

Dr. Ch. V. V. Srinivas
2021-22

Government of Andhra Pradesh Council of Higher Education									
Academic & Administrative Audit of Degree Colleges (2021-22)									
Form - IIIA (To be Filled by Faculty and headed over to Academic Advisor)									
Zone:		District:							
II		East Godavari District							
Name of the College and Address		S K R College for Women, Rajamahendravaram							
Name of the Lecturer		Dr. Ch. V. V. Srinivas							
Name of the Subject		Chemistry							
Date of Joining in Degree College/Date		05/12/2007							
S.No	Key Indicator	List of files/documents to be kept ready as a proof of Key Indicator	Information in support of the key indicator	Key Aspect Scores	Predominant Weightage (Wt) for Key Indicator	Key Indicator Grade Points (KIGP) (A =3; B=2; C=1; D=0)	Key Indicator With Weighted Grade Points (KIWWGP) = KIGP X Wt	KIWWGP as per Academic Advisor's grading	Guidelines
I-CURRICULAR ASPECTS									
1	Curricular Planning and Implementation (for Autonomous Colleges - Efforts for Curriculum Design and Development to be considered)	Preparation and Implementation of		Course wise/Sem wise Records for the Academic Year	2x5 = 10	30	B	60	1) All five key indicators = 3 Grade points/A 2) Any four key indicators = 2 Grade points/B 3) Any two key indicators = 1 Grade point/C 4) No Indicator = D
		1. Actual Academic Curriculum Plan		Course wise/Sem wise Records for the Academic Year	2x5 = 10				
		2. Course Objectives & Outcomes		Invitation Letter & Attendance	10				
		3. Teaching Diary		a) Course wise/Sem wise additional inputs Reports	10				
		4. Lesson Plans		b) Report on Certificate/Diploma	2x5 = 10				
2	Curriculum Flexibility/Enrichment	5. Active Participation in BOS		c) Any Online courses like MOOCs	10	20	B	40	1) All three key indicators = 3 Grade points/A 2) Any two key indicators = 2 Grade points/B 3) Any one key indicator = 1 Grade point/C 4) No Indicator = D
		1. Additional inputs related to Curriculum of the courses taught.		1. Course wise/Sem wise a) Reports of Feedback	10				
		2. Value added courses offered & completed		b) Analysis Reports	10				
3	Feedback system	a) Certified		c) Action taken Report	10	10	A	30	1) All three key indicators = 3 Grade points/A 2) Any two key indicators = 2 Grade points/B 3) Any one key indicator = 1 Grade point/C 4) No Indicator = D
		b) Analyzed							
II-TEACHING, LEARNING & EVALUATION									
4	Catering to Student Diversity	1. Report on grouping of students into Slow, Moderate and Advanced learners		1 Course wise/Sem wise Reports with list of students (Slow, Moderate and Advanced learners)	10	20	A	20	1) All three key indicators = 3 Grade points/A 2) Any two key indicators = 2 Grade points/B 3) Any one key indicator = 1 Grade point/C 4) No Indicator = D
		2. Course wise activities designed for Slow, Moderate and Advanced learners		1 Course wise/Sem wise Reports on Bridge Courses conducted	2x5 = 10				
		1. Report on Course wise Bridge Courses conducted		2 Course wise/Sem wise Report on Remedial teaching conducted	10		A	20	

S.No	Key Indicator	List of files/ documents to be kept ready as a proof of Key Indicator	Information in support of the key indicator	Key Aspect Score	Proforma wise Weightage (W) for Key Indicator	Key Indicator Grade Points (KIGP) (A =3; B=2; C=1; D=0)	Key Indicator Wise Weighted Grade Points (KIWGP) = KIGP X W	KIWGP as per Academic Advisor's grading	Guidelines
5	Teaching-Learning Process	1. Report on student centered methods implemented (Course wise) 2. Report on implementation of ICT in teaching and learning (Course wise) or Report on implementation of Computer/Internet assisted learning (Course wise) 3. Report on the Use of LMS tools (Course wise) 4. Contribution for the development of LMS in the concerned subject 5. Report on Innovative pedagogical Tools used	Course wise/ Sem wise Reports	50	50	B	100		1) All five key indicators =3 Grade points/A 2) Any three key indicators =2 Grade points/B 3) Any two key indicator =1 Grade point/C 4) Below two=0/D
6	Teacher Profile and Quality	1. Report on Seminars/Conferences/ Workshops/ Guest Lectures organized 2. Report on Participation in Seminars/Conferences/Workshops/ Guest Lectures/ Invited talks 3. Awards and recognition 4. Participation in Short term/ Orientation /Refresher courses/FDPs 5. E- Content Development /MOOCs (Massive Open Online Courses) 6. Additional Qualifications acquired during the last two years	Reports and Certificates	30	30	A	90		1) Any five key indicators =3 Grade points/A 2) Any three key indicators =2 Grade points/B 3) Any two key indicators =1 Grade point/C 4) Below two=0/D
7	Evaluation Process and Reforms	1. Report on Formative Evaluation (CE)	Department wise reports regarding	10	30	A	90		1) All four key indicators Metrics =3 Grade points/A 2) Metrics 1, 2, 4 = 2 Grade points/B 3) Metrics 1, 2,3 =1 Grade point/C 4) Below two=0/D
		2. Assignments-Critical, Innovative, test bank and Internet based.	1. Mid exams, Seminar Reports, Assignments, books, Projects and any other tools of Internal Assessment.	10					
		3. Involvement in Summative evaluation	2. Departmental Internal Marks Register for CIA	5					
		4. Maintaining Marks Register & Result Analysis register	verified by the Principal	5					
8	Student Performance and Learning Outcomes	1. Announcement and Attainment of Course Outcomes 2. Report on Student seminars/ Student demonstrations (Course wise) 3. Report on activities like Quiz/ Group discussions/ Poster presentation (Course wise) 4. Report on Field trips (Course wise) 5. Report on Student Study projects (Course wise)	Course wise Reports	5x6=10	30	A	90		1) All five key indicators =3 Grade points/A 2) First KI Metric and any three other =2 Grade points/B 3) First KI Metric and any two other =1 Grade point/C 4) Below two=0/D

S.No	Key Indicator	List of these documents to be kept ready as a proof of Key Indicator	Information in support of the key indicator	Key Aspect Scores	Predetermined Weights (WD for Key Indicator	Key Indicator Grade Points (KI GP) (A=1; B=2; C=1; D=0)	Key Indicator Weighted Grade Points (KIWWGP) = KI GP X WD	KIWWGP as per Academic Advisor's grading	Guidelines
III-RESEARCH, INNOVATIONS AND EXTENSION									
9	Funding obtained for Research (Govt./Non-Governmental Source)	1. Minor Research Projects 2. Major Research Projects 3. Consultancy Projects	Letter of intimation and award letters (For Current Year only Either Ongoing OR Completed)	5 10 5	20	D	0		1) All three key indicators =3 Grade points/A 2) Any two key indicators =2 Grade points/B 3) Any one key indicator =1 Grade point/C
10	Research Publications and Awards	1. Papers Published in Journals / Chapters published in edited volumes 2. Books published as single author 3. Books published as Co-Author 4. Papers/Chapters published as Co-Author. (Note: A maximum of 2 publications in Scopus/Web of Science/CI or UGC-CARE Listed journals/Any book with ISBN shall be considered) 5. Research Chairship 6. Awards in recognition of research work.		10 15 10 5 10 10	60	C	10		1) Any three key indicators =3 Grade points/A 2) Any two key indicators =2 Grade points/B 3) Any one key indicator =1 Grade point/C 4) No Indicator =0/D
11	Extension Activities	Academic Extension activities through SRC/ Faculty Outreach (Curriculum/ Skill Domain related)	Reports in the NAAC format	10	20	C	10		1) All three key indicators =3 Grade points/A 2) Any two key indicators =2 Grade points/B 3) Any one key indicator =1 Grade point/C 4) No Indicator =0/D
		Involvement in activities related to community service: a. Sensitizing the students about the value of Community Service b. Organising the activity (A maximum of 5 Programmes resulting in Community Service like ODC/Swasth Bharat/UBA etc)	Reports in the NAAC format	5+5					
12	Functional MoUs (Collaborations with Govt and Non Governmental Organisations)	1. Collaboration with University/ Industry/NKA/ Any other Agency 2. Consultancy offered 3. Amount generated through Consultancy.	MoUs - 5 points Consultancy offered -10 Amount generated through Consultancy - 5 points	20	20	C	20		1) All three key indicators =3 Grade points/A 2) Any two key indicators =2 Grade points/B 3) Any one key indicator =1 Grade point/C 4) No Indicator =0/D
IV - USE OF INFRASTRUCTURE & LEARNING RESOURCES									
13	Physical facilities	Infrastructural facilities in the Department/College a. Use of Digital Classrooms b. Use of Virtual Classroom c. Use of Labs d. Use of Library e. Nlist usage. f. Maintenance of Departmental Library	Log books related to usage	20	20	A	60		1) Any four key indicators =3 Grade points/A 2) Any three key indicators =2 Grade points/B 3) Any two key indicators =1 Grade point/C 4) Below two indicators =0/D

S.No	Key Indicator	List of files/documents to be kept ready as a proof of Key Indicator	Information in support of the key indicator	Key Aspect Score	Preferential Weightage (W) for Key Indicator	Key Indicator Grade Points (KIGP) (A=3; B=2; C=1; D=0)	Key Indicator Weighted Grade Points (KIWWGP) = KIGP X W	KIWWGP as per Academic Advisor's grading	Guidelines
V- ROLE IN STUDENT SUPPORT AND PROGRESSION									
14	Student Support	1. Counseling of students as Mentor/ Class teacher a. Student Profile Collection b. Semester wise updation and maintenance. 2. Any other Study Material /Guidance a)Academic guidance for the advanced learner (offering suggestions/reference books) b)Assisting the slow learners (offering study material/ question banks) 3. Guiding/Contacting Students for CNP/Internship 4. Organizing/Participating in Parent Teacher Meetings	Reports in the NAAC format	20 10 10 10					1)All Four key indicators =0 Grade points/A 2)Any three key indicators =2 Grade points/B 3)Any Two key indicators =1 Grade point/C 4)Below two =0/D
15	Student Progression	Report on Programme/Course wise students' progression in a)Higher Education b)Employment c)Entrepreneurship	Reports in the NAAC format	10 10 10	30				1)All three key indicators =3 Grade points/A 2)Any two key indicators =2 Grade points/B 3)Any one key indicator =1 Grade point/C 4)No Indicator=0/D
VI- ROLE IN INSTITUTIONAL GOVERNANCE									
16	Participation in Institutional Governance and Leadership	a)Contribution to Departmental Vision & Mission and Departmental Action Plan b)Participation in different institutional committees and preparation of committee reports c)Participation in different institutional activities that focus on value based education d)Contribution to KAC/quality initiatives	Reports in the NAAC format	4x10	40				1)All Four key indicators =3 Grade points/A 2)Any Three key indicators =2 Grade points/B 3)Any Two key indicators =1 Grade point/C 4)Below two =0/D
VII - BEST PRACTICES									
17	Best Practices	Identification and Contribution to a) Dept. Departmental Best practices b)Institutional Best practices	Reports in the NAAC format	20	30				1)All Two key indicators =1 Grade points/A 2)Any one key indicator =2 Grade points/B 3)No Indicator =0/D
Total Grade points					500			1050	

Name & Signature of the Principal

Name & Signatures of the Academic advisors

P. M. e.
PRINCIPAL
S.K.R. COLLEGE FOR WOMEN
HITHAKARINI SAMAJ
 Endowments Dept., Govt. of Andhra Pradesh
RAJAMAHENDRAVARAM



1)
2)
3)

S.K.R.COLLEGE FOR WOMEN

Accredited at B+ Level by NAAC
RAJAHMUNDRY- East Godavari Dist. (A.P.)

PERFORMANCE APPRAISAL REPORT FOR SELF APPRAISAL OF TEACHERS UPTO 2015

A .General Information:

- a) Name : CH.V.V.SRINIVAS
b) Date of Birth : 15-04-1962
c) Residential Address : 29-27-20, LAKSHMI VARAPU PETA,
RAJAHMUNDRY- 533 104.
Mobile: 9441073416
Email: chvvsrinivas@gmail.com
d) Designation : LECTURER
e) Department : CHEMISTRY
f) Area of Specialization : ORGANIC CHEMISTRY
g) Date of Appointment : 01-08-1985
i) In the Institution : 05-12-2007
ii) In the Present post : 05-12-2007
h). Employee I.D. : 0380076
i) Honors Conferred



B. Academic Qualification

Exam. Passed	Board / University	Subject	Year	Division /Grade Merit etc.,
High School	BOARD OF SECONDARY EDUCATION		1977	II
Higher Secondary or Pre-Degree	BOARD OF INTERMEDIATE EDUCATION	M.P.C	1979	III
Bachelor's Degree	ANDHRA UNIVERSITY. VISAKHAPATNAM	C.M.P.	1983	II
Master's Degree	ANDHRA UNIVERSITY. VISAKHAPATNAM	ORGANIC CHEMISTRY	1985	I
Research Degree(s)	ANDHRA UNIVERSITY. VISAKHAPATNAM	ENGINEERING CHEMISTRY	2020	

Other Diploma/ Certificates etc.,				
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C) Research Experience & Training :

Research Stage	Title of Work / Theses	University where the work was carried out
M.Phil or equivalent		
Ph.D.	SYNTHESIS, CHARACTERISATION AND CATALYTIC STUDIES OF GRAPHENE OXIDE COPPER FERRITE NANO COMPOSITES	ANDHRA UNIVERSITY COLLEGE OF ENGINEERING, VISAKHAPATNAM
Post-Doctoral		
Publications		
Research Guidance (give name of students guided successfully)		
Training (Please Specify)		

D) Research Projects carried out.

