KONGU ARTS AND SCIENCE COLLEGE
(Autonomous)
Affiliated to Bharathiar University, Coimbatore
Approved by UGC, AICTE, New Delhi & Re accredited by NAAC, DBT STAR College Scheme
(An ISO 9001: 2015 Certified Institution)
Nanjanapuram, Erode – 638 107

Minutes

Meeting of the Board of Studies held on 29.08.2022

For the Academic Year 2022 – 2023
(Phase II)

KONGU
Assuring the Best

KONGU ARTS AND SCIENCE COLLEGE
(Autonomous)
NANJANAPURAM, ERODE – 638 107

DEPARTMENT OF BIOTECHNOLOGY

BOARD OF STUDIES MEETING

AGENDA

DATE: 29.08.2022

1. To consider and approve the curriculum and syllabi for the candidates admitted during the academic year 2022 – 2023 and onwards.
2. To consider and approve the pattern of question papers for the academic year 2022 – 2023and onwards.
3. To consider and approve theimplementation of NPTEL/SWAYAM or equivalent course offered by the Department for PG students admitted during the academic year 2022-2023 and onwards.
4. To consider and approve the Online Comprehensive Examination in Third Semester for PG studentsadmitted during the academic year 2022–2023and onwards.
5. To consider and approve the panel of examiners.
6. To consider and discuss any other subjects with the permission of the chair.

KONGU ARTS AND SCIENCE COLLEGE

(Autonomous)

NANJANAPURAM, ERODE – 638 107

The meeting of the Board of Studies in Biotechnologywas conducted on **29.08.2022**at 02.30 p.m.through GoogleMeet.

The following members were present:

Chairman : **Dr.D.Saravanan**
Assistant Professor and Head
Department of Biotechnology
Kongu Arts and Science College (Autonomous)
Nanjanapuram, Erode – 638 107

Members :

S.No.	Name	Role in BoS
1.	**Dr.P.RANI** Professor Department of Biotechnology PSG College of Technology Peelamedu, Coimbatore – 641 004	Subject Expert
2.	**Dr.VEENA GADICHERLA** Associate Professor Department of Pharmacology Sri Indi Institute of Pharmacy Hyderabad, Telangana – 501 510	Subject Expert
3.	**Dr.S.R.PRABAGARAN** Associate Professor Department of Biotechnology Bharathiar University, Coimbatore – 641 046	University Nominee
4.	**Ms. RAMYA GADICHERLA** Genomics Lab Manager Genome Life Sciences Pvt. Ltd. 383, 1st Cross Street, Nehru Nagar OMR, Kottivakkam, Chennai – 600 096	Industrial Expert
5.	**Ms.M.MONISHA** 7/11 B, Syed Ali Street Arisipalayam Salem – 636 009	Alumni Representative

6.	**Dr.S.K.GANGAI ABIRAMI** Assistant Professor Department of Biotechnology Kongu Arts and Science College (Autonomous) Nanjanapuram, Erode – 638 107	Faculty Member
7.	**Ms.K.PREETHI** Assistant Professor Department of Biotechnology Kongu Arts and Science College (Autonomous) Nanjanapuram, Erode – 638 107	Faculty Member
8.	**Mr.K.VIVEKANANDHAN** Assistant Professor Department of Biotechnology Kongu Arts and Science College (Autonomous) Nanjanapuram, Erode – 638 107	Faculty Member
9.	**Dr.K.MANJUKARUNAMBIKA** Assistant Professor Department of Biotechnology Kongu Arts and Science College (Autonomous) Nanjanapuram, Erode – 638 107	Faculty Member
10.	**Ms.S.VIJAYA** Assistant Professor Department of Biotechnology Kongu Arts and Science College (Autonomous) Nanjanapuram, Erode – 638 107	Faculty Member

Subjects related to CBCS, Outcome based Syllabus, Panel of Examiners, Credit Systems, Continuous Internal Assessment and End Semester Examinations,implementation of NPTEL/SWAYAM, Self Study Courses,etc. were discussed and the following are the resolutions:

1. It is resolved to approve theCurriculum and syllabi of I and II Semesters for the M.Sc., Biotechnology students admitted during the academic year 2022 – 2023 and onwards.
2. It is resolved to adopt the newly framed Scheme of Examination and distribution of credits as well as marks for various courses.
3. It is resolved to follow the Regulations of Bharathiar University for Attendance norms, Evaluation of answer scripts, Revaluation, Retotaling and Improvement.
4. It is resolved to follow the question paper pattern as given in Annexure – I & II
5. It is resolved to approve 5 marks for attendance in CIA for the students who have been admitted during the academic year 2022-2023 and onwards.(Annexure – III)
6. It is resolved to follow the Continuous Internal Assessment system with the break up marks specified in Annexure – III.
7. It is resolved to follow the scheme of passing minimum for the Continuous Internal Assessment and End Semester Examinations as given in Annexure – III
8. It is resolved to follow the Credit System in evaluating Cumulative Average Grade and Weighted Average of marks while issuing Consolidated Mark sheet.
9. It is resolved to have 50% internal and 50% external examiners for the evaluation of answer scripts of End Semester Examinations.
10. It is resolved to approvethe implementation of SWAYAM /Equivalent Course offered in IV Semester for the M.Sc., Biotechnologystudentsadmitted during theacademic year 2022-2023 and onwards.
14. It is resolved to approve the Online Comprehensive Examinationin Third Semester for theM.Sc., Biotechnologystudents admitted during the academic year 2022–2023and onwards.
15. It is resolved to approve the panel of Examiners as given in Annexure – V

Annexure a

Details of Modifications in the Courses offered under the Programme

The following modifications are done in the Syllabi of I and II Semesters for the M.Sc.Biotechnology students admitted during the academic year 2022 – 2023 and onwards.

The new topics has been introduced to the following core courses present in the Semester I of M.Sc. Biotechnology students admitted during the academic Year 2022-2023 and onwards

- 21PBLCT101 - Core Paper I:Biochemistry
- 21PBLCT104 - Core Paper IV:Genetics
- 21PBLCT105 - Core Paper V:Bioinstrumentation
- 21PBLCP106 - Core Practical I:Basic Biotechnology Laboratory

Modification in core courses in the syllabi of I and II semesters (M.Sc., Biotechnology) has been done and the same is provided in the table. **Annexure b.**

Annexure b

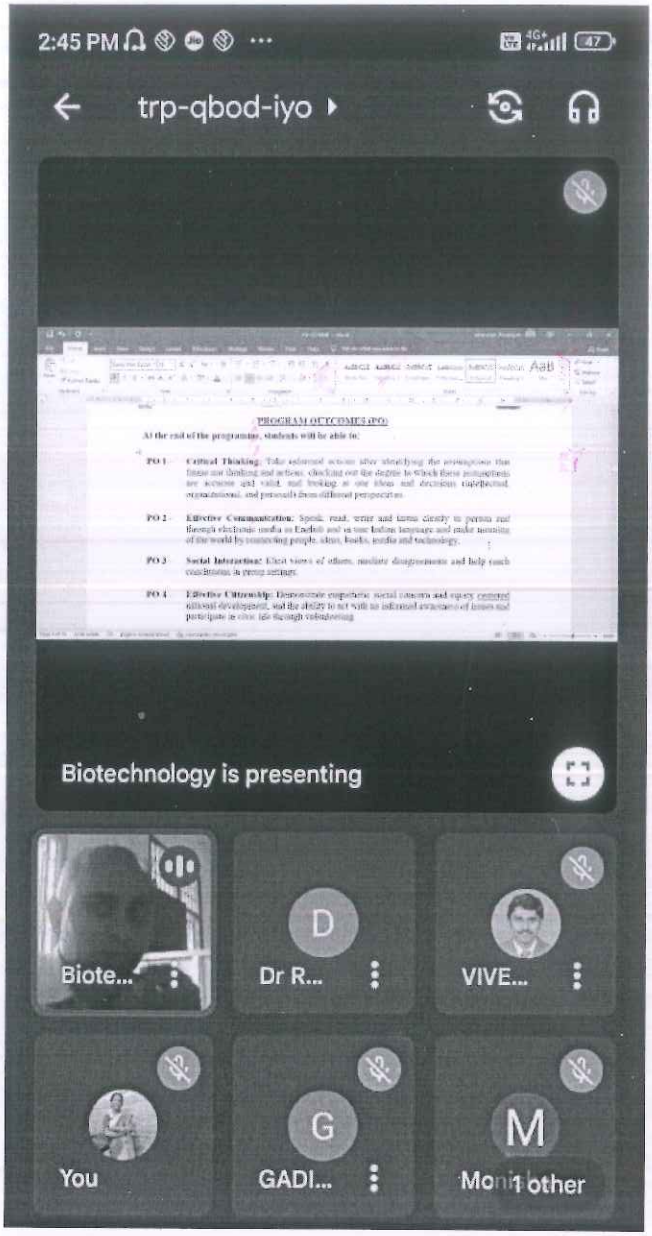
Details of Modifications with specific topics in the Syllabus with % Revision

