



R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)

Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.

Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956

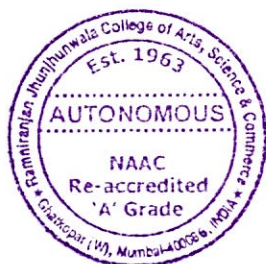
Affiliated to UNIVERSITY OF MUMBAI II NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

28th March 2019

NOTICE

DEGREE COLLEGE

A Value-added course in Separation Techniques for Phytochemicals (Course code: RJBOTC07) is being conducted by the department of Botany from 4th April 2019. This course will enable students to learn the process to handle instrument such as centrifuge, colorimeter and spectrophotometer. The duration of the course is 30 hours. Students will be awarded with additional two credits and a certificate on successful completion of the course. The evaluation of the course will be continuous through theory and practical.



Usha
Principal

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OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS)
Ghatkopar (W), Mumbai-400 086, Maharashtra, INDIA

2019: Star College Status by DBT

2008: Best College by University of Mumbai 2010: IMC RBNQ Award 'Performance Excellence' for the year 2009

2011: 'Best Teacher Award' by Government of Maharashtra 2013: DST-FIST 2014: DBT STAR College

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CERTIFICATE COURSE IN **SEPARATION TECHNIQUES FOR PHYTOCHEMICALS**



ABOUT US

Hindi Vidya Prachar Samiti was incepted on the auspicious day of Shri Krishna Janmashtami, 15th August 1938. A brain child of a visionary Late Shri Nandkishore Singh Jairamji, samiti was established with the objectives of catering to the educational needs of the Hindi speaking community. Ramniranjan Jhunjunwala College came into existence in 1963, enabling a larger section of the society to take advantage of the facilities provided for higher education.

From 1999-2000 the College has added a number of self-financing courses like B.M.S., B.B.L., B.Sc. in Computer Science, Information Technology, Biotechnology, M.Sc. in Computer Science, Biotechnology and Information Technology as well as add on courses, which further hone the special skills of the students.

The college has been reaccredited with 'A' Grade by NAAC in 2014 with a CGPA 3.50 and received the Best College Award (2007-2008) of the University of Mumbai. The College has been bestowed with IMC "Ramkrishna Bajaj Performance Excellence Trophy", 2010.

The Principal of the college was awarded "Best Teacher" by Government of Maharashtra in 2011.

Government of Maharashtra conferred the college with "JAAGAR JAANIVANCHA" (First in Mumbai Suburban- in 2013 and Second in Mumbai Suburban- in 2014) for safety of girls.



Course Code: **RJBOTC07**

Duration: **30** hours

Credits : **02**

**LEARNING
OUTCOME**

Students will be able to

- Handle instruments like centrifuge, colorimeter, Spectrophotometer
- Apply the knowledge in the area of Natural products
- Purify value added products from plants and plant parts.



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CERTIFICATE COURSE IN **SEPARATION TECHNIQUES FOR PHYTOCHEMICALS**

**COURSE
CONTENT**

- Unit I** Centrifugation : importance of centrifugal force and gravity, gradient solution making, high speed refrigerated centrifugation for denaturing entity
- Unit II** Column chromatography: importance of porosity, mass and charge of matrix, affinity and retention time, study of its applications in purification and HPLC
- Unit III** Paper and Thin Layer Chromatography techniques :- mobile and stationary phase importance, preliminary screening of secondary metabolites in class of alkaloids, glycosides, polyphenols, terpenoids and steroids with Rf value calculation
- Unit IV** Electrophoresis techniques: principles of electrophoresis, native and SDS importance, study of gel matrix for targeted specific mass and charge compounds with troubleshooting and interpretation of bands.

ASSESSMENT

Continuous evaluation both theory and practical.



MEDIUM OF INSTRUCTION English

100 MARKS



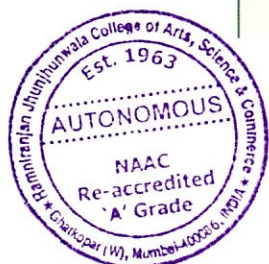
PASSING 40

WHO SHOULD DO IT?

Pursuing B.Sc or Completed B.Sc in Chemistry or any branch of Biological Science

Ushu

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REPORT

Plants are endowed with the unique capacity to synthesise an array of fine chemicals known as secondary metabolites. However these phytochemicals are produced in very small quantities. It is important to standardise the protocols for efficient extraction and separation of these chemicals. During the course students learnt about polar and non-polar solvents, how they can be used for maximising extraction further chromatographic techniques using hands on experiments were conducted. Some of the techniques which the students learnt were paper chromatography, ion exchange, column chromatography, thin layer chromatography etc. Students were evaluated continuously and were assessed on their techniques.



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PHOTOS OF THE VALUE-ADDED CERTIFICATE COURSE IN SEPARATION TECHNIQUES IN PHYTOCHEMICALS



Ms. Deepali Kale (Technician) staining the gel after electrophoresis



Students enrolled for the value added course



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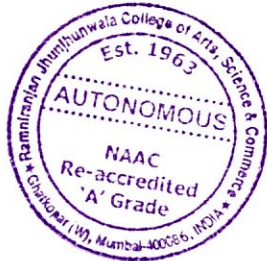
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Students performing the practicals



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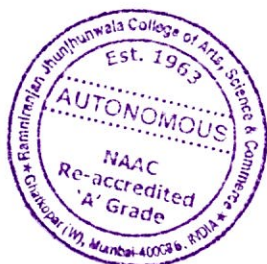
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LIST OF STUDENTS WHO COMPLETED THE VALUE ADDED COURSE IN SEPERATION TECHNIQUES

SR NO	NAME	ROLL NO	CLASS
1	KANGRALKAR SOMNATH VAIJANATH NARMADA	513	TYBSc Botany
2	YADAV PANKAJ KRIPA SHANKAR DURGAVATI	543	TYBSc Botany
3	KHAN RUQAIYA KHATOON MOHD VAIS	310	SYBSc
4	MAURYA ABHISHEK KUMAR PREMCHANDRA	625	SYBSc
5	CHAUDHARI NAMRATA ANKUSH	512	SYBSc
6	KHAN SADAF MUSKAN MOHAMMED AHMED	515	TYBSc Botany
7	SHAIKH AMREEN AYAZUDDIN	528	TYBSc Botany
8	KHAN UZMA BEGUM BARKATULLAH	313	SYBSc
9	KHAN SHIREEN SAEED	516	TYBSc Botany
10	KHAN SURAIYYA KHATOON HAFIZURREHMAN	530	SYBSc Botany



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CERTIFICATES



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CERTIFICATE

This is to certify that

Ms. Khan Ruqaiya Khatoon

Of SYBSc and Roll No 310

has successfully completed the Value-Added Course in **Separation Techniques For Phytochemicals** organized by **Department of Botany** in the academic year 2018-2019

Course Code
RJBOTC07


Dr. Usha Mukundan
Principal



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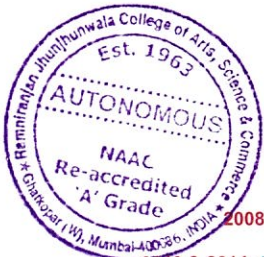
Mr. Maurya Abhishek Kumar Premchandra

Of SYBSc and Roll No 625

has successfully completed the Value-Added Course in **Separation Techniques For Phytochemicals** organized by **Department of Botany** in the academic year 2018-2019

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Dr. Usha Mukundan
Principal



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