Pravara Rural Education Society's
WOMEN'S COLLEGE OF HOME SCIENCE AND BCA
A/p-Loni Kd., Tal-Rahata, Dist-Ahmednagar. Pin- 413 713
Accredited by NAAC with 'A' Grade
Affiliated to Savitribai Phule Pune University, Pune
(ID No.PU/AN/SC/141/2016) AISHE No: C-44342
Office : (02422) 273989,
E-mail : homesciencebca@pravara.in
Principal : (02422) 272065
Web: www.pravarahomesciencebca.org.in

3.4.1-The Institution has several collaborations/linkages for Faculty exchange, Student exchange, Internship, Field trip, On-the- job training, research etc during the last five years

Sl. No.	Title of the collaborative activity	Name of the collaborating agency with contact details	Year of collaboration	Duration	Nature of the activity
1.	Internship	Pravara Medical Trust ,Loni	2018-19	4/12/2018 to 16/01/2019	Training
2.	Internship	DRONA Farmers Producer Company ltd, Loni	2018-19	22/11/2018 to 22/12/2018	Training
3.	Internship	NRS Hospital ,Pune	2018-19	17/11/2018 to 02/01/2019	Training
4.	Internship	Kokilaben Dhirubhai Ambani Hospital ,Mumbai	2018-19	1/11/2018 to 15/12/2018	Training
5.	Internship	Jehangir Hospital, Pune	2018-19	1/11/2018 to 31/12/2018	Training
6.	Internship	Jupiter Lifeline Hospital, Pune	2018-19	12/11/2018 to 12/12/2018	Training
7.	Internship	DAYA General Hospital Ldt.,Thrissur (Kerala)	2018-19	05/11/2018 to 31/12/2018	Training
8.	Internship	Government Medical College Hospital , Aurangabad	2018-19	15/11/2018 to 31/12/2018	Training
9.	Internship	Textile Engineering Institute, Ichalkaranji	2018-19	12/11/2018 to 30/11/2018	Training
10	Student Exchange	Sharadabai Pawar Mahila Mahavidyalaya ,Baramati	2018-19	06//03/2019	Practical
11	Educational Trip	Textile Engineering Institute, Ichalkarangi	2018-19	28/10/2018 to 29/10/2018	Educational Trip
12	Educational Trip	Sahyadri Farm, Nashik	2018-19	09/02/2019	Educational Trip

13	Skill Development Course	Maharashtra State Skill Development Scheme	2017-18	16/6/2017 to 1/2/2018	Tie and Dye Specialist
14	Educational Trip	Government Institute of Forensic Science, Aurangabad	2017-18	17/02/2018	Educational Trip
15	Educational Trip	Mahatma Phule Agriculture University , Rahuri	2017-18	23/01/2018	Educational Trip
16	Educational Trip	Samruddhi Agro, Deolali Pravara, Rahuri.	2017-18	23/01/2018	Educational Trip
17	Chromatography solvent extraction and material science	Hanyang University Dept. of Chemistry, South Korea	2017-18	2017-18	Research
18	Chromatography solvent extraction and material science	University of Mauritius,	2017-18	2017-18	Research
19	Educational Trip	Kapase Paithani, Yeola	2016-17	28/07/2016	Educational Trip
20	Field Trip	Krishi Vigyan Kendra, Babhaleshwar	2016-17	10/09/2016	Educational Trip
21	Educational Trip	Ralegan Siddhi &Hiware Bazar	2015-16	12/02/2016	Educational Trip
22	Educational Trip	Wockhardt Research centre, Aurangabad	2014-15	25/2/2015	Educational Trip
23	Vocational Course	Maharashtra State Board Vocational Education, Ahmednagar	2014-15	1/09/2014 to 15/1/2015	Certificate Course

