

**PITHAPUR RAJAH'S GOVERNMENT COLLEGE
(AUTONOMOUS)**

KAKINADA - 533 001, EAST GODAVARI, A.P.

Affiliated to Adikavi Nannaya University

NAAC Accredited with "A" Grade (3.17 CGPA)

BOARD OF STUDIES OF CHEMISTRY

B.Sc. Petrochemicals Under CBCS

Meeting Minutes/Resolutions



22-23

Convened on 03 November 2022

DEPARTMENT OF PETROCHEMICALS

P. R. GOVT. COLLEGE (Autonomous)

**Opp. Mc Laurin High School, Raja Ram Mohan Roy Road,
Kakinada**

www.prgc.ac.in; e-mail: chemistry_dept@prgc.ac.in

**PROCEEDINGS OF THE PRINCIPAL,
P.R. GOVERNMENT COLLEGE(A), KAKINADA-A.P**
Present: Dr. B. V. Tirupanyam, M.Sc; Ph.D.
R.C.No.12A/A.C/BOS/2022-23, Dated: 24.09.2022

**SUB: P.R. Government College(A), Kakinada-UG Board of Studies (BOS).
Program/Course-B.Sc./Petrochemicals, Nomination of Members-
Orders issued.**

REF: 1. UGC Guidelines of for Autonomous Colleges-2018.
ORDERS:

The Principal, P.R. Government College(A), Kakinada is pleased to constitute UG Boards of Studies in Petrochemicals for framing the syllabi in Petrochemicals Subject for all Semesters duly following the norms of the UGC Autonomous guidelines.

S.No	Name of the Nominee	Designation
1	Dr. D. Chenna Rao	Chairman & Lecturer Incharge.
2	Dr. M. Trinadh	University Nominee Lecturer in Chemistry Govt. Degree College (Autonomous), Rajahmundry. Ph: 8639551783
3	Dr. V. Narayana Rao	Subject Expert Lecturer in Chemistry Govt. Degree College, Perumallapuram.
4	Dr. B. Ramesh Babu	Representative from Industry Founder & M.D., BogaR laboratories, Peddapuram. Ph: 9701712028.
5	V. Sanjeeva Kumar	Member
6	T.V.V. Satya Narayana	Member
7	P. Vijay Kumar	Member
8	V. Rambabu	Member
9	G. Pavani	Member
10	Dr. N. Bujji Babu	Member
11	Dr. Ch. Praveen	Member
12	V. Venkateswara Rao	Member
13	G. Sai Subrahmanyam	Member
14	Ch. Siva Rama Guru Charan	Student Alumni Member
15	K. Krupalavanya II MCPC	Student Member
16	V. Vijay Babu II MCPC	Student Member

The above members are requested to attend the BoS meeting on _____ 2022 and share their valuable reviews, and suggestions on the following functionaries.

- Prepare syllabi for the subject keeping in view the objectives of the college, interest of the stake holders and National requirement for consideration and approval of the IQAC and Academic Council.
- Suggested methodologies for innovative teaching and evaluation techniques.
- Suggest the panel of Names to the academic council for appointment of Examiners.
- Coordinate research, teaching, extension and other activities in the Department of the college.


PRINCIPAL

P. R. Government College(A),
Kakinada

VISION AND MISSION OF THE COLLEGE


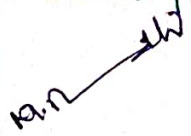
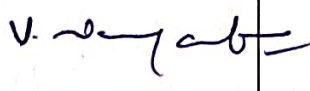

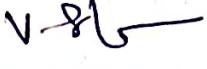
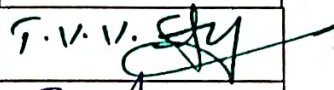
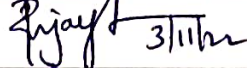
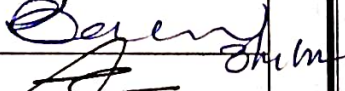
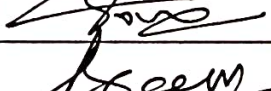
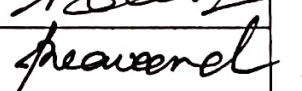
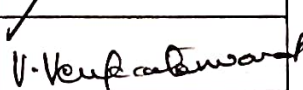
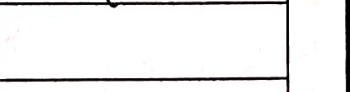
Vision

To provide the right academic environment paving way for intellectual excellence, humane feelings and social commitment. The college believes in providing quality education for the socially disadvantaged, economically weaker sections of the society and thereby help them move up the ladder of success and social order.

