA: Biochemistry
Resolution	The Board unanimously approved the above syllabi.
Item - 07	Discussion on syllabi for Part I (Tamil/Hindi/French/Malayalam) offered by Language departments for 2023-24 Batch
Discussion	231TL1A1TA/ 231TL1A1HA /231TL1A1MA /231TL1A1FA: Part I:Tamil-I / Hindi-I/ Malayalam-I/ French-I respectively The unified syllabi approved by the Board of Studies in Languages were placed for endorsement.
Resolution	The Board unanimously approved the syllabi.

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Item - 08	Discussion on syllabus for Part II offered by English department for 2023-24 Batch
Discussion	231EL1A1EA : Part II: English -I The unified syllabus approved by the Board of Studies in English was placed for endorsement.
Resolution	The Board unanimously approved the syllabus.
Item - 09	Discussion on syllabus for Part IV (AECC) Environmental Studies for 2023-24 Batch offered by Department of Microbiology
Discussion	233MB1A1AA: 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 - 10	Discussion on credits for Part V Extension Activity for 2023-24 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 - 11	Discussion on PG Diploma programme offered by Department of Clinical Laboratory Technology to other departments for 2023-24 Batch
Discussion	Board members suggested to retain the same for the programme PG Diploma in Clinical Laboratory Techniques
Resolution	The Board unanimously approved the syllabus
Item - 12	Discussion on Value Added Certificate Courses (VACC)
Discussion	The course titled Medical Underwriting and Medical coding to be offered for 2022-23 Batch
Resolution	The Board unanimously approved the same
Item - 13	Any other matter
Discussion	The board members discussed and recommended a Panel of Examiners
Resolution	The Board approved the Panel of Examiners

Date: 09.06.2023

(Dr. S. Kokila)

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





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BoS

15th

Syllabus Revision

Faculty: Biosciences

Board: Clinical Laboratory Technology

Semester: III

Course Code/ Name: 223CL1A3CA, CLINICAL PATHOLOGY

Unit	Existing	Changes
I	Analytical Measures in clinical pathology: Importance of pre-analytical measures and post-analytical measures, generation of request, Instructions for sample collection, Rejection criteria and preservation, despatch of reports, records keeping, coding and indexing.	
II	Urine Analysis: Formation of urine, Macroscopic Examination –Volume, Colour, transparency, pH and Specific gravity. Normal and Abnormal constituents in urine. Microscopical examination – Cells (RBC, WBC, Epith), casts, crystals, Bacteria, Detection of microalbumin & 24 hours urine protein estimation.	Isomorphic and dysmorphic RBCs
III	Stool Analysis: Microscopic examination of motion for colour, mucus, consistency, ova, ameba, cysts, parasites, pus cells, RBC (isomorphic and dysmorphic) and crystals. Detection of occult blood in stool, concentration techniques.	
IV	Body Fluids : Examination of body fluids and cell counts: Examination of Ascitic fluid, pleural fluid examination and report, synovial fluid collection and examination, pericardial fluid collection and examination, Cerebro Spinal Fluid and Amniotic fluid- collection, examination and pathological studies.	Biochemical Analysis - Collection and preservation of body fluids
V	Semen analysis: Macroscopic Examination and Microscopic examination of semen for time for liquefaction, volume, colour, pH, motility of sperm, sperm count and other findings. Staining, morphological study, pathophysiology and vitality of spermatozoa, semen fructose determination, antisperm antibodies.	Sample Collection protocol

PERCENTAGE OF SYLLABUS REVISED: 8 %

COURSE FOCUS ON:

<input checked="" type="checkbox"/>	Skill Development	<input checked="" type="checkbox"/>	Entrepreneurial Development
<input checked="" type="checkbox"/>	Employability	<input checked="" type="checkbox"/>	Innovations
<input checked="" type="checkbox"/>	Intellectual Property Rights	<input type="checkbox"/>	Gender Sensitization
<input type="checkbox"/>	Social Awareness/ Environment	<input type="checkbox"/>	Constitutional Rights/ Human Values/ Ethics





