



List of New Course(s) Introduced

Department : *Biotechnology*

Program Name : *B.Sc.*

Academic Year : 2016-17

List of New Course(s) Introduced

Sr. No.	Course Code	Name of the Course
1.	LBTC 402	Biophysical Techniques

Signature & Seal of HoD

विभागाध्यक्ष, जैव प्रौद्योगिकी विभाग
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Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)



Minutes of Meetings (MoM) of Board of Studies (BoS)

Academic Year : 2016-17

School : School of Studies of Interdisciplinary Education and Research

Department : Biotechnology

Date and Time : 01-07-2015 - 03:00 pm

Venue : Room of Head, Department of Biotechnology

MINUTES OF THE MEETING OF BOARD OF STUDIES IN BIOTECHNOLOGY HELD ON 01/07/2015

A meeting of the BOS was held on 01.07.2015 at 3 pm to discuss the following:

- To discuss and approve the course structure and scheme of examination of Int. UG/PG and M.Sc. courses in Biotechnology as per CBCS scheme of the UGC effective from academic session 2015-2016.
- Any other matter by permission of the Chair.

The following member were present:

(i)	Prof. B.N. Tiwary, Head	Chairman
(ii)	Dr. Renu Bhatt, Associate Professor	Member
(iii)	Dr. D.K. Parihar, Assistant Professor	Member

A copy of the draft of course structure and scheme of examination was sent in advance by email for persual and comment to Prof. Ashok Kumar, Department of Biotechnology, BHU, the external subject expert. However, no reply was received till the time of meeting on 01.07.2015.

At the very outset the HOD and Chairman of BOS welcomed all the esteemed members and placed the draft prepared to revise course structure and scheme of examination in the light of UGC directives as per CBCS scheme to be implemented from 2015-2016. Further the chairman brought to the notice of all members about the resolution of meeting called by the Dean on 23.06.2015 regarding following changes to be made for undergraduate courses:

- There should be 03 core subjects at entry level of integrated courses in addition to AECC (Ability Enhancement Core Courses) and elective courses.
- There should be at least 02 groups in each undergraduate course of every Department of the school. The students may opt any one of the two groups for Biotechnology (Hons.)

The course structure and scheme of examination was approved by all members.

The chairman categorically pointed out that in UG courses only 03 core subjects have to be defined and the student shall have choice to opt for any of the subject to pursue, the Honors degree course in 05th sem.

The BOS resolved to have two groups

Group A : Biotechnology-Chemistry-Zoology

Group B: Biotechnology-Chemistry-Botany

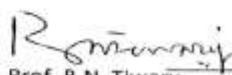
Each of the groups shall have a maximum of 30 seats, i.e. within the total approved seat of 60 in Biotechnology Honors. The number of students of other Departments of School of Life Sciences, opting Biotech as one of the core subjects in no case shall exceed 60.

However, one of the esteemed members, Dr. D.K. parihar, showed his descent ~~mentoring~~ that segregating students in Botany and Zoology will lead to incomplete and inadequate knowledge of Biological sciences, as this is an integral component of Biotechnology.

The meeting ended with a vote of thanks by the Chair.


Dr. Renu Bhatt
(Member)


Dr.D. K. Parihar
(Member)


Prof. B.N. Tiwary
(Chairman) 01.07.2015



In the meeting of BOS-Biotechnology held on 01-07-2015, the following courses were revised in the of Syllabus of B. Sc. and M.Sc. Course work:

Sr. No.	Course Code	Name of the Course
1.	LBTC 301	BIOSTATISTICS
2.	LBTC 401	IMMUNOLOGY
3.	LBTM 301	ANIMAL BIOTECHNOLOGY
4.	LBTM 302	ADVANCED IMMUNOLOGY
5.	LBTM 303	PLANT BIOTECHNOLOGY

The following new courses were introduced in the Syllabus of B. Sc. and M.Sc. Course:

Course Code	Course Name
LBTC 402	Biophysical Techniques
LBTM 304	A . Bioprocess Engineering and Technology
LBTM 304	B. Molecular Docking
LBTM 304	C. Molecular Diagnostics
LBTM 304	D. Plant Metabolic Engineering
LBTM 401	Immunotechniques
LBTM 402	Environmental Technology
LBTM 403	A. Microbial and Fermentation Technology
LBTM 403	B. Chemoinformatics and Drug Designing
LBTM 403	C. Plant Genetic Engineering and Molecular Breeding

Signature & Seal of HoD

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Scheme and Syllabus

Semester - III					
Code	Course Opted	Subjects	Hours/Semester	Hours/Week	Credits
LBTC-301	Core-1	Paper-1 Biostatistics	32	2	2
LBTC-302		Paper-2 Molecular Biology	32	2	2
	Core-2	Paper-1	32	2	2
		Paper-2	32	2	2
	Core-3	Paper-1	32	2	2
		Paper-2	32	2	2
	Skill Enhancement Course-1	Environmental Sciences-I	32	2	2
LBTC-303	Core-1	Laboratory (Based on Paper-1 & 2)	64	4	2
	Core-2	Laboratory (Based on Paper-1 & 2)	64	4	2
	Core-3	Laboratory (Based on Paper-1 & 2)	64	4	2
		Total	416	28	20

Semester - IV					
Code	Course Opted	Subject	Hours/Semester	Hours/Week	Credits
LBTC-401	Core-1	Paper-1 Immunology	32	2	2
LBTC-402		Paper-2 Biophysical Techniques	32	2	2
	Core-2	Paper-1	32	2	2
		Paper-2	32	2	2
	Core-3	Paper-1 Chemistry-VII	32	2	2
		Paper-2 Chemistry-VIII	32	2	2
	Skill Enhancement Course-1	Environmental Sciences-II	32	2	2
		Disaster Management (incorporate only if common syllabus or Academic council decision)	32	2	2
LBTC-403	Core-1	Laboratory (Based on Paper-1 & 2)	64	4	2
	Core-2	Laboratory (Based on Paper-1 & 2)	64	4	2
	Core-3	Laboratory (Based on Paper-1 & 2)	64	4	2
		Total	448	32	22

*Student can opt any one out of the three core papers (Biotechnology, Botany/Zoology and Chemistry) as the honours (Subject to the availability of the seats as approved by the Academic Council)

*The decision of the Dean of the school and the Head of the respective Department will be final

D. Shetty

[Signature]



Course: **Biophysical Techniques**
Course Code:
Course Credit: (2-0-0) 2

Unit - 1
General biophysical methods – Measurement of pH, buffers, Henderson – Hasselbalch equation, isoelectric point

Unit - 2
Separation & identification of biomolecules - concept of chromatography (partition chromatography, adsorption chromatography, ion exchange chromatography, gel filtration chromatography, affinity chromatography), principle and application of electrophoresis

Unit - 3
Centrifugation – basic principle of centrifugation, instrumentation of ultracentrifuge (preparative, analytical), sedimentation coefficient

Unit - 4
Microscopy – light microscopy, bright & dark field microscopy, fluorescence microscopy, phase contrast microscopy, TEM, SEM

Unit - 5
Spectroscopy: Beer-Lambert's law, instrumentation, radioactive labeling & counting, autoradiography, scintillation counters, Geiger-Muller counter

Evaluation Scheme:

S.No.	Examination	Duration	% of Marks
1	Internal Assessment I	1 hour	15
2	Internal Assessment II	1 hour	15
3	End Semester	3 hours	30
4	Attendance/Assignment/Class performance	Each semester	5

Note: The best one out of two Internal Assessment will be taken into consideration.

Suggested Readings

1. Biochemical Techniques theory and practice: White R
2. Analytical Chemistry: Christian GD
3. An Introduction to Practical Biochemistry: Plummer DT
4. Undergraduate Instrumental Analysis: Robinsan, JW
5. Essentials of Biophysics: Narayanan, P
6. A Text Book of Biophysics: Roy RN
7. Biophysical chemistry: Upadhya and Nath

Rohit

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