MEETING NO: 11

BOARD OF STUDIES IN BIOCHEMISTRY

The Eleventh meeting of Board of Studies in Biochemistry (UG) under autonomous scheme was conducted on Saturday (04.03.2017) at 10.00 am in the Department of Biochemistry.

Members present: Signature:

Chairperson:

1. Dr. Indira A. Jayraaj
Associate Professor & Head.
Indira A. Jayraaj 04/03/2017.

Members:

2. Dr. S. Krishna Kumari
Associate Professor
S. Krishna Kumari 04/03/17

3. Dr. K. Kalaivani
Associate Professor
K. Kal 04/03/17

4. Dr. V. Selva
Associate Professor
V. Selva 4/3/2017.

5. Dr. M. Kalaiselva
Assistant Professor
4/3/17.

6. Dr. S. Kathiravan
Assistant Professor.
4.3.17

Student Nominee:

Ms. M. Maha Vaishnavi (14IBC003)
III B.Sc Biochemistry.
Maha Vaishnavi. M 04/03/17

University Nominee:

Dr. P. Rani
Professor in Biotechnology — ABSENT
PSG College of Technology
Coimbatore - 641 004.

Subject Experts - Academic Council:

1. Dr. R. Manimekalai — ABSENT
Principal & HOD of Biochemistry
Dr. MGR Janaki college of Arts & Science for Women, Chennai 600 028.

2. Dr. G. Melchias.
Associate Professor in Botany,
St. Joseph's college
Tiruchirappalli - 620 002.
04/03/2017

Corporate Sector:

Dr. U. Devaki — ABSENT
Serology HOD & Senior Biochemist
Microbiological laboratory
Coimbatore - 641 002.

Alumini (Teacher)

Dr. S. Kavitha Bagya
Assistant professor in Biotechnology
PSG college of Arts & Science
Coimbatore - 641 014.
4/3/17

MINUTES OF BOARD OF STUDIES MEETING

The elevanth meeting of the Board of Studies in Biochemistry under autonomous Scheme was conducted on Saturday, 04.03.2017 at 10.00 am in the Department of Biochemistry.

The chairman Dr. Indira A Jayraaj welcomed the members of Board of studies, Biochemistry (UG) and the chairman briefed the activities to be taken up by board for the implementation of syllabi during the year 2017-2018. The chairman then requested the members to take up the agenda for discussion.

Item 1:

To approve the syllabi for the first, second and third year of B.Sc Biochemistry course 2017-2018.

The chairman presented the details of the curricula, scheme of examinations and syllabi pertaining to the B.Sc Biochemistry course applicable to the students admitted for the academic year 2017-2018.

Item 2:

In semester I, C.P.1 Chemistry of Biomolecules were modified with some additions. In UNIT-1, Structure and chemistry of disaccharides: maltose, Lactose, Sucrose and Structure and chemistry of polysaccharides: Starch, glycogen and cellulose. were included and new reference book was added.

Item 3:

In Semester I, C.Pr. 1 Biochemistry, Biochemical methods by Sadhasivam. S and Manickam A was added as a reference book.

Item 4:

In Semester II, C.P. 2 Bioanalytical techniques ionization and pka concepts were added in UNIT-I and paper electrophoresis were removed from the Syllabus

Item 5:

In Semester III, C.P. 3 Enzymes and Enzyme technology, UNIT-I & II were revamped and the revised Syllabus for UNIT I & II are as follows.

UNIT-I

Introduction, Definition, International classification of enzymes, Numbering and Nomenclature Enzyme unit (IU). Definition of active sites. Theories proposed - Lock and key or template model and induced fit model, ordered and random binding of Substrate. Enzyme Specificity - Group specificity and optical specificity. Enzyme as protein structure: Primary, Secondary, tertiary and quaternary structure with reference to examples. Enzyme activity and factors affecting rate of enzyme activity - effect of temperature, pH, enzyme concentration and Substrate Concentration.

UNIT-II

Enzyme kinetics: Derivation of Michealis - Menton equation, transformation of

MM equation, Line-weaver burk plot. Regulatory enzymes, allosteric enzymes. Enzyme inhibition: competitive, non-competitive and uncompetitive enzyme inhibition. feedback inhibition. Two text books were removed and one referance book was added.

