



### List of Revised Courses

Department : **Biotechnology**

Program Name : **Ph.D.**

Academic Year : **2020-21**

### **List of Revised Courses**

Sr. No.	Course Code	Name
1.	101	Research Methodology and research publication Ethics



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

**Academic Year : 2020-21**

**School : School of Studies of Interdisciplinary Education and Research**

**Department : Biotechnology**

**Date and Time : 09-07-2020- 12:00 Noon**

**Venue : Room of Head, Department of Biotechnology**

### MINUTES OF THE MEETING OF BOARD OF STUDIES IN BIOTECHNOLOGY GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR HELD ON 09/07/2020

A Meeting of the Board of Studies in Biotechnology under School of Interdisciplinary Education and Research was held on 09/07/2020 at 12:00 Noon under the chairmanship of Dr. Renu Bhatt, Head Department of Biotechnology. The following members were present.

(i) Dr. Renu Bhatt, Head	Chairman
(ii) Prof. B.N. Tiwary, Professor	Member
(iii) Prof. Keshavkant Sahu,	Expert present online
(iv) Dr. Dhananjay Shukla	Member

The following agenda were placed to discuss:

1. Pre Ph.D syllabus as directed by UGC ( syllabus of research and publication ethics ) as a compulsory first paper along with Research methodology paper I.
2. To discuss CBCS Syllabus for M.Sc programme in Biotechnology.
3. To discuss and approve the ordinance of CBCS in M.Sc Biotechnology, w.e.f. 2020-21
4. Revision of Course code of CBCS B.Sc (Hons) with revised course name IE ( Interdisciplinary Education and Research) in place of LS (Life Science) w.e.f 2020-21
5. To amend and approve the credit of SEC (skill enhancement course) in as 2 instead of 4 in CBCS B.Sc (Hons) III semester as per ordinance for 2019-20.

At the very outset the HOD, Chairman of Board of Studies welcomed all the BoS members and discussed the above agenda at length. Following resolutions were made in this meeting

1. The revised Pre Ph.D course work syllabus including Research Publication Ethics in the paper I to be named as Research Methodology and Research Publication Ethics of a total of 4 credits including 2 for Research Publication Ethics as per directives of the UGC was discussed and approved by the BoS members including subject expert of BoS
2. The model syllabus of DBT (with 20% modification) CBCS M.Sc Biotechnology syllabus and scheme of a examination, the course structure with course code of 2 year M.Sc. degree course was placed before the committee. The members after a thorough deliberations approved the course structure and course code of M.Sc. Biotechnology to be implemented from the Academic session 2020-2021.
3. The draft ordinance for M.Sc Biotechnology under CBCS pattern was discussed and approved by the Board of studies and recommended to be placed before Academic Council.

*R. Bhatt*  
9/07/2020

*Dhananjay*  
9/7/2020

*R. Singh*  
9/7/2020

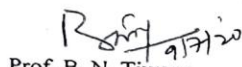


4. Since the name of School of Studies has changed from SoS of Life Science to SoS of Interdisciplinary Education and Research. The proposed revised draft of course code (LS to IE) of 3years CBCS B.Sc (Hons) was placed and approved by BoS.


5. The credit of SEC as approved by BoS for 2019-20 was discussed and resolved to be amended to 2 instead of 4 (as per existing ordinance for 2019-20).

The meeting ended with a vote of thanks by the Chairman

  
Dr. Renu Bhatt  
Chairman

  
Prof. B. N. Tiwary  
Member

Prof. Keshavkant Sahu  
Expert present online

  
Dr. Dhananjay Shukla  
Member

In the Meeting of BOS-Biotechnology on 09-07-2020, the following courses were revised in the syllabus of M.Sc.:

Course Code	Name of the Course
MBT 101 T	Biochemistry
MBT 102T	Cell and Molecular Biology
MBT 103T	Plant and Animal Biotechnology
MBT 104T	Microbiology
MBT 105T	Genetics
MBT 106T	Biostatistics
MBT 107L	Biochemistry and Analytical Techniques
MBT 108L	Microbiology
MBT 109L	Plant and Animal Biotechnology
MBT 201 T	Genetic Engineering
MBT 202T	Immunology
MBT 203T	Bioinformatics
MBT 204T	Genomics and Proteomics
MBT 205T	Molecular Diagnostics
MBT 206T	Research Methodology and Scientific Communication Skills
MBT 207T	Environmental Biotechnology
MBT 208T	Biological Imaging



MBT 209T	Nanobiotechnology
*MBT 210S	MOOCs course to be selected/opted from SWAYAM portal (SWAYAM-BIOTECH-1)
MBT 211L	Molecular Biology and Genetic Engineering
MBT 212 L	Immunology
MBT 301 T	Bioprocess Engineering and Technology
MBT 302T	Emerging Technologies
MBT 303T	Critical Analysis of Classical Papers
MBT 304T	Bioentrepreneurship
MBT 305T	Intellectual Property Rights, Biosafety and Bioethics
MBT 306T	Project Proposal Preparation and Presentation
MBT 307T	Research Seminar
MBT 308T	Microbial Technology
MBT 309 T	Animal Biotechnology
MBT 310 T	Computational Biology
MBT 311 T	Drug Discovery and Development
MBT 312 T	Vaccines
MBT 313 T	Protein Engineering
MBT 314 T	Medical Microbiology and Infection Biology
*MBT 315T	MOOCs course to be selected/opted from SWAYAM portal (SWAYAM-BIOTECH-1)
MBT 316L	Laboratory VI: Bioprocess Engineering and Technology
MBT 317 L	Laboratory VII: Bioinformatics
MBT 401	Dissertation

In the Meeting of BOS-Biotechnology on 09-07-2020, the following courses were revised in the of Ph.D. Course work.

Course Code	Name of the Course
101	Research Methodology and research publication Ethics



The following new courses were introduced in the of M.Sc.:

Course Code	Name of the Course
MBT 103T	Plant and Animal Biotechnology
MBT 105T	Genetics
MBT 106T	Biostatistics
MBT 107L	Biochemistry and Analytical Techniques
MBT 109L	Plant and Animal Biotechnology
MBT 201 T	Genetic Engineering
MBT 203T	Bioinformatics
MBT 204T	Genomics and Proteomics
MBT 205T	Molecular Diagnostics
MBT 206T	Research Methodology and Scientific Communication Skills
MBT 208T	Biological Imaging
MBT 209T	Nanobiotechnology
*MBT 210S	MOOCs course to be selected/opted from SWAYAM portal (SWAYAM-BIOTECH-1)
MBT 211L	Molecular Biology and Genetic Engineering
MBT 302T	Emerging Technologies
MBT 303T	Critical Analysis of Classical Papers
MBT 305T	Intellectual Property Rights, Biosafety and Bioethics
MBT 306T	Project Proposal Preparation and Presentation
MBT 307T	Research Seminar
MBT 308T	Microbial Technology
MBT 310 T	Computational Biology
MBT 311 T	Drug Discovery and Development
MBT 312 T	Vaccines
MBT 313 T	Protein Engineering
MBT 314 T	Medical Microbiology and Infection Biology

**गुरु घासीदास विश्वविद्यालय**  
(केन्द्रीय विश्वविद्यालय अधिनियम 2009 क्र. 25 के अंतर्गत स्थापित केन्द्रीय विश्वविद्यालय)  
**कोनी, बिलासपुर - 495009 (छ.ग.)**



**Guru Ghasidas Vishwavidyalaya**  
(A Central University Established by the Central Universities Act 2009 No. 25 of 2009)  
**Koni, Bilaspur - 495009 (C.G.)**

*MBT 315T	MOOCs course to be selected/opted from SWAYAM portal (SWAYAM-BIOTECH-1)
MBT 316L	Laboratory VI: Bioprocess Engineering and Technology
MBT 317 L	Laboratory VII: Bioinformatics
MBT 401	Dissertation