S.No.	Course Name	Course Code	New Topics Added	Removed Topics	% of Revision
1.	Core Paper I: Biochemistry	21PBLCT101	SDA 1.: Variations in glycolysis pathway in different organisms for drug development	Nil	2%
2.	Core Paper IV: Genetics	21PBLCT104	Unit III: Principles of population genetics; Hardy-Weinberg law and its application for autosomal genes	Nil	2%
3	Core Paper V: Bioinstrumentation	21PBLCT105	Unit II: ELISA **Unit III: Spectroscopy Basics:** Basic principles, Laws of absorption, Absorption spectrum, Chromophore concept.Theory, Principles, Instrumentations and Applications of UV-Visible and IR spectrophotometry, Fluorescence, NMR, Atomic absorption, Mass, Raman	Nil	5%
4	Core Practical I: Basic Biotechnology Laboratory	21PBLCP106	Exp.1: Separation of PBMC and isolation of Monocytes. Exp.12: Purification of protein by gel filtration column chromatography	Separation of PBMC and Monocyte Culture	10%

- In overall, there had been a 3 % of revision in the syllabus of the M.Sc. Biotechnology programme.

All the above resolutions are approved.

1. Dr.D.SARAVANAN – Chairman
2. Dr.P.RANI – Subject Expert
3. Dr.VEENA GADICHERLA – Subject Expert
4. Dr.S.R.PRABAGARAN – University Nominee
5. Ms. RAMYA GADICHERLA – Industrial Expert
6. Ms.M.MONISHA – Alumni Representative
7. Dr.S.K.GANGAI ABIRAMI – Faculty Member
8. Ms.K.PREETHI – Faculty Member
9. Mr.K.VIVEKANANDHAN – Faculty Member
10. Dr.K.MANJUKARUNAMBIKA – Faculty Member
11. Ms.S.VIJAYA – Faculty Member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PROGRAM OUTCOMES (PO):
At the end of the programme, students will be able to:
PO 1 - Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (conclusions, reasonableness, and personal) from different perspectives.
PO 2 - Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language and make meaning of the world by connecting people, ideas, books, media and technology.
PO 3 - Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO 4 - Effective Citizenship: Demonstrate empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
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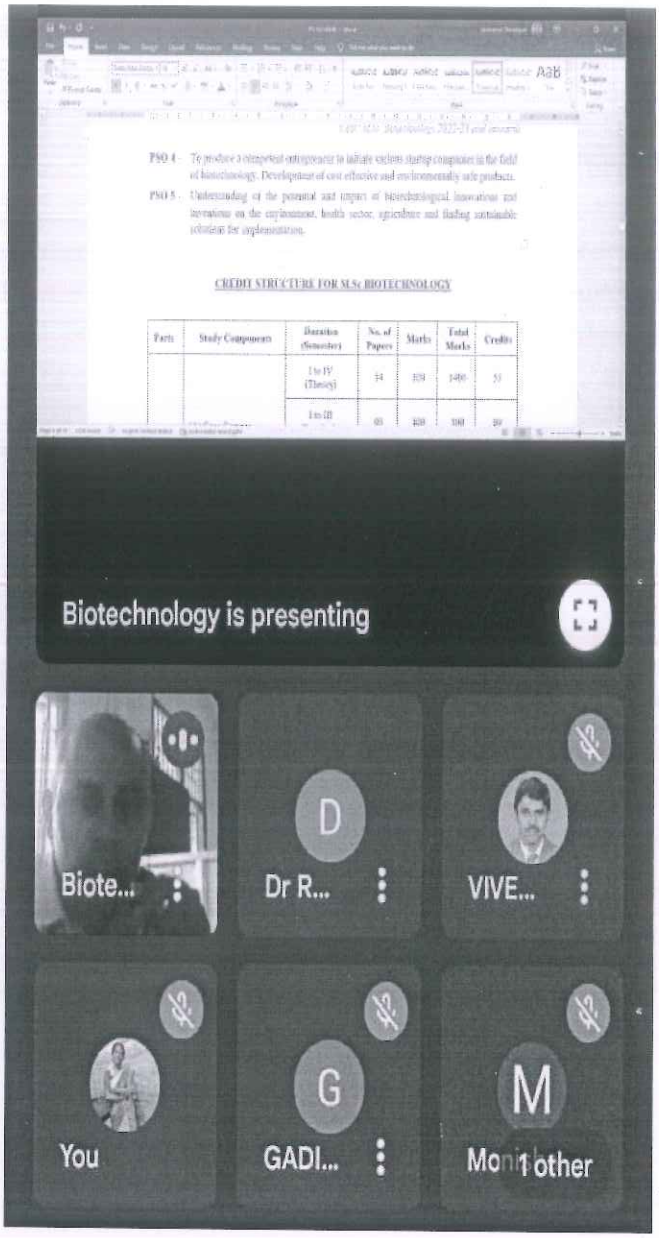
