KONGU ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)

ERODE – 638 107

Department of Biotechnology

KONGU ARTS AND SCIENCE COLLEGE
(Autonomous)

Affiliated to Bharathiar University, Coimbatore
Approved by UGC, AICTE, New Delhi &Reaccredited by NAAC, DBT STAR College Scheme
(An ISO 9001: 2015 Certified Institution)
NANJANAPURAM, ERODE – 638 107

DEPARTMENT OF BIOTECHNOLOGY

BOARD OF STUDIES MEETING

AGENDA

DATE: 30.03.2019

1. To consider and approve the syllabi for the students admitted during the academic year 2017 – 2018, 2018-2019 and 2019-2020 and onwards.
2. To consider and approve the Extra Credits for the SWAYAM and NPTEL online courses for students who have been admitted during the academic year 2019-2020 and onwards.
3. To consider and approve the Panel of Examiners.
4. To consider and discuss any other subjects with the permission of the chair.

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Dr. N. RAMAN
PRINCIPAL,
KONGU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
NANJANAPURAM, ERODE - 638 107

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The meeting of the Board of Studies in Biotechnology UG was conducted on 30.03.2019 at 10.15 a.m.in the College Campus.

The following members were present:

Chairman : Dr.C.Deepa

Members :

1. Ms. R.S.Cindhu
2. Ms.K. Indhumathi
3. Dr.S.Johnson Retnaraj Samuel
4. Mr.R. Hemanth Kumar
5. Ms.K.Sri Durga

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Subject related to CBCS, Outcome based Syllabus, Extra credits were discussed and the following are the resolutions:

1. It is resolved to approve the Scheme of Examination and new Syllabi of I & II Semesters for the B.Sc Biotechnology students admitted during the year 2019-2020 batch only **(Annexure a & b)**

2. It is resolved to approve to replace the following course for the students who have admitted 2019-2020 batch only.

3. There is no change in the Syllabi of III and IV Semesters for the B.Sc Biotechnology students admitted during the year 2018 – 2019 and onwards.

4. It is resolved to approve the scheme of examination and new syllabi of V and VI semesters for the B.Sc. Biotechnology admitted during the year 2017 – 2018 and onwards. **(Annexure a & b)**
5. It is resolved to approve the award of Extra credits for SWAYAM and NPTEL online courses for students who have been admitted the year 2019 – 2020 and onwards.

6. It is resolved to approve the Syllabi and Extra Credits for the Advanced Learners for the V Semester for B.Sc. Biotechnology students who have been admitted during the academic year 2017 – 2018 and onwards.

7. It is resolved to approve the additional name for Panel of Members for Question Paper Setting and Central Valuation. **(Annexure –II).**

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Annexure a

Details of Modifications in the Courses offered under the Programme

B. Sc. Biotechnology

The following modifications are done in the Syllabi of V and VI Semesters for the B. Sc Biotechnology students admitted during the academic year 2017 – 2018 and onwards based on the feedback obtained from Stakeholders and recommendations of the BOS Panel Members.

- The following Core courses are introduced newly in the I, II and V semesters for the UG students **(Annexure b)**

  - I Semester - Biochemistry (19UAQCT102)
  - II Semester - Bioanalytical Techniques (19UAQCT201)
  - V Semester – Industrial Biotechnology (17UAQCT601)

- The following Elective courses are introduced newly in the V and VI semesters for the UG students **(Annexure b)**

  - V Semester - Elective - I: Environmental Biotechnology (17UAQET504)
  - V Semester - Elective - I: Virology (17UAQET506)
  - VI Semester - Elective - II: Bioinformatics (17UAQET605)
  - VI Semester - Elective - II: Developmental Biology

