



# EXCEL ENGINEERING COLLEGE

(Autonomous)

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
Accredited by NBA and NAAC with "A+" and Recognized by UGC(2f&12B)  
KOMARAPALAYAM - 637303

## DEPARTMENT OF PETROCHEMICAL TECHNOLOGY

### BOARD OF STUDIES

### MINUTES OF MEETING

Meeting No : EEC/ BoS – 3 / PCT / 2023 – 24  
Date : 27.03.2023  
Time : 09.30 AM  
Mode : Offline Mode  
Hall : TVR Hall – Excel Engineering College

The following members were present:

| S. No. | Name                      | Member                          |
|--------|---------------------------|---------------------------------|
| 1      | Dr. K. Bommana Raja       | Executive Director , EGI        |
| 2      | Dr. C. Karthikeyini       | Academic Director , EEC         |
| 3      | Dr. E.R. Sivakumar        | Chairman, BoS                   |
| 4      | Dr. Selvi Subramaniam     | University Nominee              |
| 5      | Dr. K. Muthukumar         | Academic Expert, Member         |
| 6      | Dr. Habeebur Rahman       | Autonomous Co-ordinator, Member |
| 7      | Dr. A. M. Sakthivel       | Department Faculty, Member      |
| 8      | Mr. C. S. Arvinth Kumar   | Department Faculty, Member      |
| 9      | Mr. P. Santhosh           | Department Faculty, Member      |
| 10     | Mr. C. Harshaavardhan     | Department Faculty, Member      |
| 11     | Mr. C. P. Suresh Kumar    | Department Faculty, Member      |
| 12     | Mr. A. Meenakshi Sundaram | Department Faculty, Member      |
| 13     | Mr. P. Ilavalagan         | Department Faculty, Member      |
| 14     | Mr. A. Yasvantharajan     | Department Faculty, Member      |
| 15     | Dr. P. Sivashanmugam      | Professor, NIT Trichy           |
| 16     | Dr.M. Karuppaiya          | Professor, FT, EEC              |
| 17     | Mr.S.P. Rajesh            | Assistant Professor, FT, EEC    |
| 18     | Mr. M. Raja               | Assistant Professor, FT, EEC    |
| 19     | Dr.M.P. Murugesan         | Assistant Professor, FT, EEC    |
| 20     | Mr.S.Tharani              | Assistant Professor, FT, EEC    |
| 21     | Ms. S. Ramya              | Teaching Assistant , FT, EEC    |
| 22     | Ms. M. Kavya              | Assistant Professor, FT, EEC    |
| 23     | Ms. A.Kousalya            | Lab Instructor, FT, EEC         |
| 24     | Mr. P. Karthick           | Lab Instructor, FT, EEC         |

At the onset, Dr. E.R.Sivakumar gave welcome address for the meeting of BoS. The following deliberations were made as per the items mentioned in the circulated agenda.

## Resolutions

1. Resolved that the following recommendations may be passed to the standing committee of the Academic Council for the curriculum and syllabi of B. Tech Petrochemical Technology programme with the following changes.

### RECOMMENDATION

**B. PCT. 1.1 Dr. K. Muthukumar suggested the following for R20**

- Remove the word "Select" in all the course objectives
- In blooms taxonomy the word "Understand" should be altered.
- Course objectives should be within one and half lines.

### 20PC501 Petroleum Processing - II

- UNIT -1 First two topics has to be defined clearly.
- For all the units, "Process flow schemes" should be removed.
- Recent techniques should be specifically included in the topic " Reforming"
- Title of unit-4 should be changed as "Alkylolation, Isomerization and Polymerization".
- From the 3<sup>rd</sup> unit "Polymerization" has to be removed.

### 20PC502 Chemical Reaction Engineering

- Remove "Understand" on Course Objectives.
- In unit -3 "Multiple reactions" topics have to be altered with reactor design for multiple reactions to be added.
- Unit -4 "rate of heat exchangers" should be corrected as "rate of heat exchange"
- All 5 units cannot cover within 45 hours so the number of hours to be increased to 60 hours.