Title of the Project	Name of the funding Agency	Duration	Remarks

E) Details regarding refresher courses/ orientation courses, Seminars, Conferences, Symposia, Workshops etc., attended

S.No	Name of the Seminar / Conference / Symposia / Workshop etc.,	Name of the Sponsoring Agency	Place and Date
1	National work shop on Applications of Radio Isotopes	Department of Chemistry,	S.K.R.College(W), Rajahmundry 6 th Dec. 2008
2	National level seminar on Medicinal and aromatic plants and value added products	U.G.C.	S.K.R.College(W), Rajahmundry 9 th &10 th Jan. 2009

3	National seminar on alternate energy sources (Traditional/Local/Modern initiatives)	U.G.C.	S.K.B.R.College, Amalapuram & 5 th Feb. 2009	4 th
4	Work shop on Chromatography and Instrumental Techniques	Department of Chemistry	S.K.R.College(W), Rajahmundry 29 th Nov. 2009	
5	Internship Science Camp – Inspire	DST	S.K.R.College(W), Rajahmundry 7 th – 11 th June 2011	
6	State level Work shop on Applications of Radio Isotopes	U.G.C.	S.K.R.College(W), Rajahmundry 10 th Nov. 2011	
7	International Conference on Effect of Effluents on Environment (EEEE-2014)	U.G.C.	Andhra University, Waltair 30 th June&1 st July 2014	
8	National Work shop on Radio Chemistry and Applications of Radio Isotopes	BRNS – DAE	Govt. College (A), Rajahmundry 24 th – 29 th Nov. 2014	
9	Inter Disciplinary Refresher Course in Environmental Sciences	U.G.C.-H.R.D.C.	Andhra University, Waltair 1 st – 21 st June 2015	
10.	National Conference on Advanced Molecular Spectroscopic Techniques (AMST-2015)	U.G.C.	Govt. College (A), Rajahmundry 21 st – 22 nd Aug.. 2015	
11	National Seminar on Current Research Trends and Development in Organic Chemistry (CRTADIOS-2015)	APSCHE	Adikavi Nannayya University Campus, Velugubonda 5 th – 6 th Oct. 2015	

F) Teaching Experience:

Courses Taught	Name of the University/ College/ Institution	Duration
U.G	S.K.R.College for Women, Rajahmundry	Dec. 2007 to till date
P. G.	---	---
M.Phil	---	---
Any Other	---	---

Total Teaching Experience : 30 Years

a) Under Graduate : 08 Years

b) Post Graduate :

G) Innovations/ Contributions in Teaching:

- a) Designer Curriculum :
.
- b) Teaching Methods : Power Point Presentations – Internet based
Teachings- Crystal Models
- c) Laboratory Experiments :
- d) Evaluations Methods : Assignments – Unit Tests
.
- e) Preparation of Resource Material : Chapter wise Reading materials, Lab Manuals for
Including Books, Reading Materials. : Ist, IInd& IIIrd B.Sc.
Laboratory manuals
- f) Remedial Teaching/ Student : Remedial Teaching for academically slow learners
Counseling (Academic) : and Counseling for the Incharge Class Pupil
- g) Any Other :

H) Extension work/ Community

- a) Please give a short account of
Your contribution to
- i) Community Work such as :
values of National Integration
secularism, democracy, socialism,
humanism, peace, scientific temper,
flood or drought relief, small family
norms
- ii) National Literacy Mission
- b) Positions held / Leadership role : Convener Social Service League
played in organizations linked
with extension work and National

service scheme (NSS) or NCC or .
any other activity.

I. Participation in Corporate Life :

Please give a short account of your Contribution to

- a) College / University / Institution : Member Students Union, Science Association and
College Admission committee
- b) Co- curricular Activities :
- c) Enrichment of Campus life :
- d) Students welfare and Discipline :
- e) Membership / Participation in Bodies / :
Committees on Education and
National Development
- f) Professional organization of Teachers :

J) a) Membership of Professional bodies/ Societies

b) Editorship of Journals

K) Assessment

- a) Steps taken by you for the evaluation of the course programme taught:

L) General Data

State brief assessment of your performance indicating

- (a) Achievements, Paper Revaluation & Evaluation
- (b) Difficulties faced and
- (c) Suggestions for improvement



(Signature of the Teacher)


Name of the Department : *chemistry*

TEACHING

Name of the Lecturer : *Dr. Ch. V. V. Srinivas*

Date / Month / Year	Day	Class	Period / Time	Medium EM / TM	Theory / Practical	
1	2	3	4	5	6	
02-05-2022	Mon	<u>II B.Sc</u>	1	E	Th	
		cluster <u>III B.Sc</u>	2	EST	Th	
03-05-2022	Tue	RAMZAN			Holiday	
04-05-2022	wed	cluster <u>III B.Sc</u>	2	EST	Th	
05-05-2022	Thur	ONLINE <u>II B.Sc</u>	1	T	Th	
06-05-2022	frid	commencement of I P E T			Th	
		<u>II B.Sc</u> TM	4	T	Th	
		<u>III B.Sc</u> cluster	5	EST	Th	
07-05-2022	Sat	SI				
08-05-2022	Sunday to 29-05-2022				attended	
30-05-2022	Jorok in the college					
	Summer Vacation upto				12-06-22	


Signature of the Lecturer


Signature of the Department H.C.

DIARY 2021 - 2022

Topic Covered	Methodology Adopted	No. of Students attended	Teaching Aids used	Student Activity conducted	Remarks
7	8	9	10	11	12
Def. Polymers, Polymers Degree of polymerization classification of Polymers	Teaching	114	BBC		
classification of Polymers by differ methods	Teaching	21	BBC		
SEM-IV Syllabus basis		07	Online		
March 2022 - examination					→
Students not turned up for online class			Online		
Organic and Inorganic polymers - Addition and condensation polymers	Teaching	08	Online BBC		
SVC-03, GTC, RBY - as ACO - panel					

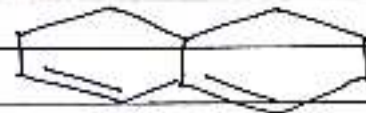
Commissionerate of Collegiate Education, Andhra Pradesh.
PROFORMA FOR TEACHING PLAN

Name of the Department	Chemistry
Name of the Lecturer	Dr. Ch. V. V. Srinivas
Course / Group	II B.Sc. - CBZ (F), MPC (F)
Paper	III Sem - III
Name of the Topic	Application of Spectroscopy to Single Molecules
Hours required	
Learning Objectives	
Previous Knowledge to be reminded	Dienes - Acyclic and cyclic compounds

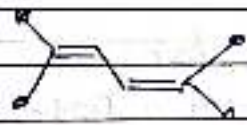
Topic Synopsis
 cyclic dienes - 217 nm
 hetero annular dienes - 214 nm
 homo " " - 252 nm



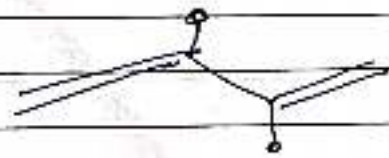
Homo annular dienes
 ring residues:



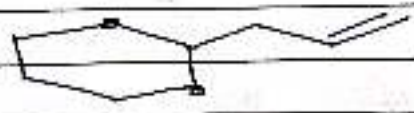
Hetero annular dienes,
 a and b: ring residues



Base value: 217 nm
 4 alkyl: 20 nm (4 x 5)
 Δ_{max}: 237 nm



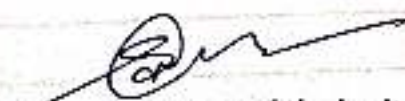
Base value: 217 nm
 2 alkyl: 10 (2 x 5)
 227 nm

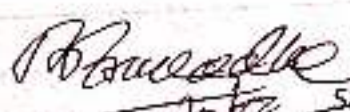


Base value: 217 nm
 2 ring residues: 10 nm
 1 exo double bond: 10 nm
 237 nm

Characteristic abs. bands
finger print region

Examples / Illustrations	
Additional Inputs	
Teaching Aids used	
Reference cited	ATD. of Spectroscopy - within hour. Applications of IR Spectroscopy - Dyer.
Student Activity planned after the teaching	
Activity planned outside the class room if any	
Any other activity	


Signature of the Lecturer

 M. S. S. S.
Signature of the Department I/C

ANNUAL CURRICULAR PLAN (CHEMISTRY DEPARTMENT) 2021-'22

S.K.R.COLLEGE FOR WOMEN, RAJAHMUNDRY

CLASS & GROUP: CBZ(T), CBZ & MPC (E), I, II, III B.Sc.,

NAME OF THE LECTURERS: 1. Dr. M. Sunitha, 2. Dr.Ch.V.V.Srinivas, 3. Smt. V.B.T.Sundari,
4. Smt. N.Swathi, 5. Smt. P.N.L.Prasanna, 6. Smt.N.S.V.Sravanl

Month	PAPER	Hours available	Syllabus Topic	Additional input/Value addition to be provided/taught	Curricular Activity				Co-Curricular Activity				Remarks
					Activity to be conducted	Hours allotted	Whether Conduct ed	If not alternate date	Activity to be conducted	Hours allot ed	Whether Conduct ed	If not alternate date	
MAY.	II	6	Alkanes & Cyclo Alkanes, Surface chemistry						Power point presentation on Madam Curie by UG students				
	IV	4	Organo metallic compounds										
		4	Coordination Chemistry										
	VII	9	Unit-1Introduction, Chemical Toxicology										
	VIII A1	4	Introduction of Polymers										
	A2	4	Introduction to spectroscopic methods of analysis										
	A3	3	UNIT-I & IV										
JUN.	II	15	Alkenes & Alkynes, Chemical Bonding, HSAB			MID Exam-1			Inter collegiate quiz competitions				
	IV	15	Carbohydrates, Aminoacids & Protiens			Field Trip to ILTD, RIY							
		15	Inorganic reaction mechanism, Stability of metal complexes										
	VII	10	Air pollution, eco system, concept and functions			Guest Lecture on Spectroscopy							
	VIII A1	10	Polymers and their applications			Field trip to Visakha Dairy			WorkShop on Preparation				

N. Swathi

	A2	10	Molecular Spectroscopy, Unit III Partly															of House hold Chemicals
	A3	10	Unit-I,II&IV cont...															
JUL	II	15	Stereochemistry of carbon compounds benzene and its reactivity															
	IV	15	Nitrogen containing functional groups, Heterocyclic compounds															
		15	Phase rule ,Electro chemistry															
	VII	11	Water pollution, Ecology continued															
	VIII A1	10	Unit-II-Techniques of Polymerization, Molecular Weights of Polymers & Unit-III partly															
	A2	10	Unit-III cont. & Unit-IV Separation techniques															
	A3	11	Unit-III & Unit-V															
AUG.	II	12	Revision		MID Exam-2													
	IV	12	Photo chemistry, thermodynamics		Guest Lecture on Spectroscopy													
		12	Chemical kinetics															
	VII	12	Chemical toxicology, bio-diversity															
	VIII A1	11	Unit-III continued & Unit-IV															
	A2	9	Unit-V Elemental Analysis															
	A3	9	Unit-III&V cont..															

P. N. PRINCIPAL
 S.K.R. COLLEGE FOR WOMEN
 HITHAKARINI SAMAJ
 Enduraipatti, Dept. Govt. of Andhra Pradesh

P. S. S. ...
 P. S. S. ...

[Signature]

V. B. S. ... N. S. S. ...

SMT.KANDUKURI RAJYALAKSHMI COLLEGE FOR WOMEN,RAJAMAHENDRAVARAM**Re-Accredited at B* Grade by NAAC****Affiliated to Adikavi Nannaya university****DEPARTMENT OF CHEMISTRY****ACTION PLAN FOR THE YEAR 2020-2021**

S.No	Month/Year	Proposed Activities	Remarks
1	October-2021 I Week	---	
	II Week	---	
	III Week	Departmental staff meeting to review results and class work allotment/ Preparation of annual Action Plan	
	IV Week	Preparation of Curriculum plan and timetables for even semester	
2	November-2021 I Week	Rajyalakshamma Birth Anniversary / celebrations	
	II Week	I Midterm examinations III Year students	
	III Week	Preparation of e- content	
	IV Week	Assignments	
3	December-2021 I Week	Orientation program for I BSC Students	
	II Week	bridge course for I Year students	
	III Week	I Midterm examinations for II & I Year students II Midterm examinations for III Year students	
	IV Week	Medicinal garden development	
4	January-2022 I Week	Field visit for final year students	Visited Rubber processing unit
	II Week	Sankranti Sambaralu	
	III Week	student seminars	
	IV Week		
5	February-2022 I Week	Conduct of Quiz on "World Cancer day"	
	II Week	II Midterm examinations for II & I Year students	
	III Week	Remedial Coaching classes	
	IV Week	National Science day	
6	March-2022 I Week	WorkShop	Done on

	II Week	International Womens day	
	III Week	Preparation of curricular plans for even sem	
	IV Week	I Mid examinations for III Year students Guest Lecture	
7	April - 2022 I Week	Group Discussion	
	II Week	I Midterm examinations for I &II Year students	Mid exam conducted in June for I Year
	III Week	Birth anniversary of Sri Rao Bahadur Kandukuri Viresalingam pantulugaru	
	IV Week	II Midterm examinations for III Year students	
8	May - 2022 I Week		
	II Week	Conduct of student seminars	
	III Week	II Mid examinations for I & II Year students	Mid exam conducted in July for I Year
	IV Week	Kandukuri veeresalingam gari vardanthi	Done
9	June - 2022 I Week	World Environmental day	
	II Week	I Midterm examinations for I Year	
	III Week	Remedial Coaching	
	IV Week	Conduct of study hours /	
10	July - 2022 I Week	II Midterm examinations for III Year students	
	II Week		
	III Week	II Midterm examinations for II & I Year	
	IV Week		
11	August - 2022 I Week		
	II Week	Independence day	One week activities - Azadika Amruth Mahotsav
	III Week	Departmental feedback/ Institutional feedback.	
	IV Week		

SKR GDC (W),RAJAMAHENDRAVARAM		
Department of Chemistry 2021-2022		
Programme & Course outcomes		
		Programme outcomes
	BSC-MPC& CBZ	<ol style="list-style-type: none"> 1. Understand the environment functions and how it is affected by human activities. 2. Acquire chemical knowledge to ensure sustainable use of the world's resources and ecosystems services. 3. Engage in simple and advanced analytical tools used to measure the different types of pollution. 4. Explain the energy crisis and different aspects of sustainability. 5. Gain the knowledge of chemistry through theory and practicals 6. identify chemical formula and solve numerical problems 7. understand good laboratory practices and safety 8. make aware and handle the sophisticated instruments or equipments
SEM	Name of the course	Course out comes
sem-1	Inorganic and Physical Chemistry	<p>Understand the basic concepts of p-block elements</p> <ul style="list-style-type: none"> · Explain the difference between solid, liquid and gases in terms of intermolecular interactions. · Apply the concepts of gas equations, pH and electrolytes while studying other chemistry courses.
sem-2	Organic & General Chemistry	<p>Understand and explain the differential behavior of organic compounds based on fundamental concepts learnt.</p> <ul style="list-style-type: none"> - Formulate the mechanism of organic reactions by recalling and correlating the fundamental properties of the reactants involved -Learn and identify many organic reaction mechanism including Free Radical Substitution, -Electrophonic Addition and Electrophonic Aromatic Substitution.