Signature & Seal of HoD

**विभागाध्यक्ष, जैव प्रौद्योगिकी विभाग**  
**Head, Department of Biotechnology**  
**गुरु घासीदास विश्वविद्यालय, बिलासपुर (छ.ग.)**  
Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)



## Scheme and Syllabus

Pre-PhD Syllabus  
Department of Biotechnology  
Guru Ghasidas Vishwavidyalaya, Bilaspur (CG)

Research scholars of Department of Biotechnology have to undergo a pre-Ph.D. course work of 3 papers to be completed in one semester (Six month). The Departmental Courses comprise of three theory papers, the paper I is Research methodology and Research Publication Ethics, paper II comprises analytical and separation techniques. Paper III is optional in nature and comprise of five Elective papers and therefore student can select one paper based on his/her research interest area.

Code	Subject	End Semester Total Marks	Credit
101	Research Methodology and Research Publication Ethics	100	4
102	Analytical and Separation Techniques	100	4
103	Elective paper (Student need to select only one as per their research interest)	100	4
	103A: Advances in Animal Cell Culture Technology 103B: Advances in Cancer Biology 103C: Advances in Immunology 103D: Microbial Resources and Products 103E: Enzyme and fermentation technology		
	Total	300	12

The Seminar will be mandatory but qualifying on the recommendation of the member of the DRC and approval of the chairman of DRC. The minimum passing marks in each paper will be 55%.

*M. Narayan*  
*Abhatt*  
9/7/2020  
*Raj...*



**Paper I**

**101: Research Methodology and Research Publication Ethics**

**Unit - 1**

Literature Review, Defining the research questions, Approaches and Methodology for Scientific research, Documentation and presentation of data, Analysis and interpretation of data, manuscript preparation.

**Unit - 2**

Statistics in Research, Measures of Central Tendency, Dispersion, Asymmetry, Relationship, Regression Analysis, Multiple correlation and Regression, Partial Correlation, Association in case of Attributes, Testing of Hypothesis, Chi-Square test: Applications, Steps, characteristics, limitations, Analysis of Variance and Covariance.

**Unit - 3**

Basic knowledge of computers, hardware and software, Generation of Computers and information storages devices. MS-OFFICE, MS-WORD, MS-EXCEL, MS-POWER POINT Application of Different computer software in handling the bio-statistical problems and Data-management, R Programme, SPSS, Origin, Prism.

**Unit - 4**

Philosophy And Ethics: Introduction to philosophy : definition, nature and scope, concepts, branches; Ethics : definition, moral philosophy, nature of moral judgments and reactions; Scientific Conduct: Biosafety and Bioethics and IPR, Ethics with respect to science and research, Intellectual honesty and research integrity, Scientific misconducts : Falsification, fabrication, and plagiarism (FFP), Redundant publications: duplicate and overlapping publications, salami slicing, Selective reporting and misrepresentation of data,

**Unit - 5**

Publication Ethics: Publication ethics: definition, introduction and importance, Best practices/ standard setting initiatives and guidelines: COPE, WAME, etc., Conflicts of interest, Publication misconduct: definition, concepts, problems that lead to unethical behavior and vice versa, types, Violation of publication ethics, authorship and contributorship, Identification of publication misconduct, complaints and appeals, Predatory publishers and journals.

**PRACTICE**

• **OPEN ACCESS PUBLISHING (4 hrs.)**

1. Open access publication and initiatives.
2. SHERPA/ReMEO online resource to check publisher copyright & self-archiving policies.
3. Software tool to identify predatory publications developed by SPPU.
4. Journal finder / Journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.

• **OPEN ACCESS PUBLISHING (4 hrs.)**

**A. Group Discussions (2hrs.)**

1. Subject specific ethical issues, FFP, authorship.
2. Conflicts of interest.
3. Complaints and appeals : examples and fraud from India and abroad.

**B. Software tools (2hrs.)**

Use of plagiarism software like Turnitin, Urkund and other open source software tools.

w/lay  
Quintt  
21/12/2016  
Prof. Jain