Mission

- ➔ To impart holistic education with special emphasis on character, culture, updated knowledge and skill-oriented learning.
- ➔ To make the students enjoy the fruits of globalization without prejudice to their local and cultural environment.
- ➔ To impart necessary life skills so as to make them face any challenge in the bigger world
– Social, ethical, psychological or professional.

Signatures of the members who attended the
Board of studies in Petrochemicals 03- 11 -2022 at 10.00 AM

S. No.	Name of the member	Designation	Signature
1	Dr. D. Chenna Rao	Chairman, Board of Studies, Lecturer in charge	
2	Dr. M. Trinadh	University Nominee Lecturer in Chemistry, Govt.College(A), Rajamahendravaram	
3	Dr. V. Narayana Rao	Subject Expert Lecturer in Chemistry, GDC, Perumallapuram	
4	Dr. B. Ramesh Babu	Representative from Industry Founder & M.D., BogaR laboratories, Peddapuram. Ph: 9701712028.	
5	Sri. V.Sanjeeva Kumar	Member Lecturer in Chemistry	
6	Sri. T.V.V. Satyanarayana	Member Lecturer in Chemistry	
7	Sri. P. Vijaya Kumar	Member Lecturer in Chemistry	
8	Sri. V. Rambabu	Member Lecturer in Chemistry	
9	Sri.G.Pavani	Member Lecturer in Chemistry	
10	Dr. N. Buji Babu	Member Lecturer in Chemistry	
11	Dr. Ch. Praveen	Member Lecturer in Chemistry	
12	V. Venkateswara Rao	Member Lecturer in Chemistry	
13	G.Sai subrahmanyam	Member Lecturer in Chemistry	
14	Ch. Siva Rama Guru Charan	Student Almuni	
14	K. Krupa Lavanya II MCPC	Student Member	
15	V. Vijaya Babu II MCPC	Student Member	

P.R. GOVT.COLLEGE (A), KAKINADA
DEPARTMENT OF PETRO CHEMICALS
Minutes of board of studies (BOS) meeting
2022-23 on _____2022

Meeting of Board of Studies in Petro Chemicals is convened on _____ through offline at
P.R. Govt. College (A), Kakinada.

Venue:

Conference Hall, Dt: _____.

The Principal Dr. B.V. Tirupanyam,

Chairman: Dr. D. Chenna Rao

Chairman and lecturer in charge,

Department of Chemistry

University Nominee: Dr. M. Trinadh,

Lecturer in Chemistry,

Govt. College (Autonomous), Rajamahendravaram,

Industrialist: Dr. B. Ramesh Babu,

Founder & M.D., BogaR laboratories, Peddapuram,

Subject Expert Dr.V.NarayanaRao,

Lecturer in Chemistry,

Government Degree College Perumallapuram,

All the faculty members of Chemistry Department and student alumni attended the meeting.

Agenda:

- To discuss the Semester System and Choice Based Credit System (CBCS) being implemented for the past 06 years, i.e., w.e.f. 2015-16.
- To discuss and approve the Continuation/Modifications of the syllabus for the Odd & Even Semesters of I, III & V Years for 2022-23.
- Grant of Extra credits for Online SWAYAM MOOCs etc.
- Syllabus, Model Question Papers and Model Blue Prints for I, II, III, IV, V and VI Semesters.
- Teaching learning methodology by 60:40 (External: Internal) ratio for the present II- and III-Year Students and 50:50 (External: Internal) ratio I Year Students w.e.f. 2022-23.
- Panel of paper setters and examiners.
- Proposals for Community Service Projects/Extension activities for the benefit of the society.
- Department action plan for 2022-23.

To discuss and resolve the minor modifications/refinement if any, in the Chemistry cluster electives CI, CII & CIII as majority of the students opting this cluster as their choice. Any Other Proposal with the Permission of the Chairman.

Resolutions:

The following agenda items are discussed and resolutions are made.

- It is resolved to continue choice based credit system in the chemistry combination programmes as per the directions of the CCE, Vijayawada to the first year and second year and final year student's w.e.f. 2018-19.
- It is resolved to approve the Continuation/Modifications of the syllabus for the Odd & Even Semesters of I, II & III Years for 2021-22.
- It is resolved to encourage students to active participation in various activities and give extra credits for students after successful completion of a particular activity such as SWAYAM, MOOCS etc., (Annexure -II)
- It is Resolved to follow 60%-40% external and internal w.e.f. 2017-2018 admitted batches and it continued in present second and third year students.
- It is resolved to follow 50%-50% external and internal for first year w.e.f 2021-22 admitted batch.
- It is resolved that every student should maintain 75% attendance for both theory and practicals inorder to attend the Mid and Semester examination.
- It is resolved to conduct departmental activities such as OZONE DAY, CHEM FEST, CHEMISTRY DAY and SCIENCE DAY. (Annexure-I)

- It is resolved to implement the recommended andragogy for the first semester 2022-23
- 9. Resolved to conduct practical examinations semester wise.
- It is resolved to organize guest lectures by eminent professors.
- Resolved to implement pass minimum for internal assessment for CBSE pattern students as the pattern is learner oriented.
- It is resolved to maintain status quo for same question paper pattern in II, III years. The following paper setters are recommended
 1. Sri. U. Sai Krishna, Govt. College(A), Rajamahendravaram.
 2. Dr. M. Trinadh, Govt. College(A), Rajamahendravaram
 3. Dr. V. Narayana Rao, GDC, Perumallpuram.
 4. Sri. M. Sudhakar, Govt. College(A), Rajamahendravaram.
 5. Sri. K. Anand, GDC, Pithapuram.
 6. Dr. CH. Vijay Vardhan, GDC, Perumallpuram.
 7. Sri B. Surendra, GDC, Tadepaliigudem.

Semester wise/ Paper wise Marks / Credits allotted.

YEAR	SEMESTER	PAPER	TITLE	MARKS	CREDITS
I	I	I	Fundamentals of Petroleum Production	100 (50:50)	04
			Practical - I	50	02
	II	II	Modern Petroleum Refining Processes	100 (50:50)	04
			Practical - II	50	02
II	III	III	Introduction to Chemical Engineering	100 (50:50)	04
			Practical - III	50	02
	IV	IV	Heat Transfer and Polymers	100 (50:50)	04
			Practical - IV	50	02
III	V	V	Mass Transfer operations	100 (50:50)	04
			Practical - V	50	02
	V	VI	Petrochemicals-I	100 60:40	04
			Practical - VI	50	02
		VII	Petrochemicals II	100 60:40	04
			Practical - VII	50	02



**Pithapur Rajah's Government
College (Autonomous) Kakinada**

**Program & Semester
I B.Sc. Mathematics,
Chemistry,
Petrochemicals &
Semester-I**

Course Code	Fundamentals of Petroleum Production				
Teaching	Hours Allocated: 60 (Theory)	L	T	P	C
Pre-requisites:	Petroleum reservoirs, drillings, LPG, SNG	60	10	30	4+2

Course Objectives:

To gain basic knowledge on Petroleum and petroleum products.

Course Outcomes:

On Completion of the course, the students will be able to-

CO1	Gains knowledge Petroleum reservoirs, their characteristics and mechanisms
CO2	Understands the types of drillings
CO3	Gains knowledge on reservoir evaluation
CO4	Gains knowledge on Production of SNG and LPG
CO5	Gains knowledge on composition, properties and uses of natural gas and LPG

Course with focus on employability / entrepreneurship / Skill Development modules

Skill Development		Employability		Entrepreneurship	
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Syllabus:

UNIT - I:

Petroleum Reservoirs:

Types of Reservoir Rock and Rock Characteristics, Reservoir formations, Physical Properties of Reservoir fluids, Reservoir Drive mechanisms - Gas cap expansion Drive, Solution Gas expansion Drive, Water Drive Mechanism, Secondary recovery Techniques.

UNIT - II:

Locating, and Reaching Reservoirs:

Exploration, Snell's law of refraction and reflection - general scheme of Seismic surveys - Drilling-types of drilling - components of rotary oil well drill-offshore drilling technology- Drilling fluids and their properties- Lost Circulation zones.

UNIT - III:

Reservoir Evaluation:

Cutting analysis - Mud analysis - Core Analysis - Well logging - self Potential log - Resistivity log - Gamma ray log - Neutron logs - Density logs - Drill stem testing and swab testing.

UNIT-IV:

Natural Gas:

Physical and thermodynamic properties of Natural gas - Low temperature processing of Natural gas for separation of ethane and heavy hydrocarbons
- dehydration and sweetening of Natural Gas, Liquefaction of Natural gas and its Production of Substitute Natural Gas (SNG) from Naphtha.

UNIT-V:

Liquefied Petroleum Gas:

Sources of LPG - Composition of LPG - Chemical and physical properties of LPG - Production of LPG - Handling and safe use of LPG.

SEMESTER -I

PRACTICAL I (AT THE END OF FIRST SEMESTER)

1. Determination of Flash point and Fire point by Penskey - Marten apparatus.
2. Abel's Flash and Fire Point determination.
3. Cleveland Flash point determination.
4. Smoke point determination.

SCHEME OF EVALUATION

Max. Marks: 50

- | | |
|--|-----------------|
| 1. Procedure to be written in the first 15 minutes | 15 Marks |
| 2. Recording of data and reporting the value. | |
| Up to 2% error | 25 Marks |
| Error up to 5% | 15 Marks |
| Error greater than 5% | 10 Marks |
| 3. Viva - Voice | 5 Marks |
| 4. Record | 5 Marks |

Reference books

1. Introduction to Petroleum Production Volume - 1 by D.R. Skinner Gulf Publishing Company - Houston.
2. Petroleum Production in Non - Technical language by Forest Gray, Penwell Publishing Company - Tulsa Oklahoma.
3. Introduction to Petrochemicals by Sukumar Maiti Oxford I.B.H.
4. A text on petrochemicals by Dr. B.K. Bhaskara Rao, Khanna Publishers, Delhi.

WebLinks:1. <https://youtu.be/PdStB9z37eA>2. <https://youtu.be/OQF-GZnO6Dk>3. [https://www.youtube.com/watch?v=nrx413rX-](https://www.youtube.com/watch?v=nrx413rX-3g&list=PLwdnzlV3ogoXXQcErZna6qDw5P-qPMvWQ)[3g&list=PLwdnzlV3ogoXXQcErZna6qDw5P-qPMvWQ](https://www.youtube.com/watch?v=nrx413rX-3g&list=PLwdnzlV3ogoXXQcErZna6qDw5P-qPMvWQ)**Activities & Benchmarks Proposed (Table)**

1. Assignments
2. Seminars
3. Group Discussion
4. Quiz

CO-PO Mapping

(1:Slight [Low]; 2:Moderate[Medium]; 3:Substantial[High], '-' :No Correlation)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
CO 1	3	2	3	1	3	2	3	2	2	2	3	3	2
CO 2	3	3	2	3	2	2	1	2	2	2	3	3	2
CO 3	3	3	3	3	3	2	2	2	2	2	3	3	2
CO 4	3	3	3	3	3	2	2	2	2	2	3	2	3
Avg	3	2.8	2.8	2.5	2.8	2	2	2	2	2	3	2.8	2.3

Weightage to content**Semester -I****Paper-I**

S.No	Course Content	Long Answer	Short Answer	Total marks	As per Blooms Taxonomy
1	Petroleum reservoirs	2	1	25	Understanding, Application
2	Locating and reaching of reservoir	1	2	20	Remembering, Understanding
3	Reservoir evaluation	1	1	15	Application & Creation
4	Natural gas	1	1	15	Remembering, Understanding
5	Liquified petroelum gas	1	2	20	Application & Creation
	TOTAL	6	7	95	