Sem-3	Organic chemistry & Spectroscopy	<p>Understand preparation, properties and reactions of haloalkanes, haloarenes and oxygen containing functional groups.</p> <ul style="list-style-type: none"> · Use the synthetic chemistry learnt in this course to do functional group transformations. · To propose plausible mechanisms for any relevant reaction
Sem-4	Inorganic, Organic and Physical Chemistry	<p>To learn about the laws of absorption of light energy by molecules and subsequent photochemical reactions.</p> <ul style="list-style-type: none"> · To understand the concept of quantum efficiency and mechanisms of photochemical reactions
SEM-5	Inorganic & Physical Chemistry	<p>Understand concepts of boundary conditions and quantization, probability distribution, most probable values, uncertainty and expectation values</p> <ul style="list-style-type: none"> · Application Of Quantization To Spectroscopy. · Various types of spectra and their use in structure determination.
SEM-6	INORGANIC & PHYSICAL CHEMISTRY	<p>Understand concepts Of boundary conditions and quantization, probability distribution, most probable values, uncertainty and expectation values</p> <ol style="list-style-type: none"> 2. Application of quantization to spectroscopy. 3. Various types of spectra and the irusein structure determination

cluster-A1	Polymer chemistry	<p>To understand the importance of the chemical approach to polymers and the subject provides an introduction to polymer science with respect to synthesis, polymerization kinetics and network formation/gelation of macromolecules formed by step-growth and chain-growth polymerization.</p> <ul style="list-style-type: none"> • To Study the, methods of measuring the molecular weight, polymerization kinetics and Copolymerization and polymer processing technologies. • To understand about radical and ionic polymerization and techniques of polymer analysis • To study mechanical properties and applications of polymers
cluster-A2	Instrumental methods of chemistry	<p>To introduce the student to principles and theory of instrument analysis.</p> <ul style="list-style-type: none"> · To teach the student the correct operation of chemical instruments. · To introduce the student to the techniques of troubleshooting instruments in the chemical laboratory. · To emphasize the safe use of chemical instrumentation. · To teach the student to solve problems related to the use of chemical instruments.
cluster-A3	Analysis of Drugs, Foods, Dairy Products and Bio chemical analysis OUT COME SFOR 2021-22	<p>Students in this course will learn about microbes in food, spoilage of food and preservation techniques of food.</p> <p>Milk and milk products:and nutritional importance of milk, processing of milk.</p>



Department of Chemistry
S.K.R.College for Women
RAJAMAHENDRAVARAM



SEM-IV, Unit: III
HETERO CYCLIC COMPOUNDS

Faculty Members

Dr. Ch.V.V.Srinivas

Smt N.Swathi

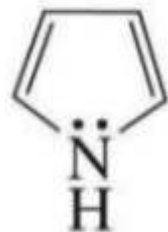
SEMESTER-V , Paper - VI (INORGANIC, ORGANIC & PHYSICAL CHEMISTRY) 45 hrs (3 h / w)
ORGANIC CHEMISTRY

UNIT- III Heterocyclic Compounds

7h

Introduction and definition: Simple five membered ring compounds with one hetero atom Ex. Furan. Thiophene and pyrrole - Aromatic character – Preparation from 1,4,- dicarbonyl compounds, Paul-Knorr synthesis. Properties : Acidic character of pyrrole - electrophilic substitution at 2 or 5 position, Halogenation, Nitration and Sulphonation under mild conditions - Diels Alder reaction in furan. Pyridine – Structure - Basicity - Aromaticity - Comparison with pyrrole - one method of preparation and properties - Reactivity towards Nucleophilic substitution reaction.

Introduction and definition :- Incorporation of an oxygen, a nitrogen or a sulphur into an organic ring structure in place of a carbon atom gives rise to a **heterocyclic compound**. Heterocyclics containing five atoms, including one hetero atom Nitrogen is Pyrrole, Oxygen is Furan and Sulphur is Thiophene.



Pyrrole

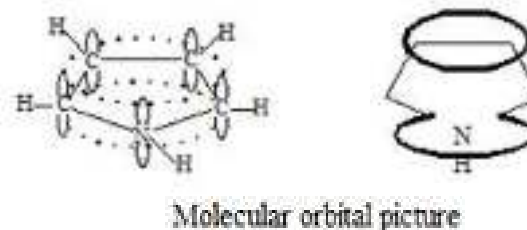
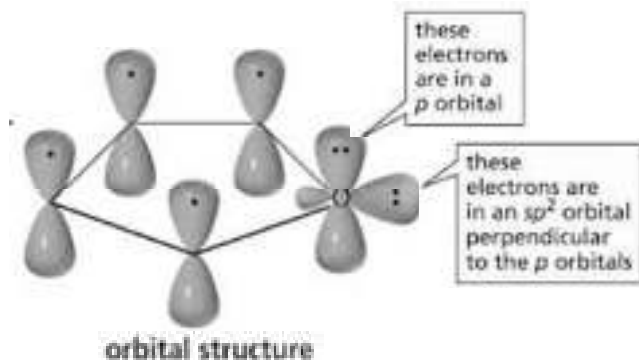


Furan



Thiophene

Aromatic character:- Pyrrole, Furan and Thiophene behave like Benzene. Though they are unsaturated compounds they participate in substitution reactions. The resonance energy for these compounds is 92 – 124 kJ/mol. Eventhough only two double bonds are shown in the structure the lone pair of electrons preswent on the hetero atom involve in resonance stabilization In the formation of aromatic sextet two π bonds and one lone pair will form 6 π electrons ie. obeys Huckel's rule. In these compounds a cloud will present at above and below plane to the carbon framework. The carbon atoms in these compounds exhibit sp^2 hybridization, hence it has planar structure.



General preparation of hetero cyclic compounds :-

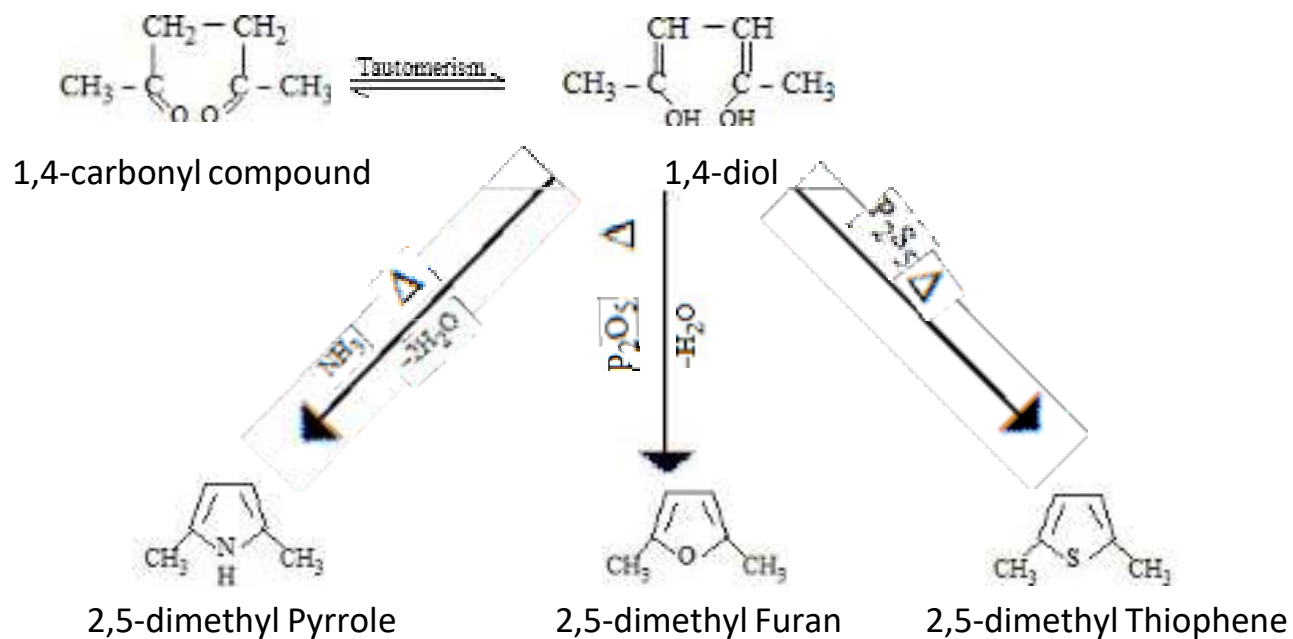
From 1,4-dicarbonyl compounds (or) 1,4-diols (or) Acetyl acetone (**Paul-Knorr synthesis**) :-

Furan, Pyrrole, Thiophene can be prepared from 1,4-dicarbonyl compounds.

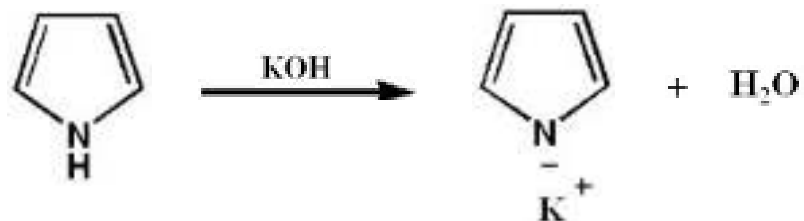
If 1,4-di-carbonyl compound is heated with ammonia (or) NH_4Cl , pyrrole is formed.

If 1,4-di-carbonyl compound is heated with P_2O_5 , furan is formed.

If 1,4-carbonyl compound is heated with P_2S_5 , Thiophene is formed.

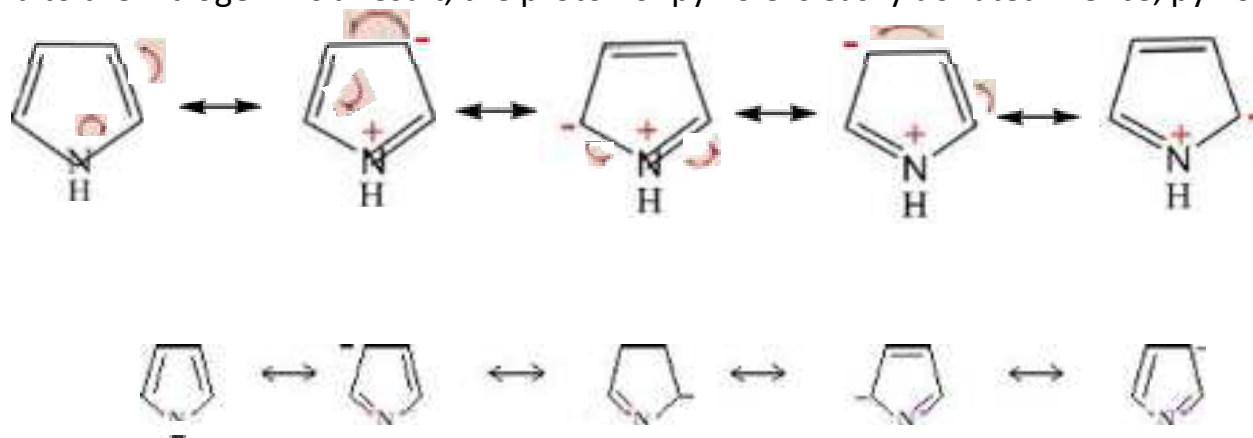


Acidic character of pyrrole:- Pyrrole is weakly acidic. Thus on reaction with metallic Potassium or Potassium hydroxide it forms salts, which is hydrolysed back to pyrrole on treatment with water.



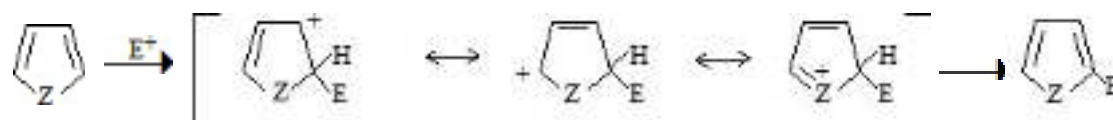
According to Bronsted Lowry theory proton donor is an acid. The acidic character of pyrrole is due to delocalization of non bonding electrons of nitrogen in resonance and resonance stabilisation of pyrrol ion formed by the loss of proton.

Due to participation of non bonding electrons of nitrogen in resonance, the hydrogen atom is weakly bound to the nitrogen. As a result, the proton of pyrrole is easily donated. Hence, pyrrole is acidic.



Resonance structures of Pyrrole

Electrophilic substitution at 2 or 5 position (Halogenation, Nitration and Sulphonation under mild conditions) :- In Pyrrole, Furan and Thiophene the electrophilic substitution reactions takes place at 2nd or 5th positions instead of 3rd and 4th positions. Because, the intermediate carbonium ion formed when the electrophilic attack is at 2nd or 5th position is more resonance stabilised than the intermediate carbonium ion formed during electrophilic attack at 3rd or 4th positions. Hence Furan, Pyrrole and Thiophene undergo electrophilic substitutions at 2nd or 5th positions.



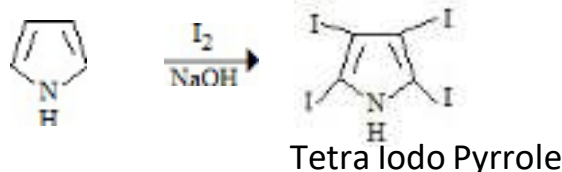
More stable carbonium ion



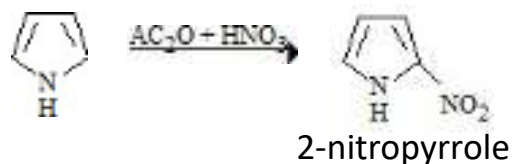
Less stable Carbonium ion

Electrophilic Substitution Reactions (Pyrrole) :-

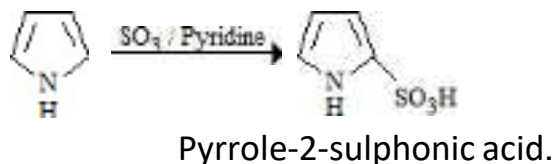
a). Halogenation :- Pyrrole when treated with I_2 in NaOH gives tetraiodo pyrrole. Pyrrole upon reaction with Chlorine or Bromine the ring fission takes place due to vigorous reaction.



b). Nitration :- Pyrrole on nitration with mixture of nitric acid and acetic anhydride, gives 2-nitropyrrole.



c) **Sulphonation** :- Pyrrole on treatment with sulphur trioxide in pyridine gives pyrrole-2-sulphonic acid.

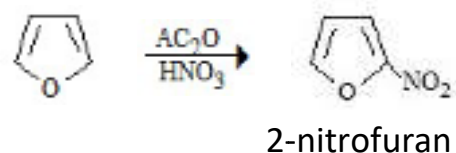


Electrophilic Substitution Reactions (Furan) :-

a). **Halogenation** :- Furan on treatment with halogens, chain fission take place with violent reaction.



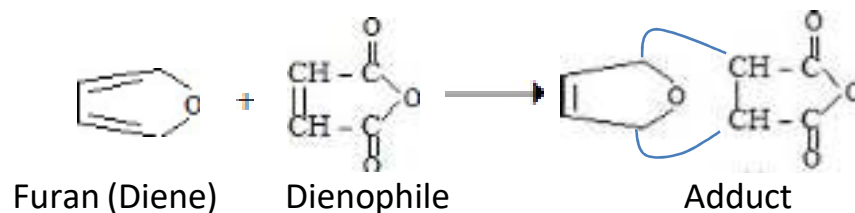
b). **Nitration** :- Furan on treatment with mixture of acetic anhydride and nitric acid gives 2-nitrofuran.



c) **Sulphonation** :- Furan on treatment with SO₃ in pyridine, gives Furan -2- sulphonic acid

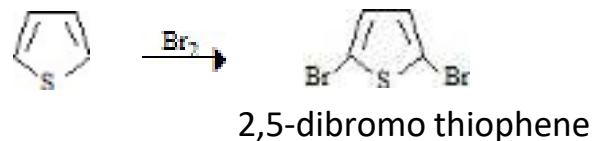


d). **Diel's-Alder Reaction** :- Furan on addition with maleic anhydride gives addition product.

