



Rural Foundation Nandurbar Sanchalit
SENIOR SCIENCE COLLEGE AKKALKUWA
Tal-Akkalkuwa, Dist. Nandurbar- 425415 (M.S.)



Department of Life Long Learning and Extension
Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

CERTIFICATE COURSE IN ANALYTICAL CHEMISTRY (Academic Year 2023-24)



Details of Course

Admission Date:

15th November to 10th December 2023

Course Started: 15th December 2023

Eligibility: 12th Passed

Medium: English

Maximum Enrollment: 30 per batch

Admission Fee: 500/- Rs Only

Duration of course
3 MONTHS

For More Information Contact

Co-Coordinator

Dr. Bharat Nagin Patil

Assistant Professor

Mob: 9960577697

Coordinator

Dr. Vijay Shivaji Patil

Head of Chemistry Department

Mob: 9765119037

Prof. Dr. C. P. Sawant

Principal

Mob: 9420533719

R.F.N.S. Senior Science College,
Akkalkuwa

Curriculum Features

1. Comprehensive Curriculum.
2. Practicals and demonstrations.
3. Well equipped Laboratory.
4. Qualified and Experienced Faculty.
5. Lectures from industrial expertise.
6. No upper Age Limit.
7. Hands on Practice.

Job/Employment Opportunities

1. All Industries in QC, Production and R&D Department (Sugar, Chemical, Pharmaceutical, Paints, Polymer, Dyes, Agrochemicals, Pesticide, Cosmetics, etc.)
2. Private laboratories.
3. In Schools and Colleges as a lab attendant.
4. NGO and Government Sectors as Lab Attendant/Assistant/Supervisor
5. Important to start self employment such as private instrumentation testing laboratories, Quality control, analytical testing laboratories, soil and water testing laboratories.
6. Technician and Helping hand in various research labs.

Website: www.rfnscience.org

Email: rfnseniorscienceakk@gmail.com



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(Accredited By NAAC with C grade)

Affiliated to KavayitriBahinabai Chaudhari North Maharashtra University, Jalgaon

Certificate Course in Analytical Chemistry

Prospectus

(Academic Year 2023-24)

**Course Offered by
Department of Chemistry**

RFNS, Senior Science College, Akkalkuwa

Website: rfnscience.org

Tel No.: 02567 252820

Email: rfnseniorscienceakk@gmail.com



✓ **About the college**

RFNS Senior Science College, Akkalkuwa came into the existence under the vision of Appasaheb Prakash B. Patil, the founder chairman of the Rural Foundation Nandurbar. Now the institute is flourished under the gleams of Hon'ble Appasaheb Prakash B. Patil, the President of the College.

The college is affiliated to the KBC North Maharashtra University Jalgaon since 2003 and from 2023 under UGC section 2(f) and 12 (B). College is imparting quality education in 2 UG courses with research centers in various departments. College is well-furnished and equipped departmental Labs.

✓ **Amis and Objectives:**

- To nurture the students as per requirement of the industry and bridge gap in between them.
- This course will be the good platform for the students to learn the work carried out in the QA and QC department in the chemical as well as pharmaceutical industry and research laboratories.
- The conventional and modern analytical techniques are introduced in the course.
- The students will be exposed to instrument handling along with the basic principle and instrumentation.

- Certificate will be issued for the course that will be helpful for the students while facing the interview in the industry.

✓ **Terms and conditions:**

- The course fees will be decided by the college and it was Rs. 100/- and examination fees of Rs. 100/- Both fees to be paid at the time of admission. The scope and limitations of subject regarding Certificate course in that subject shall be prescribed under the syllabus.
- 75% attendance in class-room and practical work will be compulsory. In exceptional case, The Principal may exempt the said deficiency up to 15%.
- The examination of the course will be conducted by Concern College where the affiliation to the course is granted.
- The practical examination of each course will be conducted by examiner appointed by the course coordinator.
- Successful examinees shall be awarded a Certificate Course under the signature of the Principal concerned in the prescribed format.

✓ **Outcome of Course**

After successful completion of this course, students are expected to:

- Know about the role of analytical chemistry in industry.
- Understand the basics of analytical methods.
- Understand the instruments for qualitative and quantitative Analysis.
- Solve the problem of detection and separation using analytical instruments.
- Students will be able to function as a member of an inter-disciplinary problem solving team.
- Students will be able to explore new areas of research in both chemistry and allied fields of science and technology.

Title of the Course:

Certificate Course in Analytical Chemistry

Duration of Course : 03 Months.

Number of Credits : 06 Credits

Course Structure : 1) **Paper-I** Principles of Instrumental Analysis.
2) **Practical Course** Experimental Analysis.