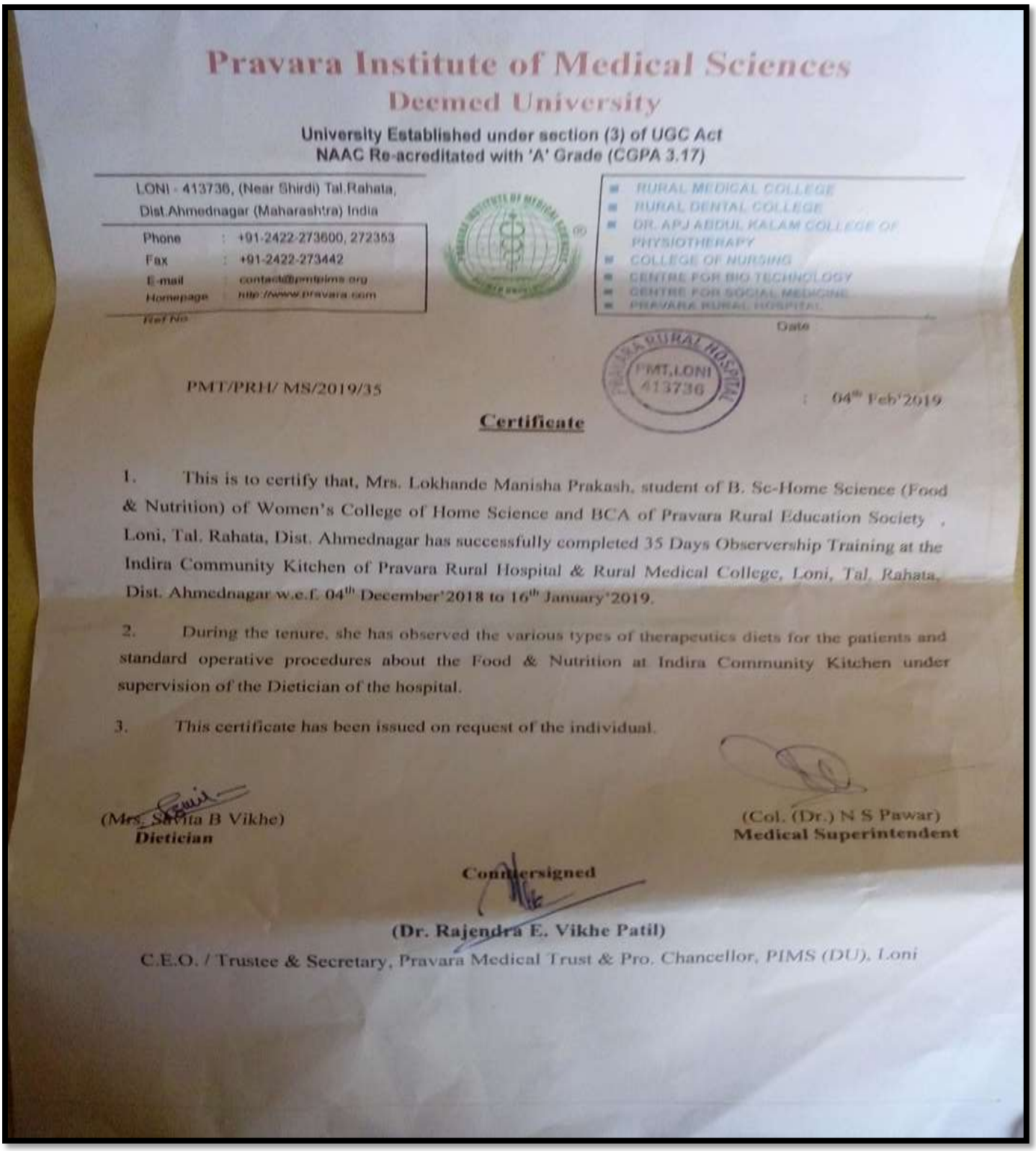
Dr. S.R.Kuchekar
(Principal)

Principal
Women's College of Home Science and ...
At/Po. Loni Tal. Rahata, Dist. Ahmednagar
Pin. 413713

Women's College of Home Science, B.C.A.
Loni.

2018-19

1-Internship-Pravara Medical Trust Loni



Pravara Institute of Medical Sciences

Deemed University

University Established under section (3) of UGC Act
NAAC Re-accreditated with 'A' Grade (CGPA 3.17)

LONI - 413736, (Near Shirdi) Tal.Rahata,
Dist.Ahmednagar (Maharashtra) India

Phone : +91-2422-273600, 272353
Fax : +91-2422-273442
E-mail : contact@pmtpims.org
Homepage : http://www.pravara.com

- RURAL MEDICAL COLLEGE
- RURAL DENTAL COLLEGE
- DR. APJ ABDUL KALAM COLLEGE OF PHYSIOTHERAPY
- COLLEGE OF NURSING
- CENTRE FOR BIO TECHNOLOGY
- CENTRE FOR SOCIAL MEDICINE
- PRAVARA RURAL HOSPITAL

Ref No

Date

PRAVARA RURAL HOSPITAL PMT, LONI 413736

PMT/PRH/ MS/2019/35 : 04th Feb'2019

Certificate

1. This is to certify that, Mrs. Lokhande Manisha Prakash, student of B. Sc-Home Science (Food & Nutrition) of Women's College of Home Science and BCA of Pravara Rural Education Society , Loni, Tal. Rahata, Dist. Ahmednagar has successfully completed 35 Days Observership Training at the Indira Community Kitchen of Pravara Rural Hospital & Rural Medical College, Loni, Tal. Rahata, Dist. Ahmednagar w.e.f. 04th December'2018 to 16th January'2019.

