

**AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS) VUYYURU- 521165**

Re-Accredited by NAAC with 'A' Grade

2022-2023



PG Department of Chemistry

Minutes of the meeting of Board of Studies

03-04-2023

Members Present:-

S.No	NAME	
1	Dr. V.Sreeram Head, Dept. of Chemistry(P.G) AG & SG S College, Vuyyuru.	Chairman
2	Prof.C.Suresh Reddy Department of Chemistry S.V. University, Tirupati.	University Nominee
3	Prof. Koya Prabakar Rao Department of Chemistry Vignana University, Guntur.	Subject Expert
4	Dr.M.Sivanath Associate prof. Dept. of Chemistry A.N.R.College, Gudivada.	Subject Expert
5	Dr.G.Raja Manager(Q.A) Biophore India pharmaceuticals. Hyderabad.	Representative from Industry
6	Abdul Raheem	One Post Graduate Meritorious Aluminous nominated by the Principal
7	N.V.Srinivasa Rao Department of Mathematics AG & SG S College, Vuyyuru.	Representative Science Faculty Other Dept.
8	V.N.V.Kishore Dept. of Chemistry(P.G) AG & SG S College, Vuyyuru	Member
9	Dilshad Begum Dept. of Chemistry(P.G) AG & SG S College, Vuyyuru	Member
10	M.Rekha Dept. of Chemistry(P.G) AG & SG S College, Vuyyuru	Member

1. Agenda:

Agenda for Board of studies in Chemistry on 03-04-2021 through online mode at 04.00P.M.

1. Approval of program structure - II Semester for the batch of students admitted in the year 2021-2023 onwards.
2. Approval of syllabus for II semester for the batch of students admitted in the year 2021-2023 as per revised guidelines / curriculum of KJ Somaiya University and with the revision of syllabus of IV semester for the batch of students admitted in the year 2021-2023 batch.
3. Approval of the syllabus of semester - II & IV with course out coming drafted along with levels of Bloom's taxonomy.
4. Approval of modified model question papers for II semester & unmodified model question papers for IV semester along with Bloom's taxonomy.
5. Any other with the permission of the chair.

Sreeram is presenting



Sivan...



Prof. ...



rekha



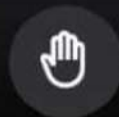
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**A.G. & S.G. Siddhartha Degree College of Arts & Science, Vuyyuru – 521165.
(An Autonomous College in the jurisdiction of Krishna University)**

DEPARTMENT OF CHEMISTRY (P.G)

Board of Studies for the academic Year 2022-23 (Even (2& 4th) Semesters)

1. Agenda:

Agendafor Board of studies in **Chemistry** on 03-04-2023 through online mode at 04:00P.M.

1. Approval of programme structure II Semester for the batch of students admitted in the year 2022-2023 onwards
2. Approval of syllabus for II semester for the batch of students admitted in the year 2022 – 2023 as per revised guidelines / curriculum of Krishna University and with no revision of syllabus of IV semester for the batch of students admitted in the year 2021-2023 batch.
3. Approval of the syllabus of semester – II & IV with course out comes drafted inline with levels of blooms taxonomy.
4. Approval of modified model question papers for II semester & unmodified model question papers for IV semester inline with Bloom's taxonomy.
5. Any other with the permission of the chair.

**A.G.& S.G.SIDDHARTHADEGREE COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF CHEMISTRY**

PROPOSED COURSE STRUCTURE FOR PG PROGRAMS (SCIENCE STREAM)

UNDER CHOICE BASED CREDIT SYSTEM (CBCS)

W.E.F 2022-23 (R22 Regulations)