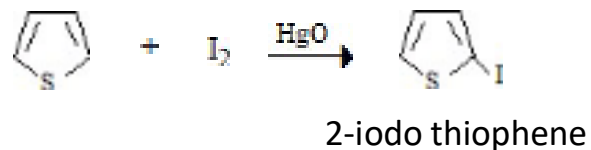


Electrophilic Substitution Reactions (Thiophene) :-

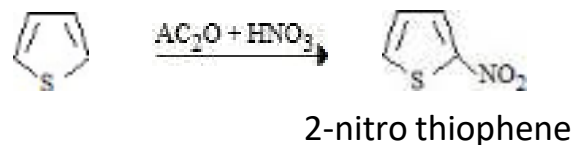
a). **Halogenation** :- Thiophene upon reaction with bromine 2,5-di bromo thiophene is formed.



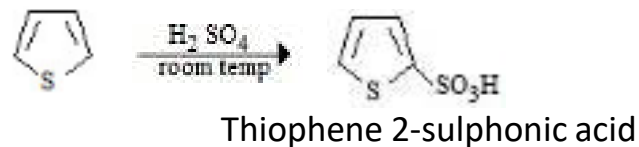
Thiophene on reaction with I₂ in presence of mercuric oxide gives 2-iodo thiophene (monosubstitution)



b). **Nitration** :- Thiophene on treatment with mixture of acetic anhydride and nitric acid gives 2-nitro thiophene.

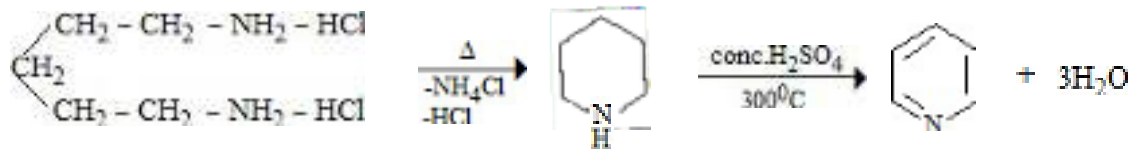


c). **Sulphonation** :- Thiophene on treatment with sulphuric acid gives thiophene 2-sulphonic acid.



Pyridine – Structure - Basicity - Aromaticity - Comparison with pyrrole - one method of preparation and properties - Reactivity towards Nucleophilic substitution reaction.

Preparation:- Pyridine is prepared by heating penta methylene diamine hydrochloride.

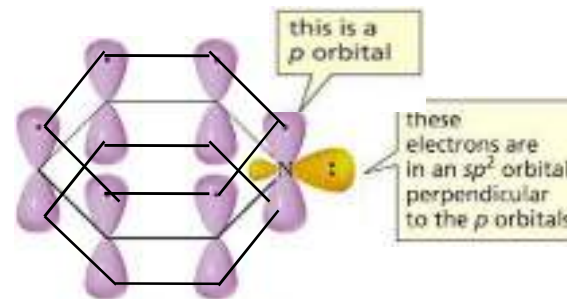
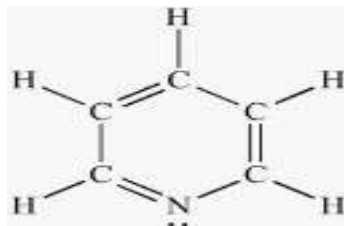


Penta methylene diamine hydrochloride Piperidine

Pyridine

Structure of Pyridine basing on molecular orbital theory:-

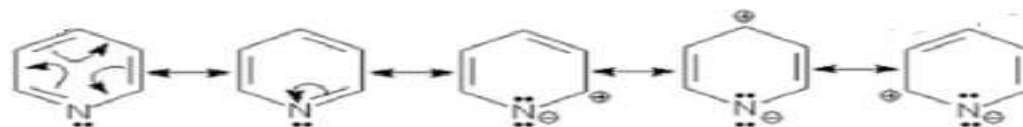
In Pyridine all the five carbon atoms and the hetero atom 'N' undergo sp^2 hybridisation. Each carbon atom possess three sp^2 hybridised orbitals and one unhybridised p-orbital. All these orbitals are occupied by single electrons. Similarly, the hetero atoms 'N' possess three sp^2 hybrid orbitals and one unhybridised p-orbital. Two of these three sp^2 hybrid orbitals and the unhybridised p-orbital are occupied with single electrons the remaining sp^2 hybrid orbital is occupied with two electrons. The carbon and the hetero atom by using the sp^2 hybrid orbitals form carbon frame work, involving C-H, C-C, C-N bonds. Now, the ring atoms still contain unhybridised p-orbitals. These are perpendicular to carbon frame work. These six unhybridised p-orbitals are parallel to each other and overlap side wise and form a continuous, cyclic, delocalised p-electron clouds involving six electrons.



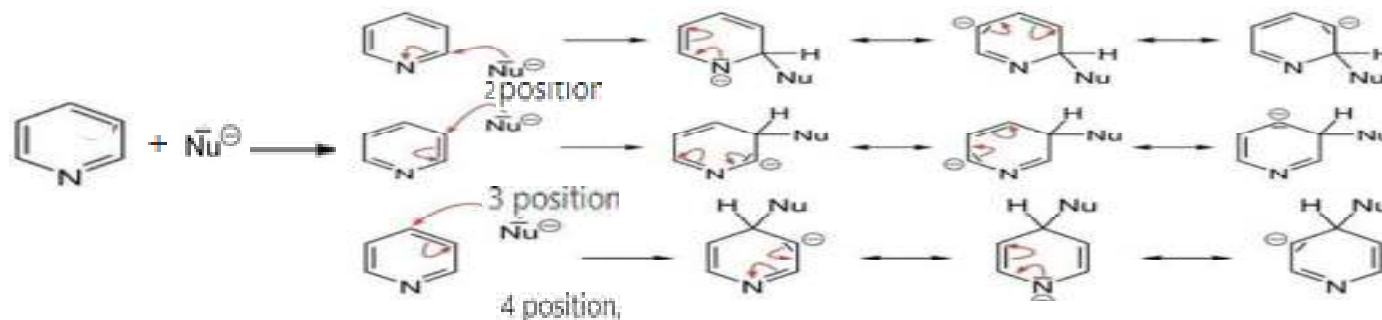
Basicity:- Pyridine upon reaction with hydrochloric acid forms a salt pyridine hydrochloride. So it is said to be a base. Pyridine is basic due to the presence of electron pair on the Nitrogen atom. Pyridine is less basic when compared with amines. In amines Nitrogen atom is in sp^3 hybridisation hence the contribution of s-character is 25% whereas Nitrogen atom in Pyridine exhibits sp^2 hybridisation and the contribution of s-character is 33%. Hence the electron pair present in Pyridine doesn't involve in the formation of coordinate covalent bond. So Pyridine is less basic than amines.

Nucleophilic substitution reactions:-

Pyridine undergoes nucleophilic substitution reactions at 2,4,6 positions. As the nitrogen atom of the pyridine, deactivates pyridine ring and generates positive centers on the pyridine ring. Pyridine undergoes Nucleophilic substitution reactions. It is evident from the resonance structures.

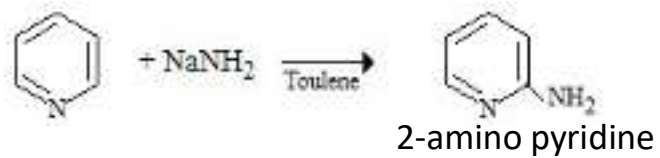


As the 2,4,6 positions of pyridine are positively charged, 2,4,6-positions of the pyridine are suitable for nucleophilic substitution reactions. Pyridine can also undergo electrophilic substitution reactions at 3 or 5 positions at high temperatures.



Nucleophilic Substitution Reactions :-

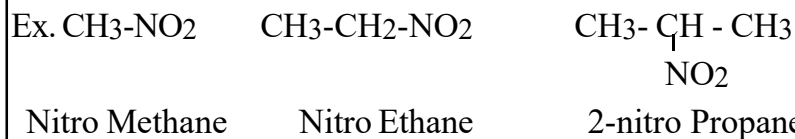
Chichibabin (Amination) reaction :- When pyridine is heated with sodamide in toluene followed by hydrolysis gives 2-amino pyridine. This reaction is known as 'Chichibabin Reaction'.



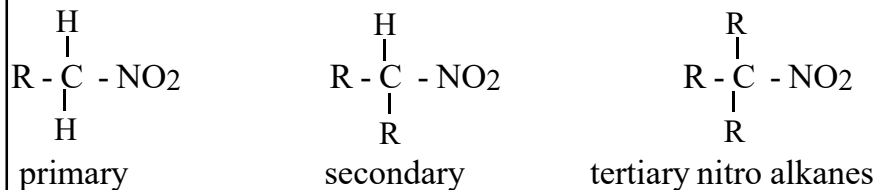
Nitro Alkanes

1. What are Nitro Alkanes? How are they classified?

Compounds with general formula R-NO₂ are called nitro alkanes.

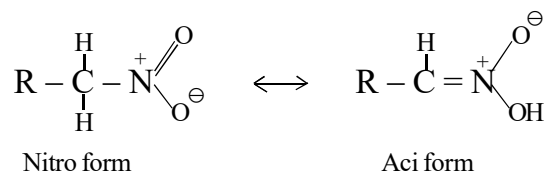


They are classified into primary, secondary and tertiary nitro alkanes.



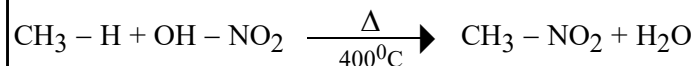
2. Explain tautomerism exhibited by nitro alkanes.

Isomers formed by transfer of protons are called tautomers. Like keto compounds, primary and secondary nitro alkanes undergo tautomerism. They form nitroform and aci forms. The aci forms of primary and secondary nitro alkanes form salts with strong bases. Tertiary nitro alkanes does not show tautomerism.

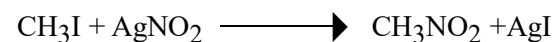


3. Write any three methods of preparations of nitro alkanes.

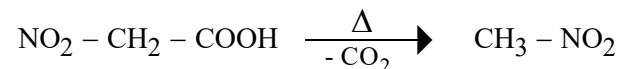
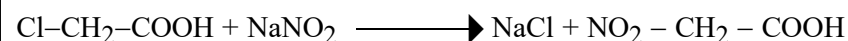
a) By direct nitration of alkanes



b) By the reaction between Alkyl halide and silver nitrite



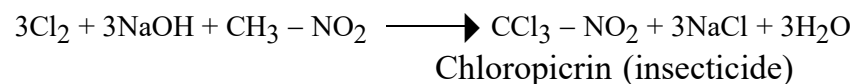
c) By the reaction between chloroacetic acid and sodium nitrite



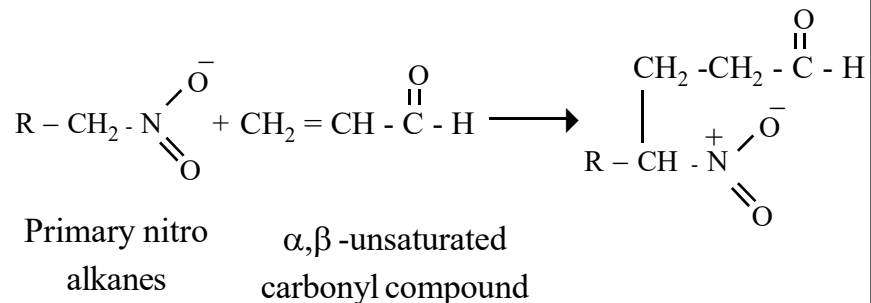
4. Explain the following reactions?

- (a). Halogenation (b). Michael condensation reaction
(c). Mannich reaction (d). Reaction with nitrous acid
(e). Nef reaction

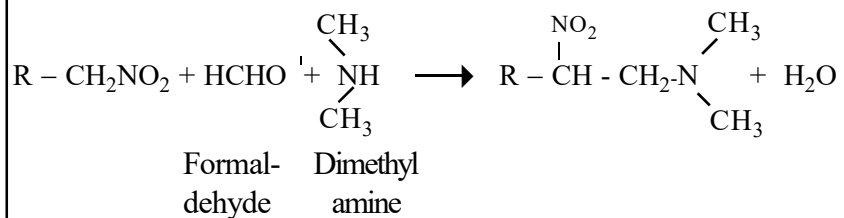
(a). **Halogenation:-** 1^o and 2^o nitroalkanes undergoes α - halogenation



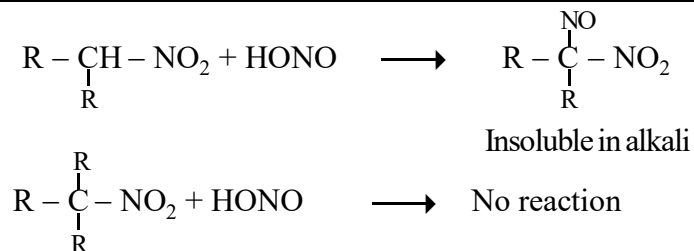
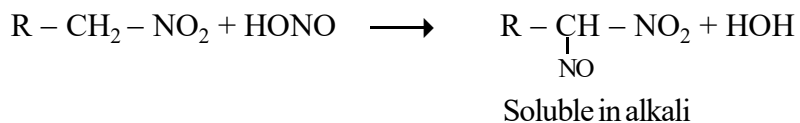
b). Michael condensation reaction :- Nitro alkanes undergo addition reaction with α,β -unsaturated carbonyl compounds, α,β -unsaturated nitro compounds, α,β -unsaturated esters. This reaction is called Michael condensation reaction.



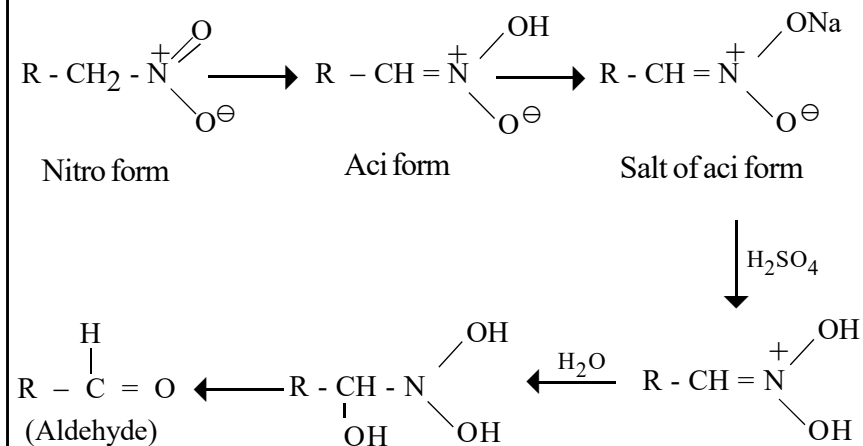
(c). Mannich reaction:- The condensation reaction between Nitroalkanes, formaldehyde and salts of Ammonia or 1^o amine or 2^o amine is known as mannich reaction



(d). Reaction with nitrous acid :- Primary and secondary nitro alkanes react with nitrous acid and give blue coloured nitroso derivatives



(e). Nef reaction:- Salts of Aciform of primary and secondary nitro alkanes on hydrolysis with sulphuric acid gives aldehydes and ketones. This reaction known as Nef reaction.

