



S.S.G. PAREEK P.G. COLLEGE

(Affiliated to the University of Rajasthan) UGC



Estd.- 1906

Add-on Certificate Course

Chemistry at Doorsteps

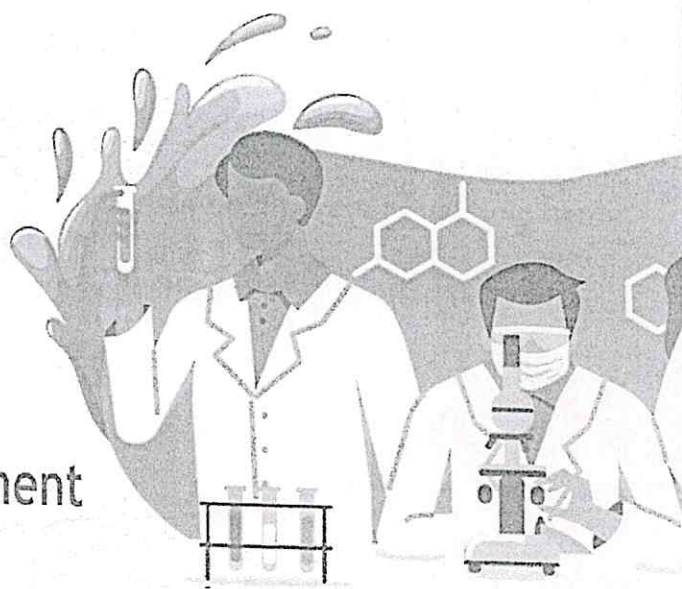
Academic Year 2023-24

Department of Chemistry

Duration : 30 hours

Date : 5 December 2023

Venue : Chemistry Department



Course Outcome

After the completion of the course, the student should be able-

- To provides good training for student interested in careers in small scale manufacturing of some domestic products.
- To determine adulteration in food materials and methods to test, because it affects all of us.
- To learn about the hazardous effect of toxic materials on different household items the cleansing action of soap sand detergents.
- To able to synthesize various domestic items which are very useful in daily life.

Coordinator Name – Dr. Mahesh Kumar Bhimwal

Note: 75% Attendance Required

📍 Kanti Chandra Road, Banipark, Jaipur-302016 (Raj.)

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Date -: 1/12/2023

Notice

Add-on Certificate Course

Dear Students,

We are pleased to announce the commencement of registration for our upcoming Add-on Course. This course aims to supplement your academic learning and enhance your skills.

Key Details:

Course Name: Chemistry at Doorsteps

Duration: 30 Hours

Venue: Chemistry Department


Course Started – 5 December 2023

This Add-on Course is designed to equip you with practical skills that will complement your academic journey and enhance your employability prospects. The basic objective of this course is to enhance student sense of prompting for Chemistry and to involve them in an intellectually stimulating experience of learning in a supportive environment. Besides, the idea of toxicology will help the students to enter in the large domain of Forensic science. We encourage all interested students to take advantage of this opportunity. For any inquiries or assistance regarding the course, feel free to contact Coordinator.

Coordinator Name – Dr. Mahesh Kumar Bhimwal

Department of Chemistry

Note - 75% Attendance is must.


Principal

S.S.G. PAREEK P.G. COLLEGE

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UGC Approved "First Heritage College in Rajasthan"



ESTD.-1906

CERTIFICATE

This certificate is proudly presented to

He/She has successfully completed the Add-on added course on

"CHEMISTRY AT THE DOORSTEPS"

Held from 01 August 2022 to 5 Dec 2023

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COURSE-COORDINATOR

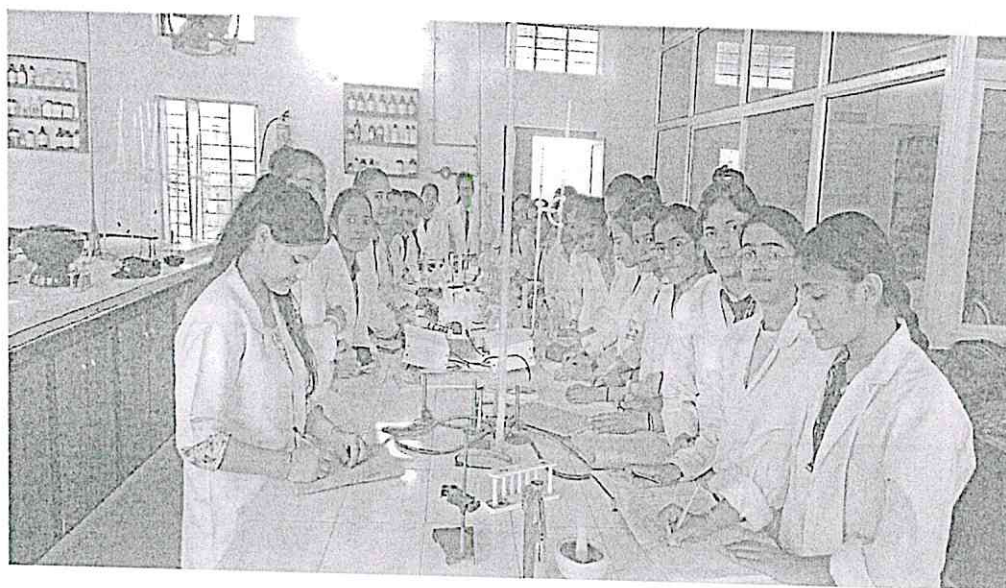
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DEPARTMENT OF CHEMISTRY