I SEMESTER

Course Code	Course Name	Teaching Hours/week			CORE / IDC/DS E/ SEC/OEC/ MOOCS	Internal Marks	External Marks	No. of Credits
		Lecture	Practical	Tutorial				
22CH1T1	General Chemistry	4	0	0	Core	30	70	4
22CH1T2	Inorganic Chemistry	4	0	0	Core	30	70	4
22CH1T3	Introductory Organic Chemistry	4	0	0	Core	30	70	4
22CH1T4	Physical Chemistry	4	0	0	Core	30	70	4
COMPU LSORY 22PG10 1	Personality Development through Life Enlightenment Skills	3	1	0	Core	30	70	3
22CH1L1	Inorganic chemistry Practical	0	6	0	Core	30	70	3
22CH1L2	Organic chemistry Practical -I	0	6	0	Core	30	70	3
TOTAL FOR FIRST SEMESTER						210	490	25

II SEMESTER

Course Code	Course Name	Teaching Hours/week			CORE / IDC/DS E/ SEC/OEC/ MOOCS	Internal Marks	External Marks	No. of Credits
		Lecture	Practical	Tutorial				
22CH2T1	Advanced Inorganic Chemistry	4	0	0	Core	30	70	4
22CH2T2	Advanced	4	0	0	Core	30	70	4

2	Organic Chemistry							
22CH2T3	Advanced Physical Chemistry	4	0	0	Core	30	70	4
COMPULSORY 22PG201	Research Methodology & IPR	3	1	0	SEC	30	70	3

DOMAIN SPECIFIC ELECTIVE COURSES (CHOOSE ANY ONE)

22CH2E1	Molecular Spectroscopy	4	0	0	DSE	30	70	4
22CH2E2	Instrumental methods of Analysis	4	0	0	DSE	30	70	4
22CH2E3	Analysis of foods & Drugs	4	0	0	DSE	30	70	4

LAB PRACTICALS

22CH2L1	Physical chemistry Practical	0	6	0	Core	30	70	3
22CH2L2	Organic chemistry Practical-II	0	6	0	Core	30	70	3

TOTAL FOR SECOND SEMESTER

210 490 25

At the end of 2nd semester, every student must undergo summer Internship/ Apprenticeship/Project work/Industrial training/Research based Project work for Six weeks and must prepare a report concerned as per approved project guidelines, and submit the same to the University 14 days before the commencement of third semester end examinations.

III SEMESTER

Course Code	Course Name	Teaching Hours/ week			CORE / IDC/DSE / SEC/OE C/MOOCs	Internal Marks	External Marks	No. of Credits
		Lecture	Practical	Tutorial				
22CH3T1	Organic Spectroscopy	4	0	0	Core	30	70	4
DOMAIN SPECIFIC ELECTIVE COURSES (CHOOSE ANY THREE)								
22CH3E1	Organic Reaction mechanism	4	0	0	DSE	30	70	4
22CH3E2	Organic Synthesis	4	0	0	DSE	30	70	4
22CH3E3	Natural Products	4	0	0	DSE	30	70	4
22CH3E4	Separation Techniques & Electro analytical	4	0	0	DSE	30	70	4

	techniques							
22CH3E5	Marine Chemistry or Chemistry of Drugs	4	0	0	DSE	30	70	4
22CH3E6	Antibiotics, Drugs, Vitamins & Steroid hormones	4	0	0	DSE	30	70	4
LAB PRACTICALS								
22CH3L1	Organic Preparations	0	6	0	Core	30	70	3
22CH3L2	Organic Binary mixture Analysis.	0	6	0	Core	30	70	3
OPEN ELECTIVE (INTERDISCIPLINARY/MULTIDISCIPLINARY) COURSES (CHOOSE ANY ONE)								
22OE301	Polymer Chemistry	3	0	0	OEC	30	70	3
22OE302	Basic Bio Chemistry	3	0	0	OEC	30	70	3
22OE303	Basic Analytical Chemistry	3	0	0	OEC	30	70	3
		3	0	0	OEC	30	70	3
		3	0	0	OEC	30	70	3
TOTAL FOR III SEMESTER						210	490	25

IV SEMESTER

Course Code	Course Name	Teaching Hours/ week			CORE / IDC/DSE/ SEC/OEC/MOOC S	Internal Marks	External Marks	No. of Credits
		Lecture	Practical	Tutorial				
22CH4T1	Advanced Organic Spectroscopy	4	0	0	Core	30	70	4
DOMAIN SPECIFIC ELECTIVE COURSES (CHOOSE ANY THREE)								
22CH4E1	Green Chemistry	4	0	0	DSE	30	70	4
22CH4E2	Techniques for Modern Industrial applications	4	0	0	DSE	30	70	4
22CH4E3	Nano Chemistry	4	0	0	DSE	30	70	4
22CH4E5	Bio-organic chemistry	4	0	0	DSE	30	70	4
22CH4E6	Bio-Inorganic Chemistry	4	0	0	DSE	30	70	4
22CH4E7	Environmental chemistry	4	0	0	DSE	30	70	4
LAB PRACTICALS								
22CH4L1	Organic Estimations	0	6	0	Core	30	70	3
ENTREPRENURAL & INNOVATION/IT SKILL RELATED TO DOMAIN SPECIFIC ELECTIVE								

COURSES (CHOOSE ANY ONE)									
22CH4E8	Asymmetric Synthesis	3	0	0	SEC	30	70	3	
22CH4E4	Organo metallic Chemistry	3	0	0	SEC	30	70	3	
22CH4E9	Heterocyclic chemistry	3	0	0	SEC	30	70	3	
CHOOSE MOOCs FROM SWAYAM/NPTEL SOURCES									
MOOCS	22CH4M1								4
PROJECT WORK EVALUATION AND VIVA-VOCE - 22CH4P1							100	4	
TOTAL FOR IV SEMESTER							180	520	30

Note: Students may be allowed to register and appear for MOOCS from the third semester itself. However, students are to complete the MOOCS successfully and submit pass certificate of the same to the University through the Principal of the College concerned for approval and endorsement of the same on grade cards and PCs and ODs as per the regulations of the University.

Resolutions/ Recommendations

Resolution –I

1. It is resolved and recommended to implement the course structure as per R 22 regulations of Krishna University.

Resolution –II

- a) It is resolved and recommended to continue with the same syllabus for the course code 22CH2T1. However here after the course title will be referred as Advanced Inorganic chemistry instead of Inorganic chemistry – II.
- b) It is resolved and recommended to continue with the same syllabus for the course code 22CH2T2. However here after the course title will be referred as Advanced organic chemistry instead of Organic chemistry –II.
- c) It is resolved and recommended to continue with the same syllabus for the course code 22CH3T3. However here after the course title will be referred as Advanced Physical chemistry instead of Physical chemistry – II.
- d) It resolved and recommended to Introduce new paper Reasearch methdology & IPR with Course code 22PG201 for the batch students admitted in 2022-2023 and onwards
- e) It is resolved and recommended to implement the modified & unmodified semester syllabus and modified model question papers for all the papers of Second semester.

Resolution –III

3. Resolved and recommended to introduce the course outcomes in line with the guidelines of OBE

Following Bloom's Taxonomy for all the courses (both theory and practical) in semester –I I of M.Sc (org.Chemistry) for the students admitted in the academic year 2022-23 and onwards.

4. Resolved to implement the existing syllabus for both theory and practicals with no revision for Semester-IV students admitted batch 2021-23. The courses of semesters II& IV are listed below.

Semester – II:

Paper	Title of the Paper	Code
Paper-I	Advanced Inorganic Chemistry	22CH2T1
Paper-II	Advanced organic Chemistry	22CH2T2
Paper-III	Advanced Physical Chemistry	22CH2T3
Paper-IV	Molecular Spectroscopy	22CH2E1
Paper-V	Research Methodology & IPR	22PG201
Practical-I	Physical Chemistry Practical	22CH2L1
Practical-II	Organic Chemistry Practical-II	22CH2L2

Semester – IV:

Paper	Title of the Paper	Code
Paper-I	MooCs(Analytical Chemistry)	22CH4T1
Paper-II	Hetero Cyclic Chemistry	22CH4T2A
Paper-III	Green Chemistry	22CH4T2B
Paper-IV	Techniques For Modern Industrial Applications	22CH4T3A
Paper-V	Nano Chemistry	22CH4T3B
Paper-VI	Organo Metallic Reagents	22CH4T4
Practical-I	Organic Estimations	22CH4L1
Practical-II	Project Work	22CH4L2



Chairman

AG.& S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
DEPARTMENT OF CHEMISTRY
M.Sc – CHEMISTRY (ORGANIC CHEMISTRY)
II SEMESTER

**Paper Code & Title: 22PG201: RESEARCH METHODOLOGY & INTELLECTUAL
PROPERTY RIGHTS (IPR)**

No. of hours per week: 04
credits: 03

Total

Total marks: 100

(Internal: 30 M & External:

70M)

Course: Research Methodology & Intellectual Property Rights (IPR) (code 22PG201)		
S.No	COURSE OUTCOMES	PO'S
	The student will be able to	
1	Memorize the basic concepts of research and its methodologies.	2,7
2	Understand some basic and advanced concepts of research and its methodologies.	1,4,7
3	Demonstrate the ability to choose methods appropriate to research aims and objectives.	1,3,6
4	Analyze the role of research methodologies in designing the new Strategies.	1,4,5

UNIT I

Foundations of Research

Meaning of Research–Definitions of Research–Motivation in Research–General Characteristics of Research–Criteria of Good Research–Types of Research– Research Process–Research Methods vs. Methodology–Defining and Formulating the Research Problem – Review of Literature–Approaches to Critical Literature Review – Importance of Literature Review in Identifying Research Gaps and Defining a Problem – Development of Working Hypothesis.

UNIT II

Research Design, Sampling Concepts, and Data Collection Methods

Meaning, Significance and Characteristics of Good Research Design– Types of Research Design: Exploratory, Conclusive Research and Experimental – Sampling Theory: Types of Sampling and Errors in Sampling – Data Collection: Types of Data – Data Collection Methods and Techniques for Primary and Secondary Data.

UNIT III

Measurement & Scaling Techniques, Hypothesis Formulation and Testing, Overview of Data Analysis and Report Writing

Basic measurement scales – Reliability & Validity – Definition and Types of Hypothesis – Hypothesis Formulation and Testing Procedure – Overview of Data Analysis: Methods, Process and Types – Report Writing: Significance of Report Writing, Different Steps in Writing Report, Layout of the Research Report, Types of Reports, Oral Presentation, Mechanics of Writing a Research Report, Precautions for Writing Research Reports– How to Write a Research Proposal, **Research Ethics Conflict of Interest and Plagiarism.**

UNIT IV

Intellectual Property Rights (IPR)

Definition and Nature and Features of Intellectual Property Rights (IPR)–Types of Intellectual Property Rights – Procedure for Grants of Patents–Rights of a Patent –Scope of a Patent Rights Licensing and Transfer of Technology–Why protection of intellectual property is important? Enforcement of IPR–Infringement of IPR.

UNIT V

Indian and International Scenario and New Developments in IPR

IPR Developments in India for the past Five Years – Development of IPR Laws in India – International Cooperation on IPR– New Developments in IPR– Administration of Patent System–International Patent protection– Case Studies in Indian and Global Contexts.

REFERENCE BOOKS:

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2. Cohen, L. Lawrence, M., & Morrison, K. (2005), Research Methods in Education (5th edition). Oxford: Oxford University Press.
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4. Dornyei, Z. (2007). Research Methods in Applied Linguistics. Oxford: Oxford University Press.
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8. Wadehra, B.L. 2000, Law relating to patents, trade marks, copyright designs and geographical indications. Universal Law Publishing.
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11. Leedy, P.D. and Ormrod, J.E., 2004, Practical Research: Planning and Design, Prentice Hall.
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