Item No. 6:

In Semester III, C.Pr.2 Biochemistry Demonstration pKa concept has been included

Item No. 7:

In Semester IV, C.P.4. Intermediary Metabolism UNIT-V has been revamped and revised Syllabus are as follows.

UNIT-V

Interrelationship between carbohydrate, fat, and protein metabolism. Bases in nucleic acids, uricotelic, ureotelic. Metabolism of purines: de novo synthesis, salvage pathway, catabolism and regulation. Metabolism of pyrimidines: de novo synthesis, salvage pathway, catabolism & regulation. Conversion of ribonucleic acid to deoxyribonucleic acid, Allopurinol. Biological significance of uric acid & β-amino isobutyrate.

Item No. 8:

In Semester IV, Skill Based Subject-2 Common Human Diseases, Diseases of kidney was corrected as Diseases of Renal system in UNIT-V.

Item No. 9:

In Semester I, C.P.5 Human Physiology UNIT-II has been corrected as follows.

Digestive System

Secretion of digestive juices were included in the Syllabus.

Digestion and Absorption of carbohydrates, proteins and fats.

Respiratory System - The portions follows as in previous Syllabus.

Item No: 10.

In Semester V, C.P.6 Cell Biology In UNIT-I, In Membrane bilayer models, only fluid mosaic model has been given in the Syllabus

Item No. 11:

In Semester V, C.P.7. Clinical Biochemist updations were done in text books and Reference books.

Item No. 12:

In Semester V, C.P.8 Molecular Biolog In UNIT-I, Nucleosomes are the fundamental organisation unit of chromatin, Types and properties of histones, chromatin assembly, organisation of eukaryotic chromosome were included.

In UNIT-II, DNA repair mechanism was included.,

In UNIT-III Types of RNA were included.

In UNIT-IV Mutation and its types were included. In UNIT-I Gene regulation in eukaryotes is included

Item No. 13:

In C.P.-3 Biochemistry, C.P.-4 Biochemistry and C.P.-5 Biochemistry minor modifications were made and Reference books are updated.

Item No. 14:

In Extra departmental course I Diagnostic Biochemistry, certain updations were made in the text books and Reference books.

Item No. 15:

In Semester VI, C.P.9 Plant Biochemistry and Therapeutics were named as C.P.9 Plant Biochemistry. In UNIT-III Plant growth hormones were named as plant growth regulators.

Item No. 16:

In Semester 6. C.P. 10 Immunology and Immunotechniques, In UNIT-IV Action of AIDS virus on T-cells, development of disease and clinical significance was included.

Item No. 17:

In Semester VI, C.P.11 Genetic Technology, UNIT-I was revamped and the revised Syllabus are as follows.

UNIT-I: Gene cloning. Introduction, Basic steps in gene cloning, Methods to generate

desired foreign genes.
(i) Isolation of prokaryotic gene by restriction enzymes
(ii) Isolation of eukaryotic gene by DNA Synthesis.
Joining DNA molecules: ligases, linkers and homopolymers.
Cloning vectors: characteristics of an ideal vector molecule; (i) Natural vector - E. coli plasmids (ii) Invitro vectors pBR 322.
(iii) λ-phage (iv) Single Stranded vectors - M13

Further a Reference book and text book has been added in the Syllabus.

Item No. 18

In Semester VI Major elective paper Microbiology, In UNIT-II, media Composition has been added. In UNIT-III, Cultivation of viruses using fertilized eggs and animal Cell culture has been included.
In UNIT-IV Oncogenic DNA viruses-SV40, oncogenic RNA viruses-HIV has beed added.
A Reference book has been added.

Item No. 19:

In Semester VI, Major elective Biotechnology, The concept of transgenic plants and GM foods has been included in the UNIT-I and Intellectual property rights, Ethics Concepts were included in the UNIT-V.

Item No. 20:

Minor corrections in the Syllabus and text books & Reference books were updated in the remaining major and allied papers in the Syllabus.

INDIRA A. JAYARAJ
(CHAIRMAN)

Indira A. Jayaraj

DEPARTMENT OF BIOCHEMISTRY
Kongunadu Arts and Science College
COIMBATORE-641 029

KONGUNADU ARTS & SCIENCE COLLEGE COIMBATORE 641 029

PRINCIPAL
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE-641 029.