1906



ADD-ON COURSE ON CHEMISTRY AT THE DOORSTEPS

KANTI CHANDRA ROAD, BANIPARK JAIPUR-302016, RAJASTHAN

Email: info@ssgpareekpgcollege.com

Website: www.ssgpareekpgcollege.com

Add on Course: M.Sc. Chemistry 2024



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1.	Course Name	CHEMISTRY AT THE DOORSTEPS
2.	Coordinator Name	Dr. Mahesh Kumar Bhimwal
3.	Instructor Name	Dr. Deepshikha Sharma
4.	Class	M.Sc. Chemistry
5.	Number of Student	9
6.	Duration	30 Hours
7.	No. of Hours/Day	1

ABOUT COURSE

S.NO.	TITLE	CONTENT
1.	Context	In order to meet the demand of Under Graduate level students of science back ground entering into the next phase of higher education and vocational life, make them compatible in the job market.
2.	Prerequisite	Current under graduate students having Chemistry as their generic/general subject.
3	Course objective	An undergraduate degree in Chemistry opens a whole host of opportunities in fields. A background in this course provides good training for student interested in careers in small scale manufacturing of some domestic products. The basic objective of this course is to enhance student sense of enthusiasm for Chemistry and to involve them in an intellectually stimulating experience of learning in a supportive environment. Besides, the idea of toxicology will help the students to enter in the large domain of Forensic science.

Add on Course: M.Sc. Chemistry 2024


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4	Program highlights and unique features	<ul style="list-style-type: none">• This course is very helpful to students in future for both study and as well as in practice.• After this course, the students are able to synthesize various domestic items which is very useful in daily life of human and also provides critical thinking skills, besides growing their confidence to develop small scale manufacturing unit.• The course is very beneficiary for students to determine adulteration in food materials and methods to test, because it affects all of us.
		<ul style="list-style-type: none">• Another unique feature of this course is to learn the cleansing action of soap sand detergents with special emphasis on the effect of water hardness upon their cleansing action.• Student can also learn how to calculate costing and sale price of synthesized material. The hazardous effect of toxic materials on different household items like vegetables, fish and a brief idea of poison, their classification and mode of action on human body will be the salient feature of this course.
5	Career prospect	Enhancement of employability and development of basic skills, knowledge and confidence to develop small scale manufacturing unit, thereby widening of the scope in vocational life in this competitive world and also enhances The possibility to enter the large domain of forensic science.
6	Faculty requirement	Internal (Department of Chemistry)
7	Modern pedagogy	Hybrid model of learning and practice, continuous and comprehensive evaluation
8	Registration fee	Nil

Add on Course: M.Sc. Chemistry 2024


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9	Course Content	Detailed course content attached herewith in Annexure-I
10	Course Outcome	To provides good training for student interested in careers in small scale manufacturing of some domestic products. They also have an idea to calculate costing and sale price of synthesized materials. It also aims to develop the basic idea about adulteration and poisoning of household materials to look for an employment in the modern globalized world.
11	Assessment process and grading	i. Attendance ii. Continuous assessment in both theoretical and practical classes iii. Project based assessment iv. Written test v. Viva-voce
12	Student feedback	After every module

COURSE TIME-FRAME

Units	Unit Title	Classes/ Hours
I	Properties of some common Household chemicals	4 Hours
II	Preparation of some common household chemicals and exposure to build a small-scale industry	4 Hours
III	Adulterations: method for detection	2 Hours
IV	Laboratory techniques to detect common adulterants in food	4 Hours
V	Poisoning and toxicology	6 Hours
VI	Seminar and presentation	4 Hours
VII	Visit to a small-scale industry	6 Hours
		Total= 30 hours

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Unit I: Properties of some common Household Chemicals:

1. Properties of white and black phenyl
2. Properties of dishwashing powder, detergent powder, liquid soap and bath soap
3. Soaps and detergents: principle of cleansing action.
4. Qualitative tests for oils and fats
5. Development of methods to compare the quality of regular household detergents.

