



# **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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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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### 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		<p>cell lines - their origin and characteristics.</p> <p>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.</p> <p>UNIT III</p> <p>Stem cell therapy: Embryonic and adult 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.</p> <p>UNIT IV: Safety and ethical issues of transgenic animals</p>		
15	Core Practical III – Lab in Immunology and Plant Tissue Culture	17UAQCP603	<ol style="list-style-type: none"> <li>1. Single radial Immuno diffusion</li> <li>2. Ouchterlony double diffusion</li> <li>3. Immuno electrophoresis- CIE and rocket tests – Demo</li> <li>4. Meristem Culture</li> <li>5. Qualitative analysis of Phytochemicals</li> </ol>	Nil	33 %
16	Core Practical IV – Lab in rDNA Technology and Industrial Biotechnology	17UAQCP604	<ol style="list-style-type: none"> <li>1. Alcohol Estimation</li> <li>2. Isolation of industrially important organism - amylase and protease producing bacteria</li> </ol>	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	<p>UNIT III: Protein therapeutics</p> <p>UNIT V: Nanobiotechnology</p>	<p>UNIT III: Stem cell therapy</p> <p>UNIT V: Vaccinology</p>	40 %

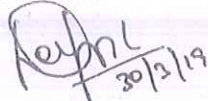
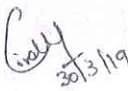
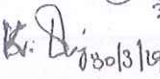



- In overall, there had been a 28% of revision in the syllabus of the B. Sc., Biotechnology Programme.




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All the above resolutions are approved.

1.  30/3/19
2. R.S.  30/3/19
3. B.  30/3/19
4. S. John Remy  30/03/19
5. R. Harsh  30/3/19.
6. K. L.  30/3/19



  
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