### 20PC 503 Mass Transfer-I

- In Pre requisite "Chemical Engineering Thermodynamics should also be added.
- On Course outcome 4 add as "Working Principles of Dryers"

### 20PC 504 Petrochemical Unit Processes.

- On Course objective the word "Data" has to be removed from all topics since acquiring data is tedious.
- CO1, CO2, CO3 & CO4 should be changed
- On Test Book remove the Dryden book

### 20PC 505 Heat and Mass Transfer Laboratory

- Maximum 10 experiments and the equipments which were in working conditions only should be added

### RESOLUTION

All the suggestions have been incorporated

## 20PC506 Petroleum Testing Laboratory

- Only 10 equipments maximum and the experiments which were in working conditions only should be added

### Minor Degree

On minor degree the name of the minor degree should be on Chemical Technology

The following subjects should be added on the minor degree

1. Introduction to Petroleum Geology
2. Petroleum Products
3. Process Calculations
4. Petroleum Processing-I
5. Petroleum Processing-II
6. Petrochemicals

### Open Elective

- "Biomass conversion technology" or "Bio energy" paper should be compulsorily added.
- "Green Energy" or "Renewable Energy" paper should be added.
- "GIS" paper should be altered as "GIS for Refineries"/
- Management papers like TQM, IM & WTM should be removed.

### Streams

- Separate into two stream one on Upstream and second on Chemical Technology
- Stream -3 should be removed completely.

### Stream-1

The following papers should be on stream-1

- Offshore Engineering
- Enhanced Oil Recovery
- Drilling Engineering
- Storage transportation of crude oil and natural gas
- Reservoir characterization and modeling
- Petroleum production Engineering
- Well completion, testing and servicing
- Safety in Petroleum Industry
- Coal Bed Methane Engineering
- Well logging and Formation Evaluation

### Stream-2

#### Polymer Technology

- Power plant management
- Pulp and paper Technology
- Fertilizer Technology
- Process plant utilities
- Optimization of chemical process
- Chemical process design
- Process economics
- Electrochemical Engineering
- Plant Safety and Risk Analysis in Chemical Industries

B. PCT. 1.1 Dr. K. Muthukumar suggested the following for R23

- "Industrial Chemical Technology" paper should be replaced with "Introduction to petrochemical Technology"
- "Chemical Process Calculation" should be replaced with "Chemical Process Calculations"
- "Mechanical operation" should be replaced with "Mechanical operations" and should be shifted to 4<sup>th</sup> semester
- "Chemical engineering thermodynamics" should be shifted to 3<sup>rd</sup> semester.
- "Petroleum Exploration and Exploitation" should be shifted to 3<sup>rd</sup> semester
- "Drilling Fluids Laboratory" should be shifted to 3<sup>rd</sup> semester
- "Heat transfer" and "Heat transfer Laboratory" should be shifted to 4<sup>th</sup> semester.
- "Petrochemical unit process" should be replaced with "Unit processes in Petrochemical Industries"
- CFD should be shifted as Elective.
- "Transport phenomena" should be shifted to 6<sup>th</sup> semester
- "Computational Fluid Dynamics" should be replaced with "Process modeling and simulation"
- "Design project" should be replaced with "Design lab"
- "Catalytic reaction engineering" should be added.
- "Energy technology" should be removed.
- "Design project" can be extended as "Major Project"

All the suggestions have been incorporated

*Amendment to be added :*

Petrochemical technology degree has to be awarded with specializations in

1. Upstream processes
2. Chemical process technology

All the suggestions have been incorporated

The BoS Meeting ended with Vote of thanks by Dr. E.R.Sivakumar.

*Selvi Subramanian*  
27/3/23  
University Nominee

*Epuj*  
27/3/23  
Chairman - Board of Studies

*Sivakumar*  
27/3/23  
BoS Members  
*Sivakumar*  
27/3/23  
Principal



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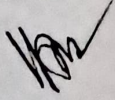
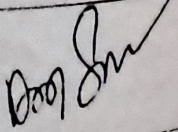
DEPARTMENT OF PETROCHEMICAL TECHNOLOGY