PSO 4 - To produce 3 competent entrepreneurs to initiate various startup companies in the field of biotechnology. Development of cost effective and environmentally safe products.
PSO 5 - Understanding of the potential and impact of biotechnological innovations and inventions on the environment, health sector, agriculture and finding sustainable solutions for implementation.
CREDIT STRUCTURE FOR M.Sc BIOTECHNOLOGY
Parts
Study Components
Duration (Semester)
No. of Papers
Marks
Total Marks
Credits
I to IV (Theory)
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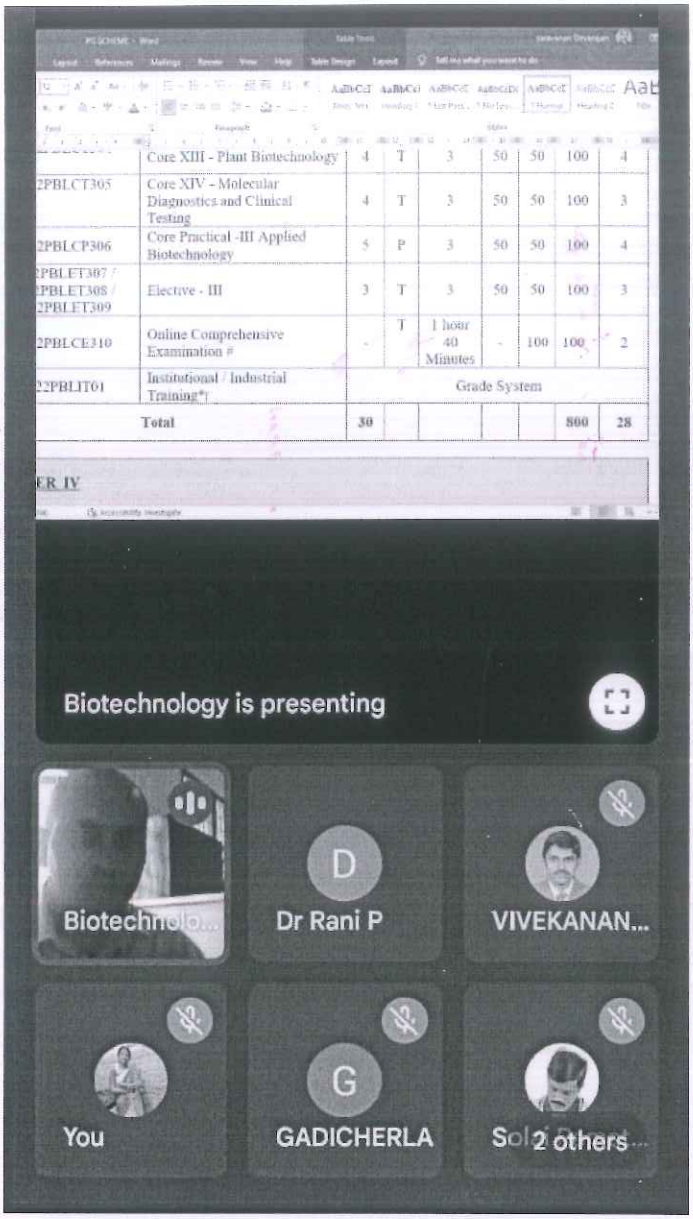
Core XIII - Plant Biotechnology 4 T 3 50 50 100 4
2PBLCT305 Core XIV - Molecular Diagnostics and Clinical Testing 4 T 3 50 50 100 3
2PBLCP306 Core Practical -III Applied Biotechnology 5 P 3 50 50 100 4
2PBLET307 / 2PBLET308 / 2PBLET309 Elective - III 3 T 3 50 50 100 3
2PBLCE310 Online Comprehensive Examination # - T 1 hour 40 Minutes - 100 100 2
22PBLIT01 Institutional / Industrial Training*† Grade System
Total 30 800 28
ER IV
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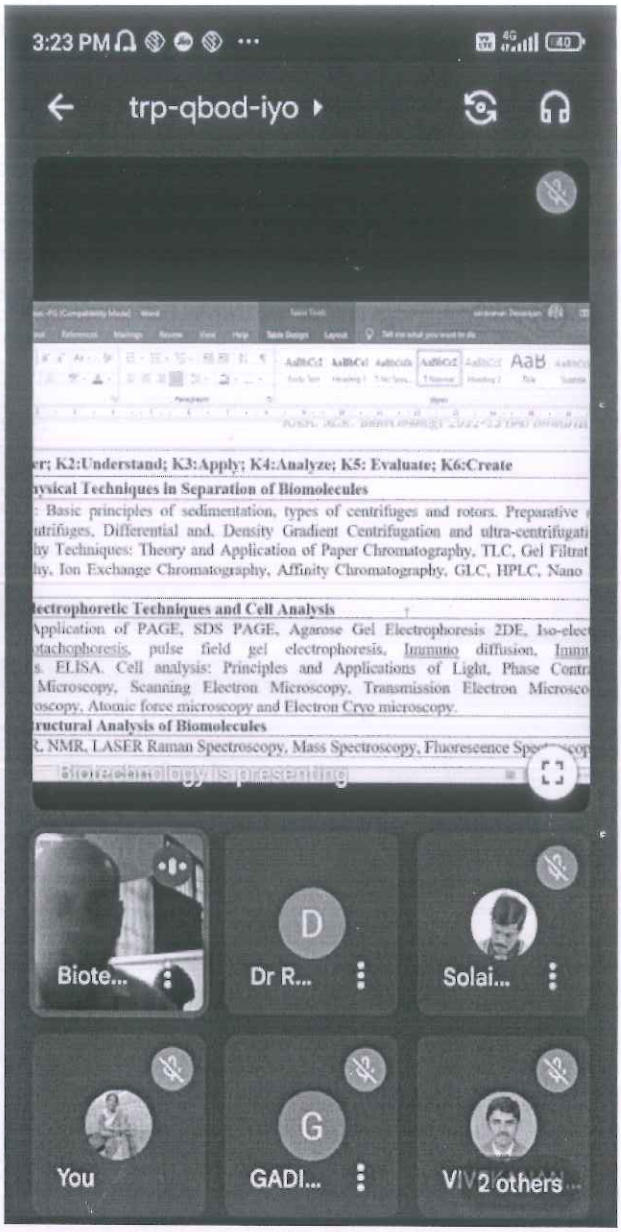
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r; K2:Understand; K3:Apply; K4:Analyze; K5: Evaluate; K6:Create
ysical Techniques in Separation of Biomolecules
Basic principles of sedimentation, types of centrifuges and rotors. Preparative
utrifuges, Differential and. Density Gradient Centrifugation and ultra-centrifugati
hy Techniques: Theory and Application of Paper Chromatography, TLC, Gel Filtrat
hy, Ion Exchange Chromatography, Affinity Chromatography, GLC, HPLC, Nano
lectrophoretic Techniques and Cell Analysis
Application of PAGE, SDS PAGE, Agarose Gel Electrophoresis 2DE, Iso-elec
tachophoresis, pulse field gel electrophoresis, Immuno diffusion, Immu
s. ELISA. Cell analysis: Principles and Applications of Light, Phase Contr
Microscopy, Scanning Electron Microscopy, Transmission Electron Microsco
oscopy, Atomic force microscopy and Electron Cryo microscopy.
ructural Analysis of Biomolecules
, NMR, LASER Raman Spectroscopy, Mass Spectroscopy, Fluoreseence Spe
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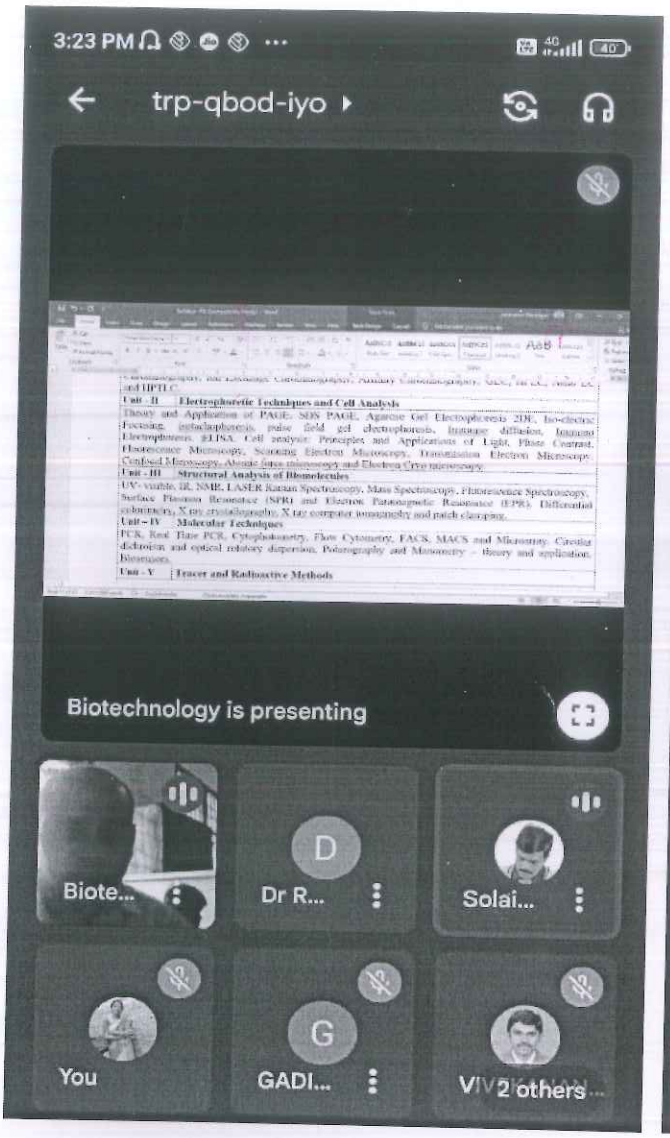
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Unit – II Electrophoretic Techniques and Cell Analysis
Unit – III Structural Analysis of Biomolecules
Unit – IV Molecular Techniques
Unit - V Tracer and Radioactive Methods
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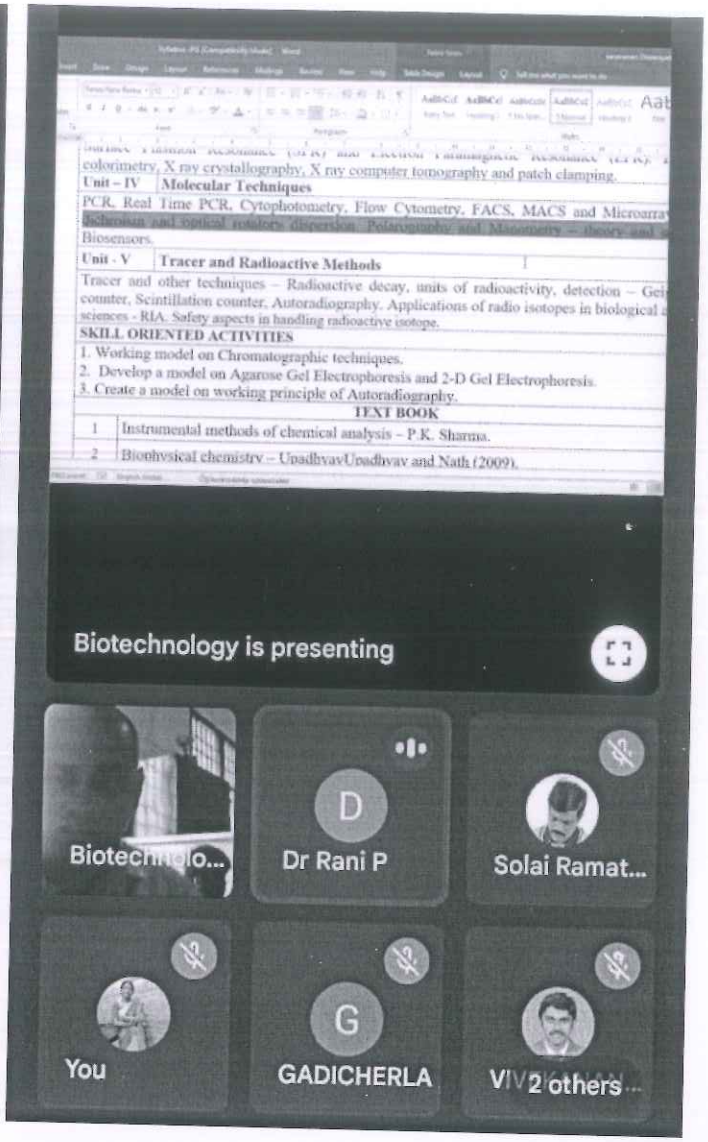
colorimetry, X ray crystallography, X ray computer tomography and patch clamping.
Unit – IV Molecular Techniques
PCR, Real Time PCR, Cytophotometry, Flow Cytometry, FACS, MACS and Microarra
Biosensors.
Unit - V Tracer and Radioactive Methods
Tracer and other techniques – Radioactive decay, units of radioactivity, detection – Gei
counter, Scintillation counter, Autoradiography. Applications of radio isotopes in biological
sciences - RIA. Safety aspects in handling radioactive isotope.
SKILL ORIENTED ACTIVITIES
1. Working model on Chromatographic techniques.
2. Develop a model on Agarose Gel Electrophoresis and 2-D Gel Electrophoresis.
3. Create a model on working principle of Autoradiography.
TEXT BOOK
1 Instrumental methods of chemical analysis – P.K. Sharma.
2 Biophysical chemistry – UpadhyayUpadhyay and Nath (2009).
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