Unit II: Preparation of some common Household Chemicals and exposure to build a Small Scale Industry:

1. Technical aspects: Process outline of making Soap solution, White phenyl, Black phenyl, hand wash, alcoholic hand sanitizer.
2. Financial aspects: (a) Machinery and equipment (b) Pre-operative expenditure (c) Working capital analysis (c) Cost of raw materials(d)Other expenditure(e)Working capital per month (f) Cost of production (g) Turnover.
3. Laboratory techniques to prepare soap, white and black phenyl, hand wash and hand sanitizer.

Unit III: Adulterations: method for detection:

Chemistry involved for detection of common adulterants in food:

- (a)Milk and milk products (b)Oils and fats(c)Sweetening agents(c)Food grains and their products (d) Spices (e) Miscellaneous household products.

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Unit IV: Laboratory techniques to detect some common adulterants in Food

Laboratory techniques to detect the presence of

- (a) Water, starch, urea, vanaspati, detergent, formalin in milk and milk products
- (b) Chalk powder, urea in sugar
- (c) Sugar solution in honey
- (d) Washing soda in jiggery
- (e) Metanil yellow in besan
- (f) Chalk powder in white flour
- (g) Brick powder in chillies powder
- (i) Common salt in powdered spices
- (j) Papaya seeds in black peeper
- (k) Coloured saw dust in turmeric powder.

Unit V: Poisoning and toxicology:

1. Introduction: Appropriate material for detection of poisons, containers for the materials to be preserved, sample preservation, sealing of containers
2. Classification of poisons, isolation/extraction of poison from viscera and other body fluids, purification of isolated poisons
3. Analysis of different classes of poisons
4. Different types of techniques used for the identification of poisons (chemical analysis, instrumental analysis and chromatographic analysis).

Unit VI: Seminar and presentation:

Students will prepare power point presentation and deliver a short lecture on the

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relevant topics

Unit VII: Visit to a small scale industry/food processing laboratory.

EVALUATION MODALITIES:

Units	Unit Title	Evaluation strategies
I	of some common household materials	Presentation
II	Preparation of some common Household materials and exposure to build a small scale industry	Laboratory skills
III	Adulterations: method for detection:	MCQ test
IV	Laboratory techniques to detect some common adulterants in Food	Practical exam
V	Poisoning and toxicology:	Viva-voce
VI	Seminar and presentation:	Presentation on theoretical/ practical aspects in any one of the above five topics.
VII	Visit to a small scale industry/food processing laboratory.	On spot viva-voce.

Learning resources:

1. Synthetic Organic Chemistry: Gurdeep R. Chatwal, Himalaya Publishing House.
2. Vogel's textbook of Qualitative Chemical Analysis (Longman ELBS Edition).
3. Practical Organic Chemistry: O.P Agarwal.
4. Practical Organic Chemistry: A.I.Vogel.
5. Comprehensive Practical Organic Chemistry Qualitative Analysis: V.K. Ahluwalia.
6. A Textbook of Quantitative Inorganic Analysis including Elementary Instrumental Analysis: A.I. Vogel (3rd Ed.).


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ASSESSMENT/EVALUATION STRATEGY: FORMATIVE:

Name of Assessment Marks Allotted

- | | |
|---|----|
| 1. Continuous Evaluation | 20 |
| 2. Presentation on theoretical/
Practical aspects of application
Of Chemistry in household
materials | 10 |

SUMMATIVE:

- | | |
|-----------------------|----|
| 3. Theory (MCQ based) | 10 |
| 4. Viva-Voce | 05 |
| 5. Attendance | 05 |

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....
Total 50 Marks

Table for Qualification:

Score on 100% points	Grade
90 to 100	O-outstanding
80 to 89	E-Excellent
70 to 79	A-Very Good
60 to 69	B-Good
50 to 59	C-Fair
Below 50	Not Eligible for Certificate


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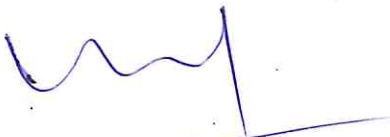
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Student Attendance Sheet

Session-2023-24

Course- Chemistry at the door steps Date - 5 Dec: 2023

S.No.	Student Name	Student ID	Class	Signature
1.	ANJALI SAINI	13868	M.Sc. Final Chemistry	
2.	BHAWANA JAT	14223	M.Sc. Final Chemistry	
3.	NANDINI SHEKHAWAT	13926	M.Sc. Final Chemistry	
4.	POOJA	14083	M.Sc. Final Chemistry	
5.	RASHIKA RAJPUT	14232	M.Sc. Final Chemistry	
6.	RITIKA KUMAWAT	14240	M.Sc. Final Chemistry	
7.	SAKSHI SONI	14138	M.Sc. Final Chemistry	
8.	SHASHANK SHARMA	14015	M.Sc. Final Chemistry	
9.	SIMRAN RATHORE	14332	M.Sc. Final Chemistry	


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Dr. R. C. Bani Park, Jaipur-302016 (Raj)

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