THIRD BOARD OF STUDIES MEETING

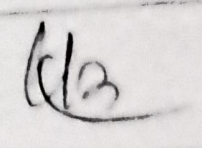
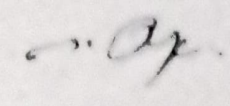
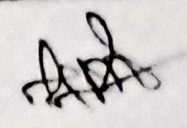
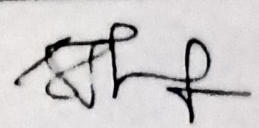
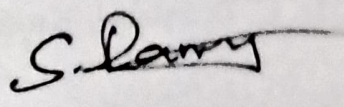
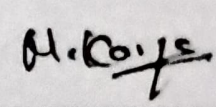
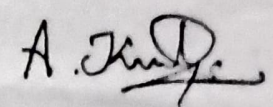
Members Present

Date: 27-03-2023

| S.No. | Name and Affiliation  | Member                     | Signature     |
|-------|---|----------------------------|---------------|
| 1.    | <b>Dr. E.R. Sivakumar</b><br>Head of the Department<br>Department of Petrochemical Technology<br>Excel Engineering College<br>Komarapalayam.              | Chairman, BoS              |               |
| 2.    | <b>Dr. Selvi Subramaniam</b><br>Professor,<br>Department of Biotechnology<br>PSG college of Technology<br>Coimbatore                                      | University<br>Nominee      | <br>27/3/23   |
| 3.    | <b>Dr. K. Muthukumar</b><br>Professor, Department of Chemical<br>Engineering<br>National Institute of Technology,<br>Tiruchirappalli<br>Tamilnadu, India. | Academic Expert,<br>Member | <br>27/3/2023 |
| 4.    | <b>Dr. M. Aslam Abdullah</b><br>Assistant Professor(Senior)<br>School of Chemical Engineering,<br>Vellore Institute of Technology, Vellore.               | Academic Expert,<br>Member | ABSENT        |

|     |   |                                      |   |
|-----|---|--------------------------------------|---|
| 5.  | <b>Mr. A. Tittualagu</b><br>Senior Manager(Design Process),FEDO<br>The Fertilizers and Chemicals Travancore<br>limited(FACT)<br>Kochi-683501                          | Industrial Expert,<br>Member         | ABSENT  |
| 6.  | <b>Mr. M. Karthikeyan</b><br>CCR Operator,<br>Tamilnadu Cements Corporation limited<br>(TCCL-Govt Of Tamilnadu Undertaking),<br>Ariyalur Cements Work,Ariyalur-621729 | Special Invitee,<br>Member           | ABSENT  |
| 7.  | <b>Mr. M. Sathish Kumar</b><br>SITE DCS ENGINEER(SITE<br>OPERATIONS)<br>Shell Technology center,<br>Industrial park north,Bengaluru, Karnataka                        | Special Invitee,<br>Member           | ABSENT  |
| 8.  | <b>Mr. J. Selva Kumar</b><br>Assistant Manager<br>Tamilnadu News Print And Papers Ltd,<br>Kagithapuram, Karur-639136,<br>Tamil Nadu, India                            | Special Invitee,<br>Member           | ABSENT  |
| 9.  | <b>Mr. Akhil Santhosh</b><br>Site Incharge<br>Ion Exchange India Limited, Bangalore,<br>Karnataka.  | UG Alumnus                           | ABSENT  |
| 10. | <b>Dr. Habeebur Rahman</b><br>Assistant Professor   | Autonomous<br>Coordinator,<br>Member |  |
| 11. | <b>Dr. A. M. Sakthivel</b><br>Assistant Professor   | Department<br>Faculty, Member        |  |