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15th

Syllabus Revision

Faculty: Biosciences

Board: Clinical Laboratory Technology

Semester: III

Course Code/ Name: 223CL1A3CB, HISTOPATHOLOGY

Unit	Existing	Changes
I	Introduction to histopathology: Guidelines for receiving specimen in laboratory – specimen containers, Grossing and Preservation. Preservatives - Various fixatives – Mode of action, Indications, preparation, decalcification of calcified tissue before sectioning; Processing of tissues for routine paraffin sections and methods of embedding.	Introduction on different types of stains, Discarding of histopathological specimens and safe disposal of reagents.
II	Instrumentation: Tissue Processor- Manual tissue processor and Automated, Types of microtome, Parts of Microtome- knives and Knife sharpener, Instruments for grossing. Introduction on different types of stains- Automatic slide stainer.	Difference between Manual tissue processor and Automated tissue processor, Automated cover slipper and Digital slide scanner
III	Microscopy: Tissue preparation, Fixatives and section cutting for different types of microscopy. Use of microscope – polarisers, Introduction to Electron Microscopy, Introduction to immunohistochemistry and technique of preparing slides – Types of glass slides and cover slips.	Principle and Types of Microscopy
IV	Frozen section technique: CO2 Freezing, cryostat and freezing microtome. Principles and techniques of sections cutting, staining - staining principles, preparation of reagents and techniques - routine staining and special staining (any five), Mounting techniques.	Care of cryostat.
V	Maintenance of records: Maintenance of records, filing and storage of specimen and slides, Microphotography – Photography and interfacing technique. Museum technology - preservation and organisation, Coding - ICDS – Introduction and importance.	Wax blocks

PERCENTAGE OF SYLLABUS REVISED: 10 %

COURSE FOCUS ON:

<input checked="" type="checkbox"/>	Skill Development	<input checked="" type="checkbox"/>	Entrepreneurial Development
<input checked="" type="checkbox"/>	Employability	<input checked="" type="checkbox"/>	Innovations
<input checked="" type="checkbox"/>	Intellectual Property Rights	<input type="checkbox"/>	Gender Sensitization
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15th

Syllabus Revision

Faculty: Biosciences

Board: Clinical Laboratory Technology

Semester: III

Course Code/ Name: 223CLIA3SA, LABORATORY AUTOMATION AND QUALITY CONTROL

Unit	Existing	Changes
I	Clinical Laboratory: Functional components of clinical laboratories, cleanliness, precautions to be taken with respect to patients, reports, analysis. Communication between physician, patients, and the medical laboratory professional, basic needs of clinical laboratory technician, awareness of soft skills.	
II	Laboratory glassware and equipments : Identification, use, maintenance and care of common laboratory glassware and equipments, handling of all glassware, use, principle and use of centrifuge, colorimeter, oven, incubator, Laminar air flow chamber, microscope, Neubaur's chamber, Autoclave, Makler chamber for Semen analysis.	Cleaning of common laboratory glassware.
III	Quality Control in Clinical lab : Quality Assurance in clinical Laboratory - Introduction, Common terms used in Quality control, Westgard rules L.J. Chart, External QC and Internal QC, Proficient testing and interlab comparison - Assessment, corrective action and preventive action, Total Quality management-water quality, electrical stability, equipment calibration, glassware and preventive measures.	
IV	Automation in Clinical Laboratory : Automation and Recent advances - Need for Automation, Advantages of Automation Types of Auto Analysers - Semi and Fully automated, Routine biochemistry analysers Ion selective electrode, Immuno-based analysers, Hematology analysers - Cell counters, Coagulometers, Bar coding and Total Laboratory Automation (TLA).	Ion selective electrodes (ISE), ESR Analyser, Peripheral smear makers and stainers, Platelet aggregation analysers
V	Laboratory informatics : Laboratory informatics- data acquisition, data processing, laboratory information management system(LIS), scientific data management and Hospital information management system (HIS) and autovalidation of reports and Artificial intelligence in lab.	

PERCENTAGE OF SYLLABUS REVISED: 8 %

COURSE FOCUS ON:

<input checked="" type="checkbox"/>	Skill Development	<input checked="" type="checkbox"/>	Entrepreneurial Development
<input checked="" type="checkbox"/>	Employability	<input checked="" type="checkbox"/>	Innovations
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15th