Eligibility for admission : Std. XIIth Passed

Skeleton of Course :

Sr. No.	Paper	Name of Subject	Theory/ Practical	Teaching Hours	Maximum marks allotted			Passing			Credit
					Ext	*Int	Total	Ext	Int	Total	
01	Paper-II	Analytical Chemistry	Theory	30	60	40	100	24	16	40	3
02	Paper-III	Analytical Chemistry	Practical	30	60	40	100	24	16	40	3

***Internal Marks are divided in 3 parts e.g. 10 marks for Attendance, 10 marks for Home Assignment Tutorial and 20 marks for Internal Test.**

Minimum Staff : 03

Mode of Examination : 3 Monthly

Detail of Syllabus : A copy Attached

Syllabus:

Paper-I Principles of Instrumental Analysis

- 1) Potentiometry:
Introduction, working principle, measurement of EMF, half-cell, type of electrodes, salt bridge, cell representation, uses and application.
- 2) P^H- Metry:
Introduction, working principle, measurement of P^H, P^H scale, Glass combine electrode and buffers, uses and application.
- 3) Conductometry:
Introduction, working principle, measurement of conductance, conductivity cell, cell constant, specific and equivalent conductance, uses and application.
- 4) Volumetric Analysis:
Calibration of volumetric apparatus, standard solution, primary standard and secondary standard substances.
- 5) Chromatographic methods:
General principle, classification, Introduction to Thin layer chromatography, Paper chromatography.
References: 1. Basic Concept of Analytical Chemistry- S. M. Khopkar.
2. Analytical Chemistry - G. D. Christian.
3. Instrumental Methods of Analysis- Chatwal and Anand.

Paper-II Practical Course (Experimental Analysis)

- 1) To determine the P^H of given solution by potentiometrically.
- 2) To determine the strength of HCl solution by using volumetric analysis.
- 3) To determine the dissociation constant of weak monobasic acid by conductometrically.
- 4) To determine the hydrolysis constant of Aniline hydrochloride by P^H-metrically.
- 5) To find out the strength of ferric ammonium sulphate solution by using EDTA solution spectrophotometrically.
- 6) To verify Beer's law for solution of KMnO₄ and K₂Cr₂O₇ colorimetrically.
- 7) To estimate amount of Nickel in given sample by using gravimetric analysis.
- 8) To study the isolation of ions of Inorganic mixture by Paper chromatography.
- 9) To analyze a mixture of amino acids by TLC.
- 10) Determine loss per gram and hence water of crystallization of given salt.

References: Advanced Physical Chemistry Experiments- Gurtu and Gurtu

Certificate Course in Analytical Chemistry

Applications are invited for the certificate course in analytical chemistry from September 2023 Organized by the Department of Chemistry, RFNS Senior Science Akkalkuwa, Dist: Nandurbar. This certificate course is of 06 credits.


Duration	03 Months
Eligibility	Std. XII th Passed
Number of Seats	30
Selection	Merit
Course Fees	Once it is confirmed that admission is being offered to candidate, students has to pay Rupees 100/- and exam fees of Rupees 100/-, Total 200/- only.
Sale of Application Form	23 Sept. 2023 to 25 Sept. 2023
Date of Admission	26 Sept 2023
Date starting of Course	1 October 2023
Documents Required	Attested Copies of - 1) HSC (XII) Mark sheet 2) Caste Certificate and 3) Caste Validity (If any)

For Further Details

Contact


Dr. Bharat Nagin Patil

Course Co Co-ordinator

 9960577697


Dr. Vijay Shivaji Patil

Course Co-ordinator

 9765119037

Prof. Dr. C. P. Sawant

Principal

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Recent Passport
Photograph

Certificate Course in Analytical Chemistry

Application Form

Full Name of Student	
Full name of Father	
Class	
Contact Number	
Mother tongue	
Nationality	
Category (SC/ST/Other) Certificate to be enclosed	
Disability Certificate to be enclosed	
Email ID	

Attested photocopies of relevant documents should be enclosed with the application form

Declaration: The information furnished by me is true to the best of my knowledge and belief. Any statement made in the application form, if found incorrect on scrutiny, will render the application liable to rejection, and admission, if granted on the basis of that statement will stand cancelled.

Place: Akkalkuwa

Name and Signature of Candidate

Date :

Signature of Co-ordinate

Signature of Principal

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Certificate Course in Analytical Chemistry

Feedback Form

We value your feedback evaluation of the certificate course for our planning

- 1) Name: Mr/Miss.....
- 2) Name of College: RFNS Senior Science College, Akkalkuwa.
- 3) Mobile Number:
- 4) Class:
- 5) Please Tick () appropriate column

Sr. No.	Particulars	Excellent	Good	satisfactory
01	Management of Course			
02	Study Material of the Course			
03	Teaching Knowledge			
04	Practical knowledge			
05	About teacher			
06	Overall performance of the Course			

Suggestions If Any:.....
.....

Date: