

Minutes of the Meeting of Board of Studies
B. Tech & M.Tech. Chemical Technology (Biochemical Engineering) held on July 07, 2023
Department of Biochemical Engineering
School of Chemical Technology
HBTU, Kanpur

A meeting of the BoS members was held on July 07, 2023 at 11:00 AM for B. Tech & M.Tech. Chemical Technology (Biochemical Engineering) to review the course structure and detailed syllabus as per NEP 2020.

The following members were present during the meeting:

1	Dr. Lalit Kumar Singh, Head Biochemical Engineering Department	Chairman
2	Prof. A. S. Vidyarthi, Hon'ble Vice Chancellor, Bikaner Technical University	Member
3	Professor. Aradhana Srivastava, University School of chemical Technology, Guru Govind Singh Indraprastha University	Member
4	Prof. Dhananjay Singh, Head, Chemical Engineering Department, Institute of Engineering and Technology Lucknow	Member
5	Mr. S.K. Singh, Director , Pollucon Technologies Ltd. Noida	Member
6	Mr. Brajesh Singh Asso. Professor, Biochemical Engineering Department	Member
7	Dr. Rajkamal Kushwaha, Asstt. Professor, Biochemical Engineering Department	Member
8	Ms. Roma Agrahari, Assistant Professor, Biochemical Engineering Department	Member
9	Dr. Shravan Kumar, Assistant Professor, Biochemical Engineering Department	Member
10	Mr. Pravin Kumar Sachan, Guest Faculty, Biochemical Engineering Department	Member
11	Mr. Shashikant , Guest Faculty, Biochemical Engineering Department	Member
12	Mr. Mohit Kumar Yadav, Guest Faculty, Biochemical Engineering Department	Member

Following member could not attend the meeting:-

1. Dr. Mukul Bajpai, Associate Director Manufacturing Sc & Tech. Teva API India Pvt Ltd
2. Dr. Dilip Kumar, Guest Faculty Biochemical Engineering Deptt., HBTU Kanpur

Chairman BoS, Dr. Lalit Kumar Singh, welcomed all the members. Following agenda was taken up for discussion and decision.

1. Discussions and decisions on structure and syllabus of the subjects of B.Tech. Chemical Technology (Biochemical Engineering)

The course structure of B.Tech. programme provided by academic section of HBTU discussed and following suggestions were given by the expert members:

- a. Prof. A. S. Vidyarthi suggested for the incorporation of few courses in the domain of Intellectual Property Rights, Entrepreneurships, Sustainability and Green energy.
- b. Prof. Aradhana Srivastava, also stressed on the inclusion of courses focused on Green Energy and Sustainability. Apart from this, it was suggested that Courses like Biochemistry and Microbiology should be taught as a package in second year, Bioinformatics in third year and Protein Science and Engineering in the final year of B.Tech.
- c. Prof. Dhananjay Singh, sought the clarification regarding the course code of subjects offered by Chemical Engineering Department.
- d. Mr. S.K. Singh, emphasized on the inclusion on courses more focused on the Design, Manufacturing, Fabrication along with the strengthening of laboratory courses.

The course structure and syllabi of B.Tech. Chemical Technology (Biochemical Engineering) prepared as per the guidelines provided by the University considering NEP-2020 and was unanimously approved and adopted after incorporating the inputs/suggestions given by the experts. Due weightage was given to suggestions / feedback received from all the stakeholders. New courses included in the syllabus under **(i) PCC:** Fundamental of Life Processes (NBE-201), Industrial Microbiology (NBE-203), Microbial Techniques Lab (NBE-207), Biomolecules in Pharmaceutical (NBE-306), Fermentation & Environmental Lab (NBE-310); **(ii) PEC:** Green Energy and Sustainability (NBE-405), Membrane Application in Bioprocesses (NBE-411), Biosensors (NBE-415), Nanobiotechnology (NBE-417), Biochemical calculations and Plant Design (NBE-402), Protein Science & Engineering (NBE-406) and **(iii) OEC:** Microbial Technology (OBE-302), Fundamentals of Enzyme Engineering (OBE-401), Bioresource Technology (OBE-402)

The members authorized Chairman, BoS to approve the courses and their contents in future if required. The adopted course structure and syllabi are annexed herewith as Annexure I.

2. Discussions and decisions on structure and syllabus of the subjects of M.Tech. Chemical Technology with specialization in Biochemical Engineering)

The course structure of M.Tech. programme provided by academic section of HBTU was discussed and after through deliberations, the course structure and syllabi of M.Tech. Chemical Technology with specialization in Biochemical Engineering was prepared as per the guidelines provided by the University considering NEP-2020 and was unanimously approved and adopted after incorporating the inputs/suggestions given by the experts. Due weightage was given to suggestions / feedback received from all the stakeholders. New courses included in the syllabus

under **(i) PCC:** Structural Molecular Biology/Advanced Molecular Biology (NBE-503/NBE-511); **(ii) PEC:** Nanobiotechnology (NBE-605), Advanced Bioseparation Processes (NBE-601).

The members authorized Chairman, BoS to approve the courses and their contents in future if required. The adopted course structure and syllabi are annexed herewith as Annexure II.

3. Minor courses for other than the Biochemical Engineering students (20 credits)

As per the guidelines of the University regarding Minor degree in Biochemical Engineering for the students of other departments, a basket of 10 courses are approved and listed in Annexure III.

4. Department is also proposing 06 new Value-Added courses as per the guidelines of the University. These are non-credit courses of 30 hours duration. After successful completion of the course, student will get a certificate. The value-added courses are listed as Annexure IV.

5. Any other matter with permission of chair

There being no other matter, Chairman BoS thanked all members and invitees for their important and useful inputs in improving the course structure and syllabus of B.Tech. Chemical Technology (Biochemical Engineering) and M.Tech. Chemical Technology with specialization in Biochemical Engineering).