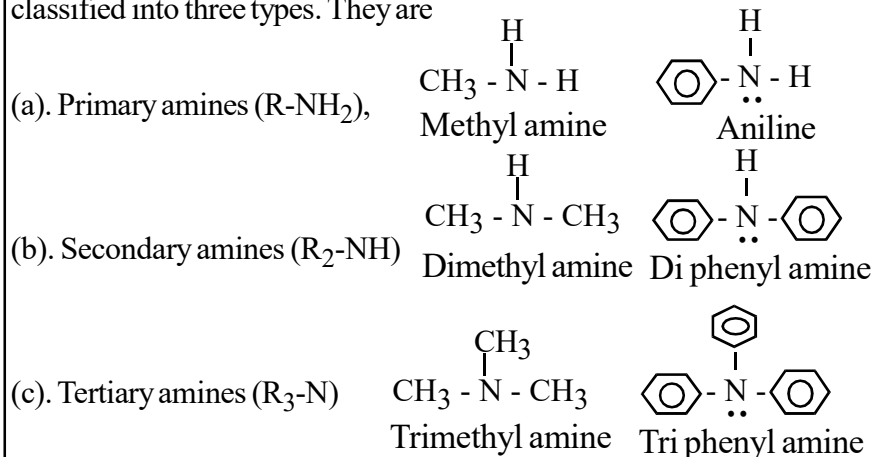


NITROGEN COMPOUNDS

AMINES

1. What are amines? How are they classified?

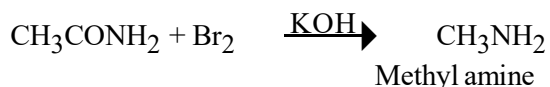
Organic compounds with general formula R-NH₂ are called Amines. Ex. Methyl amine (aliphatic) and Aniline (aromatic). These are classified into three types. They are



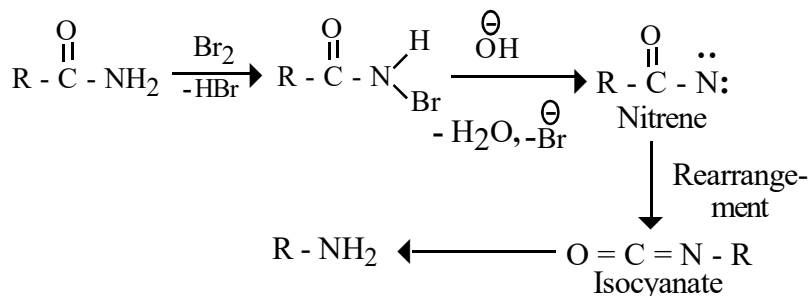
2. How are the aliphatic amines prepared?

Preparation methods :-

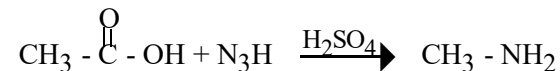
i) **Hoffman's degradation** :- Amides on treatment with Bromine in alkali gives amines. This reaction is known as Hoffman's degradation reaction.



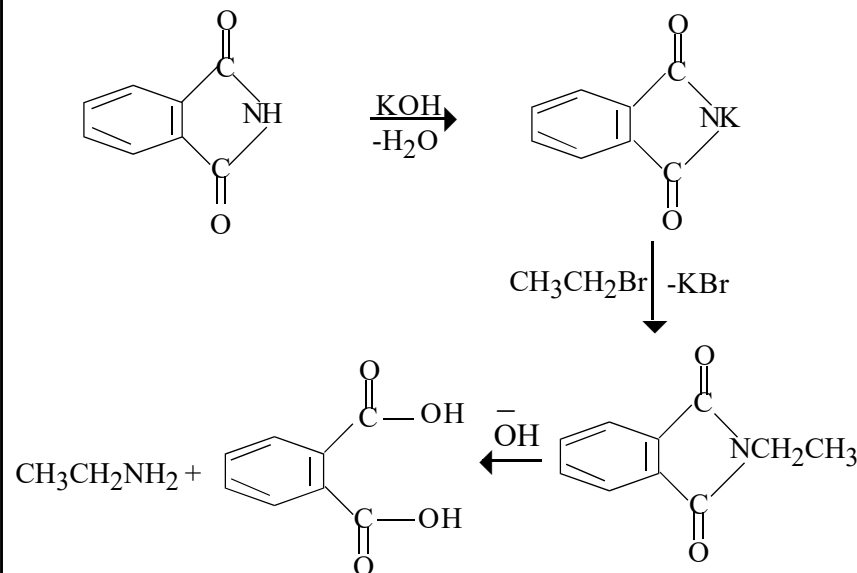
Mechanism:-



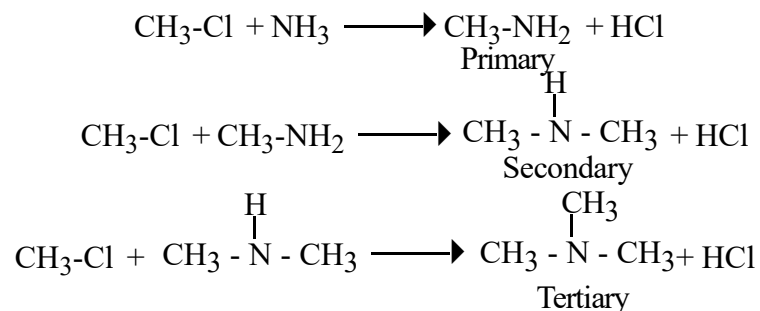
ii) **Schmidt Reaction** :- Carboxylic acids on treatment with hydrazoic acid in presence of sulphuric acid gives amines. This reaction is known as schmidt reaction.



iii) **Gabrieal Synthesis** :- In this method, N-alkyl phthalimide on basic hydrolysis gives 1^o amines



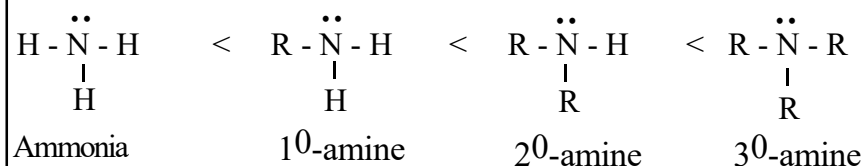
iv). **Ammonolysis of alkyl halides**:- In this method alkyl halides are treated with ammonia.



3. Explain the basic character of Amines.

Amines are basic. According to Lewis theory, electron pair donor is a base. As amines are electron pair donors, they are basic. The strength of the basic character of amines depends upon its ability to donate its electron pair. The more the tendency of donating electron pair by the amines, the more is their basic character.

Tertiary amines are less basic than secondary amines.



Alkyl groups, through their inductive effect, increases the electron density on the nitrogen in amines. As a result, amines freely donate electron pair to others. Hence, they are more basic than ammonia. That is why, 1^o amine is more basic than ammonia, 2^o amine is more basic than 1^o amine. Similarly, 3^o amine is expected to be more basic than secondary amine but it is not so.

It is less basic than 2^o amine. This is because of steric hinderance. Due to steric hinderance, the electron pair present on 3^o amine is not available for protonation. Hence, 3^o amine is less basic than 2^o amine.

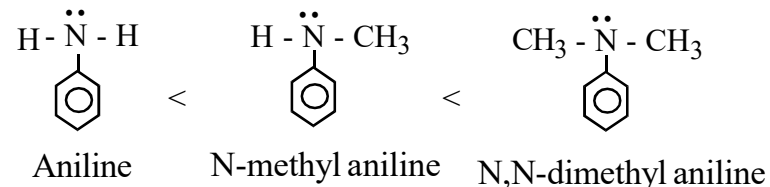
Aromatic amines are less basic than aliphatic amines



Aromatic amines are less basic than aliphatic amines. Because in aromatic amines, the electron pair present on the Nitrogen atom involves in the resonance. Due to involvement of electron pair in the resonance. This electron pair is not available for donation. Hence, aromatic amines are less basic than aliphatic amines.

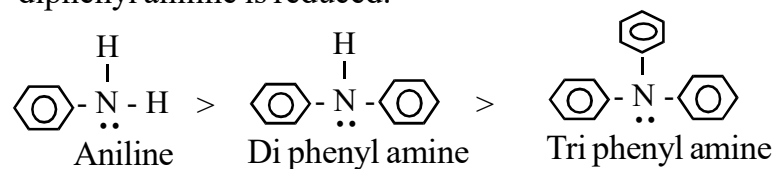
4. Why N, N dimethyl aniline is more basic than aniline ?

Due to electron releasing methyl groups, the electron density on the nitrogen atom of N, N dimethyl aniline increases. Hence, the electron pair, present on the nitrogen atom of N, N dimethyl aniline is more available than the electron pair present on the nitrogen atom of aniline. Hence, N, N dimethyl aniline is more basic than aniline.



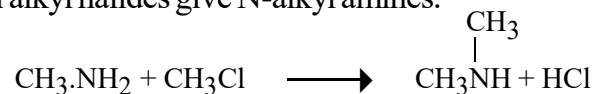
5. Why Aniline is more basic than N,N diphenyl aniline ?

N,N-diphenyl aniline is less basic than aniline because in N, N-diphenyl aniline, the delocalisation of electron pair is more than aniline. Hence, the electron pair is less available for donation than aniline. Hence, N, N-diphenyl aniline is less basic than aniline. In other words, due to delocalisation of electron pair present on the Nitrogen over the two phenyl rings, the basic character of N, N-diphenyl aniline is reduced.

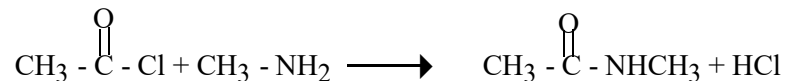


4. Write any THREE properties of aliphatic amines.

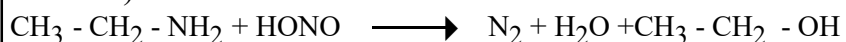
1. **Reaction with alkyl halides (Alkylation):** 1^o amines on treatment with alkyl halides give N-alkyl amines.



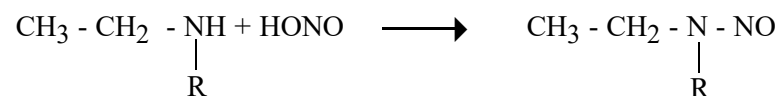
2. **Acetylation : (Acylation)** 1^o amines on reaction with acid chlorides give N-substituted amides.

**3. Reaction with nitrous acid :-**

a) Primary amines with Nitrous acid produce Nitrogen gas (as bubbles)



b) Secondary amines with nitrous acid produce yellow oily layer.

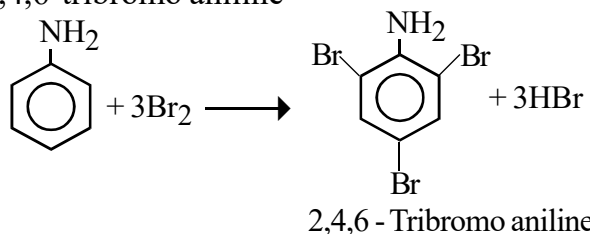


c) Tertiary amines with nitrous acid form soluble nitrite salts
(CH₃CH₂)₃N + HONO \longrightarrow (CH₃ - CH₂)₃ NHONO

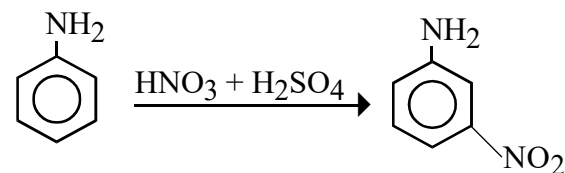
This reaction is used as a basic test to distinguish 1^o, 2^o & 3^o amines.

5. Discuss the properties of aromatic amines.**(i). Electrophilic substitution reactions:-**

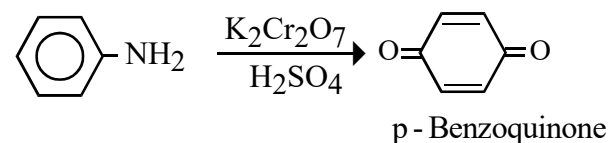
a) Bromination : aniline on treatment with Bromine water gives 2,4,6-tribromo aniline



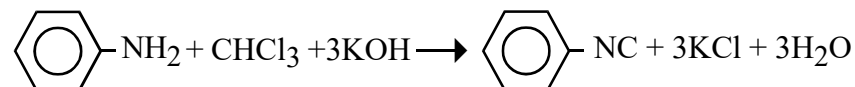
b) Nitration : aniline on reaction with mixture of con. HNO₃ and H₂SO₄ gives meta-nitro aniline



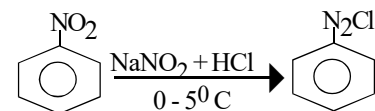
ii). Oxidation:- Aniline undergoes oxidation with K₂Cr₂O₇ to gives p-Benzoquinone.



iii). Carbylamine reaction :- Primary amines react with chloroform in alkali gives isocyanides. This reaction is known as phenyl isocyanide reaction.



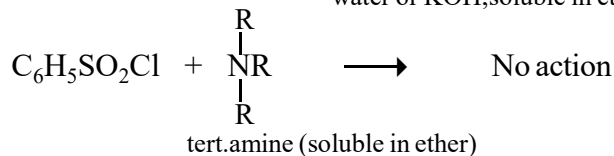
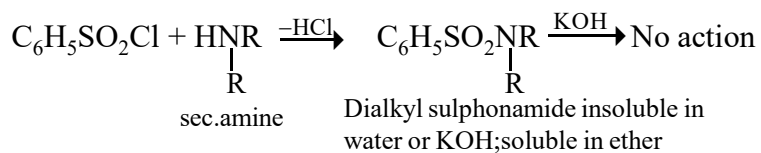
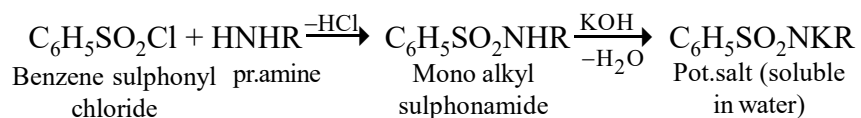
iv). Diazotisation :- The conversion of aromatic primary amines into diazonium salts is known as diazotisation



6. Explain Hinsberg method for the separation of amines.

In this method, the mixture of amines is treated with benzene sulphonyl chloride and shaken with 5 percent caustic potash solution.