Syllabus Revision

Faculty: Biosciences

Board: Clinical Laboratory Technology

Semester: I

Course Code/ Name: 233CL1A1CB, GENERAL BIOCHEMISTRY

Unit	Existing	Changes
I	Cell structure and function: An overview of cells and their molecular composition, prokaryotic and eukaryotic cells and their comparison, Function of cells. Cell organelles and their functions: Cell membrane, Endoplasmic reticulum, Golgi apparatus, lysosomes, peroxisomes and glyoxysomes. Mitochondria, Cytoskeleton and Nucleus.	Cell Definition, Cytosol
II	Carbohydrates and Lipids: Carbohydrates: Classification, Properties, Linear and cyclic Structure of monosaccharides, biological significance and functions of monosaccharides, Disaccharides, Polysaccharides. Lipids: Definition; classification, significance and functions of lipids-simple, compound and derived lipids.	
III	Amino acids and Proteins: Amino acids: Definitions, classification of essential and non-essential amino acids. Classification of proteins-, Structure of proteins- primary, secondary - α Helix, Beta-Pleated sheets, tertiary and Quaternary structure. Properties of peptides and proteins, Examples: albumin, globulins. Protein denaturation.	Peptide linkage
IV	Nucleic acids and Vitamins: Structure of purines and pyrimidines; nucleotides and nucleosides, DNA - Double helical structure, A, B & Z forms of DNA; DNA denaturation and renaturation, functions. RNA: Types and functions. Vitamins: Definition, classification, Sources, physiological functions and Deficiency of water and fat soluble vitamins. Minerals: Mineral requirement, essential macro and micro minerals: - Sources and functions.	
V	Enzymes and Hormones: Enzymes: International classification of enzymes - six main classes of enzymes. Factors affecting enzyme activity. Endocrine System - Hormones, Names of endocrine glands and their secretions, functions - Hypothalamus, Pituitary, Thyroid, Adrenal, Male and Female reproductive hormones. Brief account of these hormonal disorders.	Characteristic features of enzymes

PERCENTAGE OF SYLLABUS REVISED: 5%

COURSE FOCUS ON:

<input checked="" type="checkbox"/>	Skill Development	<input checked="" type="checkbox"/>	Entrepreneurial Development
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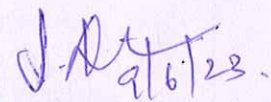

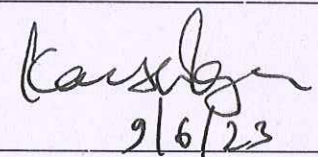
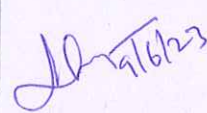


APPROVAL

AY 2023-24

ATTENDANCE OF THE FOURTEENTH BOARD OF STUDIES MEETING

Faculty: Biosciences

Board: Clinical Laboratory Technology

S. No.	Name	Position	Signature
1	Dr.S.Kokila Assistant Professor & Head Department of Clinical Lab Technology Dr. N. G. P. Arts and Science College, Coimbatore	Chairman	
2	Dr.K.R.Muthusami Chief Biochemist, Deptment of Biochemistry KMCH Institute of Laboratory Medicine KMCH, Coimbatore - 641 048.	Member (Subject Expert) VC Nominee	
3	Dr. T.M. Kartikeyan Professor, Department of Pathology KMCH Institute of Health Sciences & Research, Coimbatore - 641 014.	Member (Subject Expert)	
4	Dr. S.Gayathri Devi Professor, Department of Biochemistry Biotechnology & Bioinformatics Avinashilingam University Coimbatore - 641043	Member (Subject Expert)	
5	Dr.R.Ragunathan Director, Centre for Bioscience and Nanoscience Research Coimbatore – 641021	Member (Industry Expert)	Absent
6	M. Vasanth Kumar Assistant Professor, Department of Criminology, CMS College of Science and Commerce ,Coimbatore .	Alumni	
7	Dr.A. Adhiselvam Associate Professor & Head i/c Department of Information Technology Dr. N. G. P. Arts and Science College, Coimbatore	Co-opted Member	

8	Ms.R. Swathi III B.Sc. CLT Dr.N.G.P. Arts and science College	Student Representatives	Absent-
9	Dr.C.Hemalatha Assistant Professor Dept of CLT Dr.N.G.P.Arts and science College	Member	Present 9/3/23
10	Dr.M.Thiruselvi Assistant Professor Dept of CLT Dr.N.G.P.Arts and science College	Member	Present
11	Dr.S.Sasikala Assistant Professor Dept of CLT Dr.N.G.P.Arts and science College	Member	Present
12	Dr.K.Anbalagan Assistant Professor Dept of CLT Dr.N.G.P.Arts and science College	Member	Absent
13	Ms. S. Mavuniq Assistant Professor Dept of CLT Dr.N.G.P.Arts and science College	Member	Absent-

Date:

9/6/2023

Board Chairman

(Dr.S.Kokila)

BoS Chairman/HoD
Department of Clinical Laboratory Technology
Dr. N. G. P. Arts and Science College
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