|     |  |   |                            |
|-----|--|---|----------------------------|
| 12. | <b>Mr. C. S. Arvinth Kumar</b><br>Assistant Professor                      | Department<br>Faculty, Member                 | <i>C.S. Arvinth</i>        |
| 13. | <b>Mr. P. Santhosh</b><br>Assistant Professor                              | Department<br>Faculty, Member                 | <i>P. Santhosh</i>         |
| 14. | <b>Mr. C. Harshaavardhan</b><br>Assistant Professor                        | Department<br>Faculty, Member                 | <i>C. Harshaavardhan</i>   |
| 15. | <b>Mr. C. P. Suresh Kumar</b><br>Assistant Professor                       | Department<br>Faculty, Member                 | <i>C.P. Suresh Kumar</i>   |
| 16. | <b>Mr. A. Meenakshi Sundar</b><br>Assistant Professor                      | Department<br>Faculty, Member                 | <i>A. Meenakshi Sundar</i> |
| 17. | <b>Mr. P. Ilavalagan</b><br>Assistant Professor                            | Department<br>Faculty, Member                 | <i>P. Ilavalagan</i>       |
| 18. | <b>Mr. N. Yasvantharajan</b><br>Assistant Professor                        | Department<br>Faculty, Member                 | <i>N. Yasvantharajan</i>   |
| 19. | <b>Mr. N. Gurusamy</b><br>Assistant Professor                              | Department<br>Faculty, Member                 | <i>N. Gurusamy</i>         |
| 20. | <b>Mr. S. Ponchandran</b><br>Assistant Professor                           | Department<br>Faculty, Member                 | <i>S. Ponchandran</i>      |
| 21. | <i>Dr. P. Sivasubramanian,<br/>Prof of chemical Engg,<br/>IIT, Madras.</i> | <i>Prof of Chem<br/>Engg<br/>IIT - Madras</i> | <i>P. Sivasubramanian</i>  |
| 22. | <i>S. P. RAJESH,<br/>Assistant professor.</i>                              | <i>FEC</i>                                    | <i>S.P. Rajesh</i>         |
| 23. | <i>P. Karthick<br/>Joh and IFT</i>   | <i>FEC</i>                                    | <i>P. Karthick</i>         |

|     |   |     |   |
|-----|---|-----|---|
| 24. | Dr. M. KARUPPAIA<br>Professor<br>Dept of Food Tech            | EEC |    |
| 25. | Mr. Raju, AP/FT   | EEC |    |
| 26. | Dr. M. P. MURUGESAN<br>Associate Professor<br>Food Technology | BEC |    |
| 27. | Mr. S. Tharani AP/FT  | EEC |    |
| 28. | S. Ranya, TA/FT   | EEC |    |
| 29. | M. Kanya, AP/FT   | EEC |   |
| 30. | A. Kousalya Lab Inst./FT                                      | EEC |  |
| 31. |   |     |   |
| 32. |   |     |   |
| 33. |   |     |   |





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## DEPARTMENT OF PETROCHEMICAL TECHNOLOGY

### FOURTH BOARD OF STUDIES

#### MINUTES OF MEETING

Meeting No : EEC/BOS/IV

Date : 15.12.2023

Time : 10.30 AM

Venue : New Seminar Hall 208

#### Agenda:

- B.Tech PCT.4.1** To discuss and pass the syllabus of Third year VI Semester to B.Tech Petrochemical Technology programme for the students admitted from the academic year 2021 – 22 onwards under Regulation 2020.
- B.Tech PCT.4.2** To discuss and pass the syllabi of Minor Degree programme in Petroleum Refinery Engineering for the students admitted from the academic year 2021 – 22 onwards under Regulation 2020.
- B.Tech PCT.4.3** To discuss and pass the syllabus of Third year Open Elective and Professional Elective to B.Tech Petrochemical Technology programme for the students admitted from the academic year 2021 – 22 onwards under Regulation 2020.
- B.Tech PCT.4.4** To discuss and pass the syllabus of First year II Semester to B.Tech Petrochemical Technology programme for the students admitted from the academic year 2023 – 24 onwards under Regulation 2023.
- B.Tech PCT.4.5** Any other matters.

## Resolutions

**B.Tech PCT.4.1** Resolved that the following recommendations may be passed to the standing committee of the Academic Council for the syllabi of core courses of VI semester B Tech Petrochemical Technology programme under Regulation 2020 with the following changes