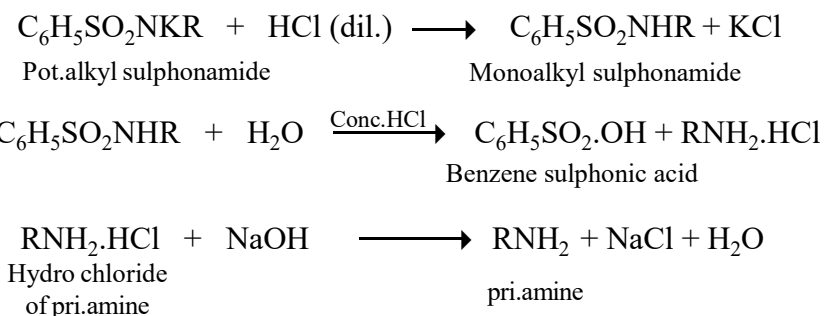
Primary amine forms alkyl benzene sulphonamide, which dissolves in caustic potash forming potassium salt. Secondary amine forms dialkyl sulphonamide, which does not dissolve in caustic potash. Tertiary amine does not react with benzene sulphonyl chloride.



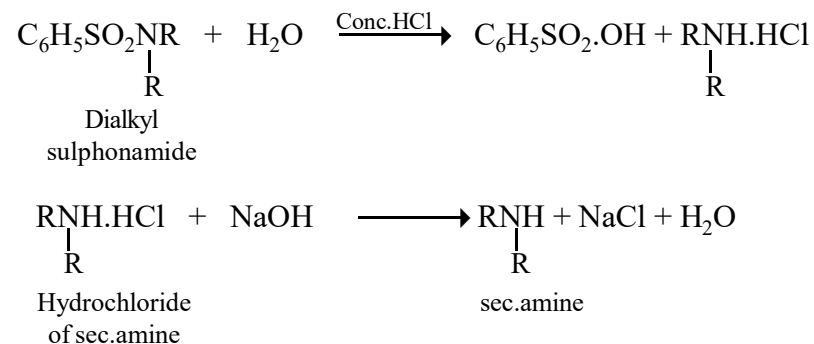
The entire product, thus obtained, is extracted with ether. Tertiary amine and dialkyl benzene sulphonamide being insoluble in water, pass over to the ethereal layer. Potassium alkyl sulphonamide remains in the aqueous layer. The aqueous and the ethereal layers are then separated.

The aqueous layer (containing $\text{C}_6\text{H}_5\text{SO}_2\text{NKR}$) is acidified with dilute hydrochloric acid, alkyl benzene sulphonamide is produced. It is next heated with concentrated hydrochloric acid.

Monoalkyl benzene sulphonamide gets hydrolysed and forms the hydrochloride of primary amine. The latter is distilled with caustic soda to regenerate primary amine.



For the recovery of tertiary and secondary amines, the ethereal layer is fractionally distilled. Tertiary amine passes over leaving behind the solid dialkyl benzene sulphonamide. The latter is hydrolysed by concentrated hydrochloric acid and then distilled with caustic soda to get secondary amine.



S K R COLLEGE FOR WOMEN
RAJAMAHENDRAVARAM
(Re-Accredited by NAAC B+ Grade) : Affiliated to Adikavi Nannaya University)
DEPARTMENT OF CHEMISTRY
BRIDGE COURSE

*

“THE ESSENCE OF EDUCATION LIES IN DRAWING OUT THE VERY BEST THAT IS IN YOU”

A bridge course is a series of classes that help students transition from Intermediate level to graduation by providing them with necessary skills and knowledge about topics that will be covered in their new course.

Objectives :

- The main objective of the course is to bridge the gap between subjects studied at pre-university level and subjects they would be studying in B.Sc Course.
- To enrich the students to learn basic concepts in the subjects of B.Sc I semester.
- To give students confidence and skills to successfully transform to college and new curriculum
- Interactive and Active Learning by doing have been weaved into the Bridge Course.
- Active Learning with the help of other/ peer students.
- To achieve the concept of Assisted Learning.

Standard Operating Procedure

- A Bridge Course for newly admitted B.Sc Students is conducted every year before commencement of First Semester Classes. The syllabus for the B.Sc course is designed in such a way that, equal importance is given to both Chemistry discipline subjects and personality development.
- Bridge Course helps the students to open up, think creatively and become responsible and independent students. It also helps smooth transition to Chemistry course. The sound grasp of the fundamentals of Chemistry and Management subjects by the students lays the strong foundation for the entire Three/ Four Years Programme.
- **Highlights of the Bridge Course:**

1) States of Matter

Dr.M.Sunitha, Faculty, Department of Chemistry explained in detail about 1. The three states of matter 2. Intermolecular interaction 3. Hydrogen bonding 4. The gaseous state 5. Boyle's law, Charles law. 6. Gay Lussac's law, Avogadro law 7. Kinetic theory - molecular speeds 8. Liquid state 9. Vapour pressure 10. Surface tension 11. Viscosity. lecture cum demonstration method atomic model blackboard

2) Periodic table

Smt. V.B.T.Sundari Faculty, Department of Chemistry explained about Overview of Periodic table Periodic trends in properties of Elements - a) Atomic radius b) Ionization potential c) Electro negativity d) Ionic radius e) Density.

3) Fundamentals of Organic Reaction Mechanism:

Smt. V.B.T.Sundari, Department of Chemistry explained about the basic concepts stability of Carbocation, Carbanion, and Carbon free radical 2. Types of Reagents- Electrophiles and Nucleophiles 3. Curved arrow notations, cleavage of bond-homolytic and heterolytic cleavage 4. Resonance effect, Inductive effect, Mesomeric effect and Steric effect 5. Types of reactions- Addition, Elimination, Substitution, and Rearrangement

4) Structure of Atom:

Dr.M.Sunitha, Faculty, Department of Chemistry gave an Overview of Structure of Atom Quantum number - i) Principal quantum number ii) Azimuthal quantum number iii) Magnetic quantum number iv) Spin quantum number, Shape of orbitals - a) s – orbital b) p – orbital c) d – orbital a) Aufbau principle b) Pauli's exclusion principle c) Hund's rule.

ACTION PLAN / REPORT ON BRIDE COURSE
FOR THE ACADEMIC YEAR 2021–2022

Date	Time/ Hour	Topic	Content/Activity	Resource Person
13/12/21	4 th	States of Matter	1. The three states of matter 2. Intermolecular interaction 3. Hydrogen bonding 4. The gaseous state 5. Boyle's law, Charles law. 6. Avogadro law 7. Kinetic theory - molecular speeds 8. Liquid state 9. Vapour pressure 10. Surface tension 11. Viscosity.	Dr.M.Sunitha
16/12/21	2 nd	Overview of Periodic table	Periodic trends in properties of Elements - a) Atomic radius b) Ionization potential c) Electro negativity d) Ionic radius e) Density.	Smt.V.B.T.Sundari
17/12/21	4 th	Fundamentals of Organic Reaction Mechanism	1. stability of Carbocation, Carbanion, and Carbon free radical 2. Types of Reagents- Electrophiles and Nucleophiles 3. Curved arrow notations, cleavage of bond-homolytic and heterolytic cleavage 4. Resonance effect, Inductive effect, Mesomeric effect and Steric effect 5. Types of reactions- Addition, Elimination, Substitution, and Rearrangement	Smt.V.B.T.Sundari
18/12/21	1 st	Structure of Atom	i) Principal quantum number ii) Azimuthal quantum number iii) Magnetic quantum number iv) Spin quantum number, Shape of orbitals - a) s – orbital b) p – orbital c) d – orbital a) Aufbau principle b) Pauli's exclusion principle c) Hund's rule	Dr.M.Sunitha

S.R.R.COLLEGE FOR WOMEN, RAJAHMUNDRY

DEPARTMENT OF CHEMISTRY

REMEDIAL COACHING

Name of the Lecturer: Dr. Ch.V.V. Srinivas, Smt. N. Sanku

Class BSc - II

Semester - II

Year-2021-22

S.NO	Name of the Student	Marks obtained in the previous semester Mid	TOPIC COVERED					Marks obtained in the internal exam after remedial coaching	Signature of the student	Remarks
			Aldol, Puff 21/3/21 22/3/21 23/3/21	Dt 24/3/21 25/3/21 26/3/21	Dt 27/3/21 28/3/21 29/3/21	Dt 30/3/21 31/3/21 1/4/21	Dt 2/4/21 3/4/21 4/4/21			
1.	M. Tyoti Priya	11	Ab	✓	✓	✓	✓	12	M. Tyoti Priya	
2.	P. Lakshmanamma	11	✓	✓	✓	✓	Ab	13	P. Lakshmanamma	
3.	B. Priyanka	12	✓	✓	✓	✓	✓	15	B. Priyanka	
4.	G.S.S. Devi prasanna	06	✓	✓	Ab	✓	✓	10	G.S.S. DEVI PRASANNA v. kataria	
5.	V. Harika	10	Ab	✓	✓	✓	✓	11	V. Harika	
6.	P. Poojitha	05	✓	✓	✓	✓	✓	11	P. Poojitha	
7.	S.S. Teja Anu	07	✓	✓	✓	✓	✓	12	S.S. Teja Anu	
8.	N.B.T. Sundarini	04	✓	✓	✓	✓	✓	09	N.B.T. Sundarini	
9.	T. Sandhyaarani	05	✓	✓	✓	✓	✓	10	T. Sandhyaarani	

M. S. 1

CERTIFICATE COURSE

ON

FOOD ADULTERATION



K.R.COLLEGE FOR WOMEN :: RAJAMAHENDRAVARAM

DEPARTMENT OF CHEMISTRY

2021 -2022

From

Dr.M.Sunitha,
Lecturer in Chemistry,
S.K.R.College for Women,
Rajamahendravaram.

To

The Principal,
S.K.R.College for Women,
Rajamahendravaram.

Sub: Requesting letter to start a Certificate Course on "Food Adulteration" submitting Proposals regarding...

Respected madam,

We, the Department of Chemistry has planned to start Certificate Course for Final year B.Sc. students from 03/01/2022 to 28/02/2022 i.e., for 2 months (36 hrs.) on Food Adulteration for the academic year 2021-2022.

We humbly request you to permit us for conducting the above course.

Thanking you,

M. Sunitha
Dr.M.Sunitha

Dr. M. SUNITHA
M.Sc., M.Phil., Ph.D.
Incharge of the Dept of Chemistry
S.K.R. COLLEGE FOR WOMEN,
RAJAMAHENDRAVARAM.

S.K.R.COLLEGE FOR WOMEN:: RAJAMAHENDRAVARAM

DEPARTMENT OF CHEMISTRY
CERTIFICATE COURSE- 2021-22

The Department of Chemistry met in the Principal's chamber to discuss and review the conduct of the Certificate Course titled "**Food Adulteration**" under the chairmanship of the Principal and the faculty of the Department of Chemistry on 05.11.2021.

RESOLUTIONS:

- (1) It is resolved to start the Certificate Course titled "**Food Adulteration**" from 03.01.2022 (36 hrs duration) for the academic year 2021-2022.
- (2) Resolved to frame the syllabus, regulations for the successful completion of the certificate course titled "**Food Adulteration**".
- (3) Resolved to conduct classes from 4.30 PM onwards in the college campus.
- (4) Resolved to conduct exam after completion of the course and issue Certificates to the qualified candidates.
- (5) Qualifying mark is 40 %.

MEMBERS PRESENT:

- 1.Dr.Ch.V.V.Srinivas
- 2.Smt.V.B.T.Sundari
- 3.Smt.N.Swathi
- 4.Smt.P.N.L.Prasanna
- 5.Smt.N.S.V.Sravani


(Dr.M.Sunitha)

In charge of the Department

Dr.P.Raghava Kumari
Principal

Dr. M. SUNITHA
M.Sc., M.Phil., Ph.D.
Incharge of the Dept. of Chemistry
S.K.R. COLLEGE FOR WOMEN,
RAJAMAHENDRAVARAM

CIRCULAR

DATE- 21.12.2021.

This is to inform that the Department of Chemistry is going to conduct a Certificate Course from 03.01.2022 to 28.02.2022 for III BSc students on "Food Adulteration". All the students are informed to enroll their names in the Department of Chemistry on or before 27.12.2021. The duration of the course is 2-months (36 Hrs). The candidates who secure 40% of the marks in the examination will get the certificate.

M. Sunitha
(Dr.M.Sunitha)

Incharge of the Department

Dr. M. SUNITHA
M.Sc., M.Phil., Ph.D.
Incharge of the Dept. of Chemistry
S.K.T. COLLEGE FOR WOMEN,
BEJANUR HOSEYANAM

S.K.R.COLLEGE FOR WOMEN:: RAJAMAHENDRAVARAM

DEPARTMENT OF CHEMISTRY

CERTIFICATE COURSE- 2021-22

REPORT

As a part of academic activity, the Department of Chemistry has conducted Certificate Course in 'Food Adulteration' from 03.01.2022 to 28.02.2022 for the academic year 2021-2022. The important objective of the course is to improve basic knowledge on Food Adulteration and its consequences.

Classes were taken by the Chemistry faculty member for 36 hrs. At the end of the course, an external examination with multiple choice questions has conducted for the assessment of learner's understanding levels of knowledge. The minimum qualifying mark for awarding the certificate is 40%. 23 students completed the course successfully and got certificates during the academic year 2021-2022.

M. Senthil

DR. M. SETHIL
M.Sc. (Chemistry)
Head of the Dept of Chemistry
S.K.R. COLLEGE FOR WOMEN,
RAJAMAHENDRAVARAM.

LIST OF STUDENTS ENROLLED**"FOOD ADULTERATION"**

S.No.	Name of the student	Class	Hall ticket number
1.	B Jahnavi Devi	III BSC MPC	190907101005
2.	J Bhavani	III BSC MPC	190907101007
3.	J SatyaPrasanthi	III BSC MPC	190907101009
4.	K B havani	III BSC MPC	190907101012
5.	K Veeraveni	III BSC MPC	190907101013
6.	L Lakshmi Priya	III BSC MPC	190907101016
7.	K Bhavani	III BSC MPC	190907101017
8.	L Adi Lakshmi	III BSC MPC	190907101020
9.	M Madhuri	III BSC MPC	190907101021
10.	M Hemalatha	III BSC MPC	190907101026
11.	M Navya	III BSC MPC	190907101027
12.	S DurgaAvanthi	III BSC MPC	190907101028
13.	SVPK Sri Brundan	III BSC MPC	190907101029
14.	T Surekha	III BSC MPC	190907101030
15.	U Hema Sri	III BSC MPC	190907101032
16.	V RatnaKumari	III BSC MPC	190907101033
17.	K Sandhya	III BSC MPC	190907110145
18.	M DivyaKanthi	III BSC CBZ	190907110157
19.	P Sowjanya	III BSC CBZ	190907110169
20.	P Sushma	III BSC CBZ	190907110172
21.	P Srivalli	III BSC CBZ	190907110174
22.	S Deepika	III BSC CBZ	190907110180
23.	G sandhya Rani	III BSC CBZ	190907110181




Smt. KANDUKURI RAJYALAKSHMI COLLEGE FOR WOMEN,
RAJAMAHENDRAVARAM,
RE-ACCREDITED AT B+ LEVEL BY NAAC



Certificate



This is to certify that _____ of III B.Sc
successfully completed the Value Added Course on **Food
Adulteration** conducted by the Department of Chemistry
from 03-01-2022 to 28-02-2022.


H. Senthil
Head of the Department

Principal


M. SUNITHA
Assistant Professor,
Department of Chemistry,
Smt. Kandukuri Rajyalakshmi College for Women,
Rajamahendravaram



ADIKAVI NANNAYA UNIVERSITY
UNIVERSITY COLLEGE OF
SCIENCE AND TECHNOLOGY
RAJAMAHENDRAVARAM - 533296



K. LAKSHMI PRIYA

DEPARTMENT : **Organic Chemistry**
COURSE : **M.Sc Organic Chemistry**
ADMIT .NO : **2288533011**
ADMIT BATCH : **2022 - 2024**
STUDENT CELL NO : **9346499280**
FATHER CELL NO : **9347909026**
BLOOD GROUP : **O+**

Vijaya Devi
Principal

Optum



Sri Brundhan S V P
Korukonda
Contractor



ADIKAVI NANNAYA UNIVERSITY
UNIVERSITY COLLEGE OF
SCIENCE AND TECHNOLOGY
RAJAMAHENDRAVARAM - 533296



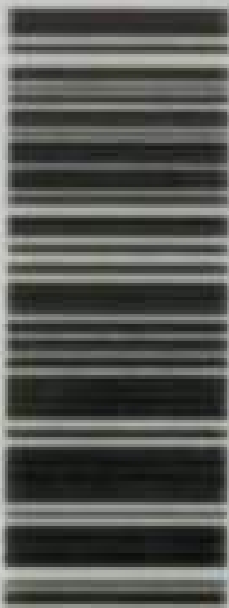
K. BHAVANI

DEPARTMENT : **Organic Chemistry**
COURSE : **M.Sc Organic Chemistry**
ADMIT .NO : **2288533012**
ADMIT BATCH : **2022 - 2024**
STUDENT CELL NO : **8885966212**
FATHER CELL NO : **9346360212**
BLOOD GROUP : **A+**

P. Vijaya Srinivas
Principal



आन्ध्रप्रदेश केंद्रीय विश्वविद्यालय
CENTRAL UNIVERSITY OF ANDHRA PRADESH
Ananthapuramu - 515002, Andhra Pradesh



JMSR SOWBHAGYA

Course : **MSc MATHEMATICS**
Reg No. : **22MAT05**
Aadhaar No. : **9943 2587 1930**

Authorized Signatory

Permanent Address :

Door No: 7-34, Indra Colony, Amalapuram
Rural, Peruru, East Godavari,
Andhra Pradesh - 533218



Smt. KANDUKURI RAJYALAKSHMI COLLEGE FOR WOMEN

Accredited at B+ level by NAAC

(Estd : 1968)

Affiliated to Adikavi Nannaya University, Rajamahendravaram (ANUR)

(Under the control of HITHAKARINI SAMAJAM, Endowments Dept., Govt. of Andhra Pradesh)

Dr. P. Raghava Kumari
M.Sc., B.Ed., M.Phil., Ph.D. Principal



Opp.T.T.D. Kalyana Mandapam, Danavaipeta
RAJAMAHENDRAVARAM - 533 103
East Godavari District, A.P., INDIA
☎ 0883 - 2467391, 90304 30758
e-mail : skrcollege@yahoo.com
website : www.skrcw-rjy.org

To
The Assistant commissioner & Correspondent
SKR College For Women,
Rajamahendravaram

Sub :- SKR College For Women, Rajamahendravaram – Submission of Feedback
Report 2021-22 Reg.

This is to submit that, as an institutional practice, SKR College For Women, Rajamahendravaram which is under the jurisdiction of Adikavi Nannaya University, Rajamahendravaram collects feedback on college / curriculum from time to time from its stakeholders.

During the academic year 2021-2022, feedback was collected from students, teachers, parents and alumni. A copy of the feedback report is submitted to your office for your information.

Thanking you, Sir.

SIGNATURE OF THE PRINCIPAL

PRINCIPAL

**S.K.R. COLLEGE FOR WOMEN
HITHAKARINI SAMAJ**

Endowments Dept., Govt. of Andhra Pradesh
RAJAMAHENDRAVARAM



Asst. Commissioner & Correspondent
**S.K.R. COLLEGE FOR WOMEN
HITHAKARINI SAMAJAM**
Endowments Dept., Govt. of Andhra Pradesh
RAJAMAHENDRAVARAM

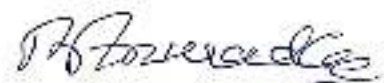
SKR COLLEGE FOR WOMEN, RAJAMAHENDRAVARAM

Feedback Report 2021-2022

For the academic year 2021-2022, feedback on the college functioning including teaching learning process was collected from the students, teachers, parents and alumni in offline mode. For the students, a feedback form was designed with 20 questions on 20 parameters with 5 options namely -- Strongly Agree, Agree, Neutral, Strongly disagree and Disagree.

958 students submitted their feedback which was collected by the class mentors. Before collection, the purpose of feedback was explained to the students. If the students could not understand any parameter, the mentors explained the parameter and its importance. With the help of the faculty, the IQAC arranged for the analysis of the collected data; the analysis was tabulated and also presented in a graphical format. For the teachers, alumni and parents, a feedback form was customized with 10 questions covering different areas of the college functioning. The analysis report reveals that:

- Stakeholders expressed their opinion that supports the students to prepare for competitive exams.
- More Cultural activities are to be organized in the college



IQAC Coordinator

IQAC Co-ordinator

S.K.R. COLLEGE FOR WOMEN
HITHAKARINSAMAJ
East Godavari, District Andhra Pradesh
RAJAMAHENDRAVARAM

SKR COLLEGE FOR WOMEN, RAJAMAHENDRAVARAM

Action Taken Report on Feedback -2021-2022

The feedback report for the academic year 2021-2022 was placed before the staff council meeting chaired by the principal of the college. The council discussed the report in detail. For all the positive feedback about the teaching learning process, the efforts of the teachers were appreciated. The meeting resolved to take the following measures to improve the overall functioning of the college.

Student Centered Learning (SCL) practices in curriculum delivery and transaction were given much emphasis.

Based on the parents & alumnae feedback, PG coaching is continued in a more structured manner and offered support to the students seeking higher education.

The mentors were specifically directed to provide emotional support to students and be accessible to them even out of the classroom, following the spirit of the Mentor Mentee System (MMS) in place.



P. Me

PRINCIPAL
S.K.R. COLLEGE FOR WOMEN
HITHAKARINI SAMAJ
Endowments Dept., Govt. of Andhra Pradesh
RAJAMAHENDRAVARAM

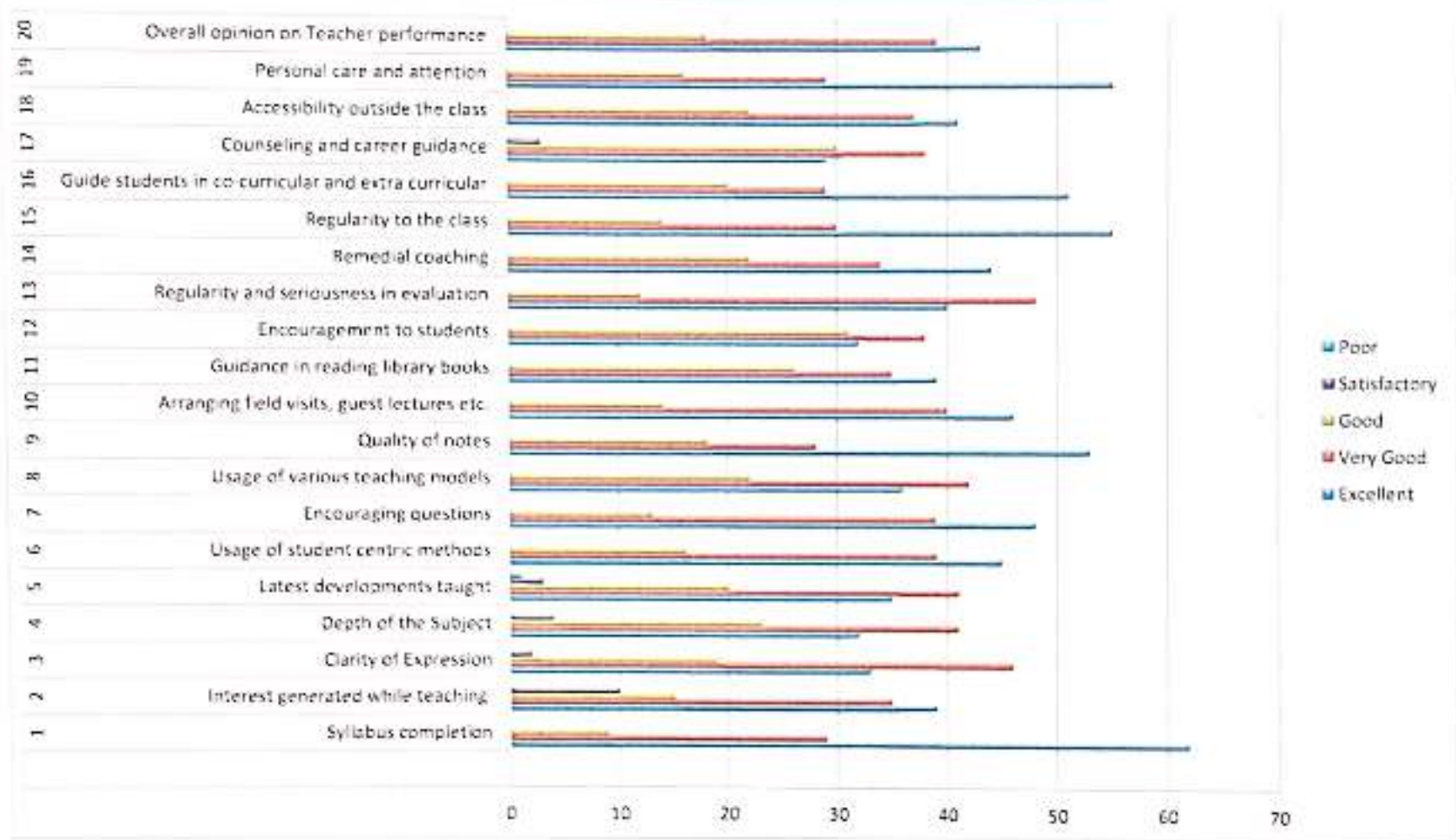
SKR COLLEGE FOR WOMEN RAJAMAHENDRAVARAM
Student Satisfaction Survey (SSS) on Teaching Learning & Evaluation for 2021-22

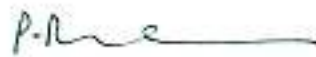
Sl.No	Parameters	Excellent		Very Good		Good		Satisfactory		Poor	
		No	%	No	%	No	%	No	%	No	%
1	Syllabus completion	590	62	280	29	88	09	0	0	0	0
2	Interest generated while teaching	374	39	340	35	144	15	100	10	0	0
3	Clarity of Expression	320	33	436	46	180	19	22	02	0	0
4	Depth of the Subject	306	32	396	41	220	23	36	04	0	0
5	Latest developments taught	337	35	395	41	190	20	26	03	10	01
6	Usage of student centric methods	435	45	369	39	154	16	0	0	0	0
7	Encouraging questions	463	48	374	39	121	13	0	0	0	0
8	Usage of various teaching models	346	36	398	42	214	22	0	0	0	0
9	Quality of notes	511	53	270	28	177	18	0	0	0	0
10	Arranging field visits, guest lectures etc.	442	46	386	40	130	14	0	0	0	0
11	Guidance in reading library books	373	39	332	35	253	26	0	0	0	0
12	Encouragement to students	302	32	361	38	295	31	0	0	0	0
13	Regularity and seriousness in evaluation	382	40	460	48	116	12	0	0	0	0
14	Remedial coaching	425	44	323	34	210	22	0	0	0	0
15	Regularity to the class	530	55	292	30	136	14	0	0	0	0
16	Guide students in co-curricular and extra curricular	492	51	274	29	192	20	0	0	0	0
17	Counseling and career guidance	280	29	360	38	292	30	26	03	0	0
18	Accessibility outside the class	393	41	350	37	215	22	0	0	0	0
19	Personal care and attention	523	55	280	29	155	16	0	0	0	0
20	Overall opinion on Teacher Performance	412	43	370	39	176	18	0	0	0	0



P. N. S.
PRINCIPAL
S.K.R. COLLEGE FOR WOMEN
HITHAKARINI SAMAJ
 Rajamahendravaram
 Dept. of Arts & Commerce
 RAJAMAHENDRAVARAM

Analysis of Student Survey Feed back - 2021-2022

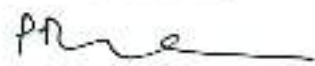



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 Educational Dist. East Godavari Circle
 RAJAHMUNDRY, AP-520001

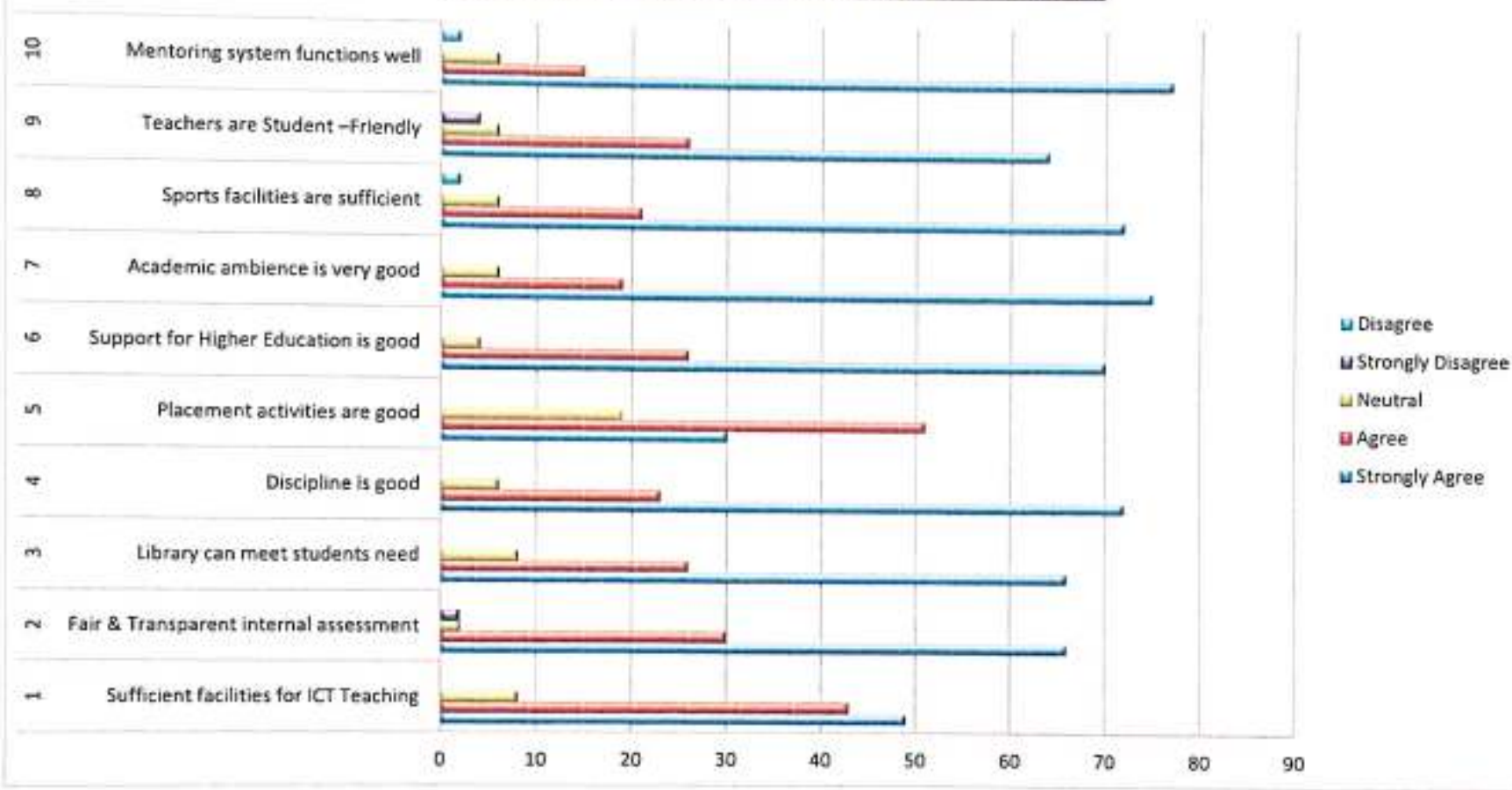
SKR COLLEGE FOR WOMEN, RAJAMAHENDRAVARAM
Teacher Feed Back Analysis – 2021-2022


Sl.No	Parameters	Strongly Agree		Agree		Neutral		Strongly Disagree		Disagree	
		No.	%	No.	%	No.	%	No.	%	No.	%
1	Sufficient facilities for ICT Teaching	26	49	23	43	04	08	0	0	0	0
2	Fair & Transparent internal assessment	35	66	16	30	01	02	01	02	0	0
3	Library can meet students need	35	66	14	26	04	08	0	0	0	0
4	Discipline is good	38	72	12	23	03	06	0	0	0	0
5	Placement activities are good	16	30	27	51	10	19	0	0	0	0
6	Support for Higher Education is good	37	70	14	26	02	04	0	0	0	0
7	Academic ambience is very good	40	75	10	19	03	06	0	0	0	0
8	Sports facilities are sufficient	38	72	11	21	03	06	0	0	01	02
9	Teachers are Student – Friendly	34	64	14	26	03	06	02	04	0	0
10	Mentoring system functions well	41	77	08	15	03	06	0	0	01	02




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Analysis of Teacher Feed Back 2021-2022





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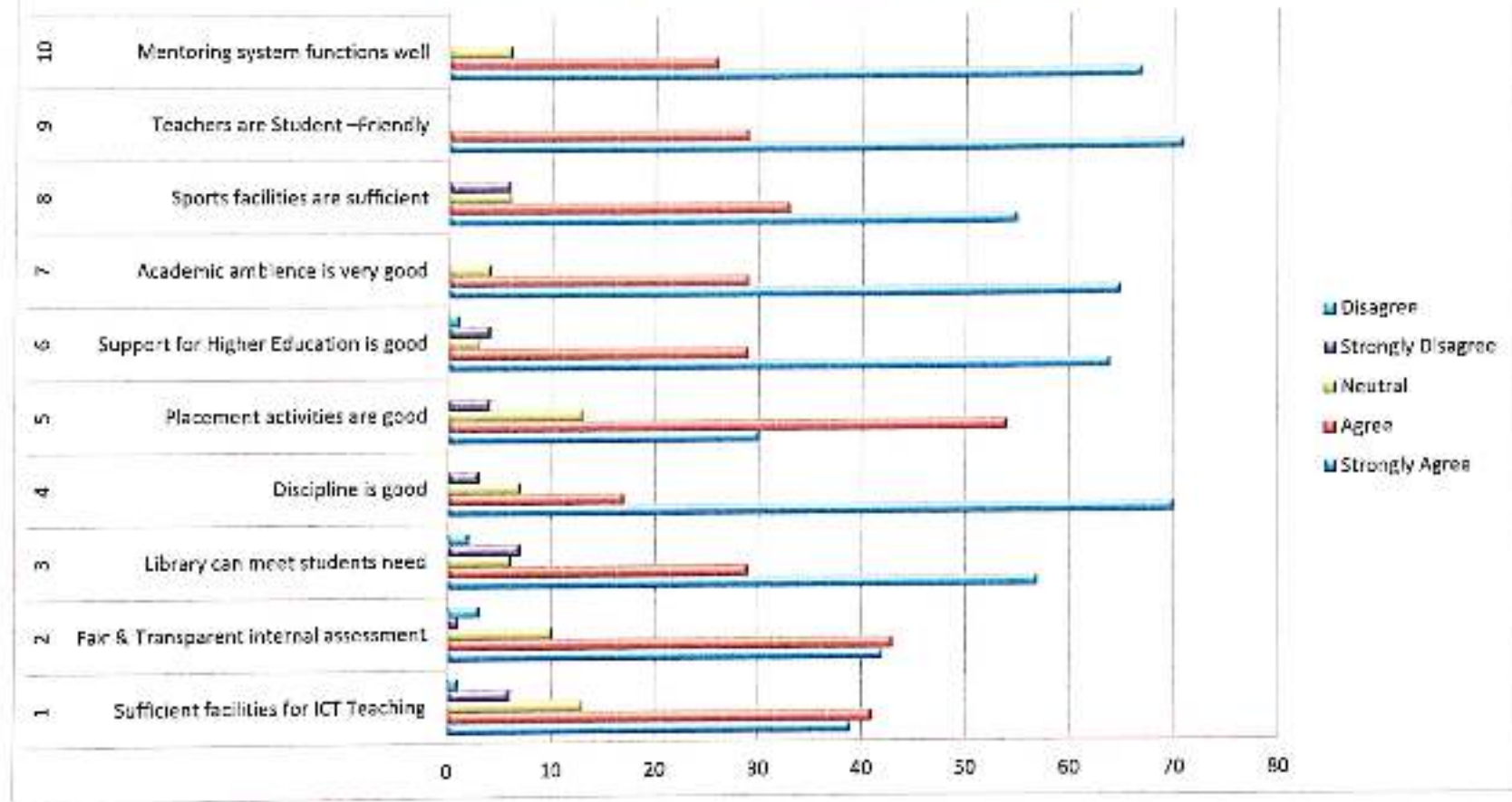
SKR COLLEGE FOR WOMEN, RAJAMAHENDRAVARAM
Alumni Feed Back Analysis – 2021-2022

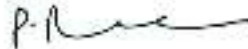
Sl.No	Parameters	Strongly Agree		Agree		Neutral		Strongly Disagree		Disagree	
		No.	%	No.	%	No.	%	No.	%	No.	%
1	Sufficient facilities for ICT Teaching	27	39	28	41	09	13	04	06	01	01
2	Fair & Transparent internal assessment	29	42	30	43	07	10	01	01	02	03
3	Library can meet students need	39	57	20	29	04	06	05	07	01	02
4	Discipline is good	48	70	12	17	05	07	02	03	0	0
5	Placement activities are good	20	30	37	54	09	13	03	04	0	0
6	Support for Higher Education is good	44	64	20	29	02	03	03	04	01	01
7	Academic ambience is very good	45	65	20	29	03	04	0	0	0	0
8	Sports facilities are sufficient	38	55	23	33	04	06	04	06	0	0
9	Teachers are Student – Friendly	49	71	20	29	0	0	0	0	0	0
10	Mentoring system functions well	46	67	18	26	04	06	0	0	0	0




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HITHAKARINI SAMAJ
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Analysis of Alumni Feed Back 2021-2022

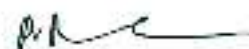



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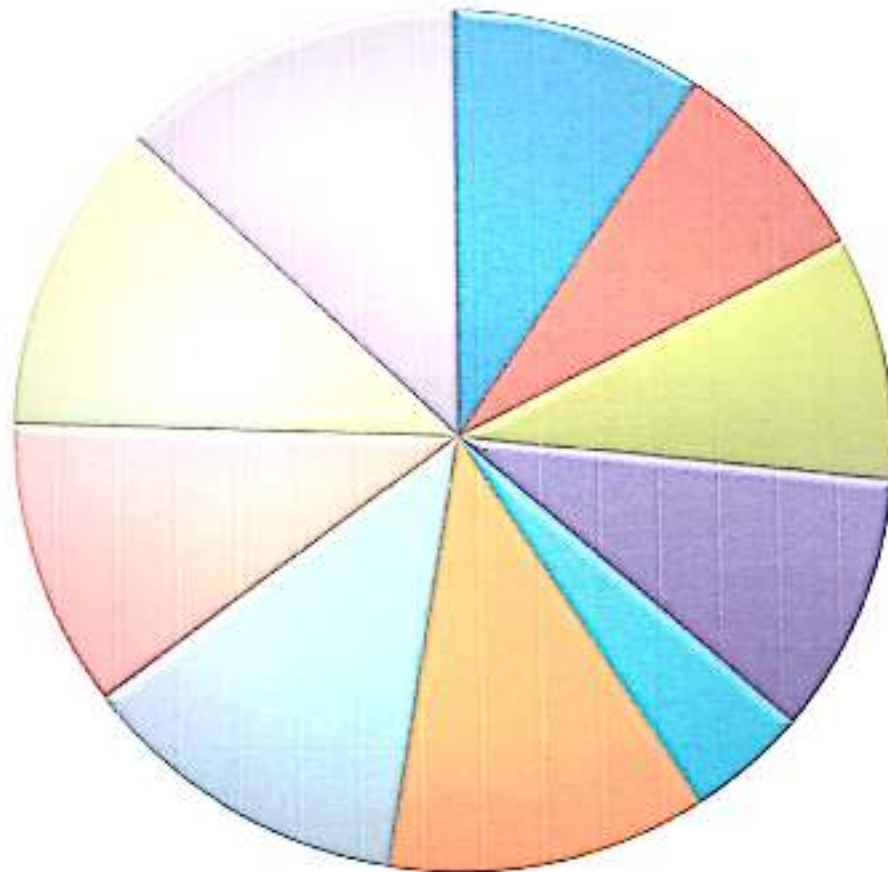
SKR COLLEGE FOR WOMEN, RAJAMAHENDRAVARAM
Parent Feed Back Analysis – 2021-2022

Sl.No	Parameters	Strongly Agree		Agree		Neutral		Strongly Disagree		Disagree	
		No.	%	No.	%	No.	%	No.	%	No.	%
1	Sufficient facilities for ICT Teaching	33	52	22	35	04	06	04	04	0	0
2	Fair & Transparent internal assessment	28	44	28	44	05	08	0	0	02	03
3	Library can meet students need	32	51	25	40	05	08	01	02	0	0
4	Discipline is good	34	54	22	35	06	10	01	02	0	0
5	Placement activities are good	16	25	35	56	11	17	01	02	0	0
6	Support for Higher Education is good	41	65	17	27	07	11	01	02	0	0
7	Academic ambience is very good	42	67	16	25	06	10	0	0	01	02
8	Sports facilities are sufficient	37	59	23	37	03	05	01	02	0	0
9	Teachers are Student – Friendly	41	65	18	29	03	05	01	02	0	0
10	Mentoring system functions well	45	71	11	17	05	08	01	02	0	0




 PRINCIPAL
 S.K.R. COLLEGE FOR WOMEN
 HITHAKADINI SAMAJ
 Endowments Dept, Govt of Andhra Pradesh
 RAJAMAHENDRAVARAM

Analysis of Parent Feed Back 2021-2022



- 1 Sufficient facilities for ICT Teaching
- 2 Fair & Transparent internal assessment
- 3 Library can meet students need
- 4 Discipline is good
- 5 Placement activities are good
- 6 Support for Higher Education is good
- 7 Academic ambience is very good
- 8 Sports facilities are sufficient
- 9 Teachers are Student - Friendly
- 10 Mentoring system functions well



P. R. V.

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SKR COLLEGE FOR WOMEN, RAJAMAHENDRAVARAM

DEPARTMENT OF CHEMISTRY

BEST PRACTICE 2021-22

ACTIVITY 1: PRACTICE IN PREPARATION FOR PAIN BALM AND VASELINE

1. Title of the Practice

SKILL DEVELOPMENT – PREPARATION OF HOUSEHOLD CHEMICALS

2. Objectives of the Practice

The role of household chemicals is alarming nowadays with the inflation of prices. To overcome this at least the daily household chemicals are to be prepared ourselves, which leads to minimizing the family expenditure.

3. The Context

Household chemicals and bath soaps can be prepared with meager effort and expenditure. The Bath Soaps, Vaseline, and pain balms can be prepared in the houses themselves with less effort.

4. The Practice

Department of Chemistry is in the practice of encouraging the students to prepare of Bath Soaps, Vaseline, and pain balms.

5. Evidence of Success

Department of Chemistry involved the students in the preparation of household chemicals and made them more proficient in preparation. With the sale of household chemicals, *meager revenue is also generated.*

6. Problems encountered and resources required

The preparation of cloth bags is an expensive task. The staff of the department can't contribute always, hence financial aid should be supported to continue the practice.



Preparation of pain balm



Preparation of Vaseline

SKR COLLEGE FOR WOMEN, RAJAMAHENDRAVARAM

DEPARTMENT OF CHEMISTRY

BEST PRACTICE 2021-22

ACTIVITY -2: CAMPAIGN IN CONNECTION WITH PAPER BAG DAY

1. Title of the Practice

SKILL DEVELOPMENT – PREPARATION OF HOUSEHOLD CHEMICALS

2. Objectives of the Practice

The role of household chemicals is alarming nowadays with the inflation of prices. To overcome this at least the daily household chemicals are to be prepared ourselves, which leads to minimizing the family expenditure.

3. The Context

Household chemicals and bath soaps can be prepared with meager effort and expenditure. The Bath Soaps, Vaseline, and pain balms can be prepared in the houses themselves with less effort.

4. The Practice

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