The topic wise Modifications in the courses are given in the **annexure b.**

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Annexure b

Details of Modifications with specific topics in the Syllabus with % Revision

B.Sc. Biotechnology

S.No.	Course Name	Course Code	Topics Introduced	Topics Removed	% of Revision
1	Core Paper I - Cell Biology	19UAQCT101	Unit – I: (Fluid Mosaic model). UNIT III: Mechanism of photosynthesis, Diseases caused by malfunctioning of cell organelles – Mitochondria, Endoplasmic Reticulum, Lysosomes. UNIT V: Techniques in Cell Biology: Histochemistry of tissues, Karyotyping, Comet assay and Flow cytometry	Nil	20 %
2	Biochemistry	19UAQCT102	Unit -I to Unit – V are introduced		100 %
3	Allied I - Chemistry Paper I	17UAQAT103	UNIT II: Industrial Chemistry UNIT IV: Agricultural Chemistry	Nil	5 %
4	Bioanalytical Techniques	19UAQCT201	Unit -I to Unit – V are introduced		100 %
5	Core Practicals I – Lab in Cell Biology and Biochemistry	19UAQCP202	1. Sectioning of biological samples – Demo. 2. Karyotyping 3. Estimation of Sugars by Anthrone method 4. Estimation of total free amino acids - Ninhydrin method 5. Estimation of Protein - Lowry's method 6. Estimation of DNA - DPA Method 7. Estimation of RNA - Orcinol method 8. Estimation of Cholesterol - Zaks method 9. Quantification of Vitamin C by Dye method 10. Separation of sugars by Paper Chromatography 11. Separation of aminoacids by Thin layer Chromatography	Nil	65 %

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6	Allied II - Chemistry Paper II	19UAQAT203	UNIT I Laboratory principles: Safety and Hygiene in the Chemistry Lab: Storage and Handling of Chemicals - Acids, Ethers, Toxic and Poisonous chemicals. Antidotes and First Aid procedures	Nil	20 %
7	Core Paper VIII – rDNA Technology	17UAQCT502	UNIT IV: particle bombardment UNIT V: NGS and Nanopore sequencing, Quantitative, Semi Quantitative and Real Time PCR, Applications of PCR.	Nil	10 %
8	Core Paper IX – Plant Biotechnology	17UAQCT503	UNIT I: history UNIT III: Introduction to protoplast UNIT IV: Mechanism of T-DNA transfer UNIT V: Industrial enzymes from plant origin, plantibodies	Nil	15 %
9	Elective - I: Environmental Biotechnology	17UAQET504	Unit -I to Unit – V are introduced		100 %
10	Elective - I: Virology	17UAQET506	Unit -I to Unit – V are introduced		100 %
11	Skill Based Subject III – Biofarming	17UAQST507	UNIT I: Introduction to Farming UNIT II: Requirements of Biofarming: UNIT V : Apiculture: Types of honeybees, types of bee culture and environment factors, biological properties of honey and its health aspects. Farm visit.	UNIT I: Mushroom cultivation UNIT II: Spirulina	60 %
12	ALC: Research Methodology	17UAQAL509	UNIT II: Data Collection UNIT III: Sampling Methods	UNIT I: Introduction To Research Methodology UNIT II: Report and Thesis Writing	40 %
13	Core Paper X – Industrial Biotechnology	17UAQCT601	Unit -I to Unit – V are introduced		100 %
14	Core Paper XI – Animal Biotechnology,	17UAQCT602	UNIT I: Secondary culture, Transformed cell lines, Continuous cell lines, commonly used animal	Nil	40 %

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	Bioethics and IPR		cell lines - their origin and characteristics. UNIT II: Applications: Animal cell culture for in vitro testing of drugs and environmental pollutants, application of cell culture technology in the production of human and animal viral vaccines, pharmaceutical proteins. UNIT III Stem cell therapy: Embryonic and adullt stem cells, Totipotent, Pluripotent and Multipotent Cells. Testing and generation of embryonic stem cells, Testing for adult stem cells and differentiation, Potential use of stem cells – Cell-based therapies. UNIT IV: Safety and ethical issues of transgenic animals		
15	Core Practical III – Lab in Immunology and Plant Tissue Culture	17UAQCP603	1. Single radial Immuno diffusion 2. Ouchterlony double diffusion 3. Immunoelectrophoresis- CIE and rocket tests – Demo 4. Meristem Culture 5. Qualitative analysis of Phytochemicals	Nil	33 %
16	Core Practical IV – Lab in rDNA Technology and Industrial Biotechnology	17UAQCP604	1. Alcohol Estimation 2. Isolation of industrially important organism - amylase and protease producing bacteria	Nil	12 %
17	Elective - II: Bioinformatics	17UAQET605	Unit -I to Unit – V are introduced		100 %
18	Elective - II: Developmental Biology	17UAQET606	Unit -I to Unit – V are introduced		100 %
19	Skill Based Subject IV – Medical Biotechnology	17UAQST609	UNIT III: Protein therapeutics UNIT V: Nanobiotechnology	UNIT III: Stem cell therapy UNIT V: Vaccinology	40 %

- In overall, there had been a 28% of revision in the syllabus of the B. Sc., Biotechnology Programme.

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All the above resolutions are approved.

1. 30/3/19
2. R.S. 30/3/19
3. 30/3/19
4. S. Johnson Reniy 30/03/19
5. 30/3/19.
6. 30/3/19

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