### Semester - VI

| RECOMMENDATION  | RESOLUTION  |
|---|---|
| <b>B.Tech PCT.4.1.1</b> Dr.K.Muthukumar suggested to change the course outcomes in all subjects   | <b>B.Tech.PCT.R.4.1.1</b> As per the suggestion all the course outcomes will have measureable keywords.   |
| <b>B.Tech PCT.4.1.2</b> Dr.K.Muthukumar and Dr. Selvi Subramanian has suggested to reduce the number of course outcomes for laboratory course works   | <b>B.Tech.PCT.R.4.1.2</b> As per the suggestion all the laboratory courses will have two course outcomes. |
| <b>B.Tech PCT.4.1.3</b> Dr.K.Muthukumar has suggested to replace "packed and mechanically agitated contactors and Pulsed extractors " with "equipments for extraction " and "steady state moving bed and unsteady state fixed bed absorbers " to "Packed bed absorbers " in unit V of "20PC601 – MASS TRANSFER - II". | <b>B.Tech.PCT.R.4.1.3</b> As per the suggestion, the changes will be incorporated.                        |
| <b>B.Tech PCT.4.1.4</b> Dr.K.Muthukumar suggested to check the authors and update latest edition for the text books and reference books   | <b>B.Tech.PCT.R.4.1.4</b> As per the suggestion, the changes will be incorporated.                        |
| <b>B.Tech PCT.4.1.5</b> Dr.K.Muthukumar recommended to change the experiment name in 20PC604 Process control laboratory   | <b>B.Tech.PCT.R.4.1.5</b> As per suggestion, changes will be made   |
| <b>B.Tech PCT.4.1.6</b> Dr.K.Muthukumar recommended to Add two new experiment in 20PC605 – Chemical Reaction Laboratory   | <b>B.Tech.PCT.R.4.1.6</b> As per the suggestion, the changes will be incorporated.                        |

**B.Tech PCT.4.2 Resolved** that the following recommendations may be passed to the standing committee of the Academic Council for the syllabi of Minor Degree programme in Petroleum Refinery Engineering for the students admitted from the academic year 2021 – 22 onwards under Regulation 2020.

| RECOMMENDATION   | RESOLUTION  |
|--|---|
| <p><b>B.Tech PCT .4.2.1</b> Dr.K.Muthukumar has suggested to change the name of subject from 20PCM03 -Basics of Petrochemical to <b>Basics of Petrochemicals</b></p> | <p><b>B.Tech PCT.R.4.2.1</b> . As per the suggestion, the changes will be incorporated.</p> |

**B.Tech PCT.4.3** Resolved that the following recommendations may be passed to the standing committee of the Academic Council for the syllabus of Third year Open Elective and Professional Elective to B.Tech Petrochemical Technology programme for the students admitted from the academic year 2021 – 22 onwards under Regulation 2020.

| RECOMMENDATION  | RESOLUTION  |
|---|---|
| <p><b>B.Tech PCT.4.3.1</b> Dr.K.Muthukumar has suggested to add the book "Energy Technology (Non Conventional, Renewable and Conventional)" by S. Rao, B.B. Parulekar as text book for 20PCO03 GREEN ENERGY</p> | <p><b>B.Tech PCT.4.3.1</b> As per recommendation the book will be added to text book</p>    |
| <p><b>B.Tech PCT.4.3.2</b> Dr.K.Muthukumar has suggested remove the electrical systems from Unit IV of 20PCO03 GREEN ENERGY</p>   | <p><b>B.Tech PCT.4.3.2</b> As per suggestion, the content will be removed in unit IV.</p>   |
| <p><b>B.Tech PCT.4.3.3</b> Dr.K.Muthukumar has suggested to replace text book with the following book "Air Pollution Control Engineering", Noel de Nevers, Waveland press, Inc 2017</p>                         | <p><b>B.Tech PCT.4.3.3</b> As per suggestions, the mentioned text book will be replaced</p> |

|  |  |
|--|--|
| <p>B.Tech PCT.4.3.4 Dr.K Muthukumar has suggested to check for any Indian author books for recommending in subjects</p>  | <p>B.Tech PCT.4.3.4 As per suggestion, the books shall be added</p>              |
| <p>B.Tech PCT.4.3.5 Dr.K Muthukumar has suggested to change the names of vertical II and III as " Chemical Technology" and " Chemical Process Engineering" from "Chemical &amp; Petrochemical Technology " and "Advanced Separation Techniques" respectively</p> | <p>B.Tech PCT.4.3.5 Name will be changed as per suggestion</p>                   |
| <p>B.Tech PCT.4.3.6 Dr.K.Muthukumar has suggested to move the subject.20PCE016 - Oil And Natural Gas Engineering From Vertical III to Vertical I</p>   | <p>B.Tech PCT.4.3.6 As per the suggestion, the changes will be incorporated.</p> |
| <p>B.Tech PCT.4.3.7 Dr.K.Muthukumar has suggested to add new subject " Process plant utility" to Vertical II</p>   | <p>B.Tech PCT.4.3.7 As per suggestion the new subject will be added</p>          |
| <p>B.Tech PCT.4.3.8 Dr.K.Muthukumar has suggested add two new subjects "Biochemical Engineering" and "Chemical Process Design" to vertical III</p>   | <p>B.Tech PCT.4.3.8 As per suggestion the new subjects will be added</p>         |

**Note:** The BOS Members (University Nominee, Academic Expert and Industry Expert strongly recommended to increase the number of weeks from two to four weeks for 20PC606-Internship.

*Selva Subramanian*  
15/12/23  
University Nominee

*Shankar*  
15/12/23  
Academic Expert

*[Signature]*  
15/12/23  
Industry Expert

*[Signature]*  
15/12/23  
Chairman - Board of Studies

*[Signature]*  
15/12/23  
Principal

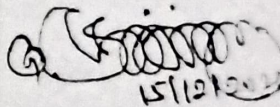
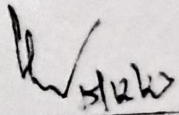
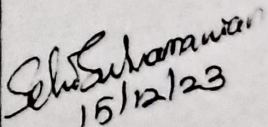
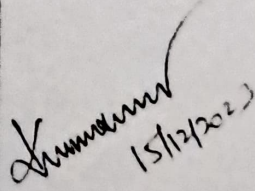
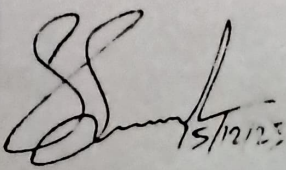


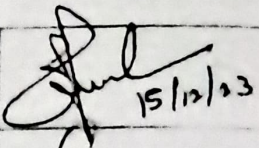
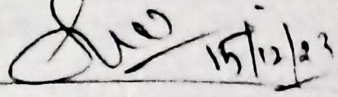
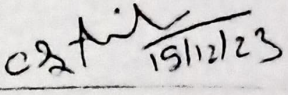

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Department of Petrochemical Technology  
Fourth Board of Studies Meeting

Members Present – 15.12.2023

| Sl.No. | Name and Affiliation   | Designation           | Signature  |
|--------|--|-----------------------|--|
| 1      | Dr.G.Srinivasan,<br>Professor & Head,<br>Department of Petrochemical<br>Technology,<br>Excel Engineering College   | Chairman              | <br>15/12/2023  |
| 2      | Dr.K.Bommanna Raja,<br>Principal,<br>Excel Engineering College.  | Principal             | <br>15/12/23   |
| 3      | Dr Selvi Subramanian<br>Professor,<br>Department of Biotechnology,<br>PSG College of Technology<br>Coimbatore, Tamil Nadu<br>Email:selvi.bio@psgtech.ac.in<br>Phone No.9894045449          | University<br>Nominee | <br>15/12/23   |
| 4      | Dr K Muthukumar<br>Professor<br>Department of Chemical<br>Engineering<br>National Institute of Technology,<br>Tiruchirappalli, Tamil Nadu<br>Email kmkumar@nitt.edu<br>Phone No 9444951977 | Academic Expert       | <br>15/12/2023 |
| 5      | Mr Saravanan S<br>Director<br>Eco Tex Pvt Ltd,<br>Erode, Tiruppur, Tamilnadu, India<br>Email spenviroteech@gmail.com<br>Phone No 7904463250  | Industry Expert       | <br>15/12/23   |

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| 6 | Mr. C. Harshaavardhan<br>Assistant Professor   | Member | <br>15/12/23 |
| 7 | Mr. C P. Suresh Kumar<br>Assistant Professor   | Member | <br>15/12/23 |
| 8 | Mr. C. S. Arvinth Kumar<br>Assistant Professor | Member | <br>15/12/23 |
| 9 | Mr. P. Santhosh<br>Assistant Professor         | Member | <br>15/12/23 |

  
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