2. During the tenure, she has observed the various types of therapeutics diets for the patients and standard operative procedures about the Food & Nutrition at Indira Community Kitchen under supervision of the Dietician of the hospital.

3. This certificate has been issued on request of the individual.

(Mrs. Savita B Vikhe)
Dietician

(Col. (Dr.) N S Pawar)
Medical Superintendent

Countersigned

(Dr. Rajendra E. Vikhe Patil)
C.E.O. / Trustee & Secretary, Pravara Medical Trust & Pro. Chancellor, PIMS (DU), Loni

2018-19

2-Internship-DRONA Farmers Producer Company ltd Loni

DRONA
FARMERS PRODUCER COMPANY LIMITED
CIN : U01400PN2015PTC154495

CERTIFICATE

This is to certify that ***Miss. Game Komal Balasaheb*** pursuing ***T.Y.B.Sc. (Home Science)*** from Women's College of Home Science, Loni. She has successfully completed the project in our organization on the topic of **"Food Processing"** from date 22/11/2018 to 22/12/2018. During this project her behavior towards project work found to be sincere & hard working.

We wish her all the best for her future.

Chairman
(Amol Macchindra Dhavane)

For DRONA FARMERS PRODUCERS CO. LTD

Chairman

DRONA
FARMERS PRODUCER COMPANY LIMITED

CIN : U01400PN2015PTC154495

CERTIFICATE

This is to certify that ***Miss. Chaudhari Sonali Rajendra*** pursuing ***T.Y.B.Sc. (Home Science)*** from Women's College of Home Science, Loni. She has successfully completed the project in our organization on the topic of **"Food Processing"** from date 22/11/2018 to 22/12/2018. During this project her behavior towards project work found to be sincere & hard working.

We wish her all the best for her future.

Chairman
(Amol Macchindra Dhavane)

DRONA FARMERS PRODUCER COMPANY LIMITED
At.Po. Loni Kd
Tal. Rahata
Dist. Ahmednagar

For DRONA FARMERS PRODUCERS CO. LTD.

Chairman

AT POST LONI BK., TAL- RAHATA,DIST-AHMEDNAGAR,MAHARASHTRA,INDIA, PIN- 413736,
e-mail:www.dronafpo@gmail.com web site-www.dronafarmers.com, Office Contact-9970177778,Fax-02422-274303

2018-19

3-Internship-NRS Hospital Pune

NRS HOSPITAL

Dr. Narayan Survase
M.D. (Medicine)
Consultant Physician & Intensivist
Specialty :
Diabetes, Thyroid, Heart & COPD

Dr. Shamika Survase
B.D.S (PGDHHM)
Dentist

Date: / /
Date: 02/01/2019

TO WHOM IT MAY CONCERN

This is to certify that Miss.**Jyoti Kale**, D/O- Mr. **Ganesh Kale**, a student of BSC Food Home science & Nutrition summer semester, Women College of Home Science & BCA Pune University, Ahmednagar has successfully completed 45 Days (From 17th November, 2018 to 02th January, 2019) long internship programme at this Organization. During the period of her internship programme with us she was found punctual, hardworking and inquisitive.

We wish him every success in life.

For, NRS Hospital.

Authorized Signature

Director Signature

Dr. Narayan P. Survase

Address: 1st Floor, Solitary Business Hub, Opp. Hotel ambulance, Kalewadi Phata, Wakad, Pune, 411057
Phone: +91 20 29650500, +91 20 29702600 contact@nrshospital.com www.nrshospital.com

2018-19

4-Internship-Kokilaben Dhirubhai Ambani Hospital Mumbai

Kokilaben Dhirubhai Ambani
hospital & medical research institute

Every Life Matters

26th December 2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. Bhakti Sarda** has successfully completed Her period of **Internship** from **01.11.2018** to **15.12.2018** in **Nutrition Therapy Department** at Kokilaben Dhirubhai Ambani Hospital, Mumbai.

Ms. Bhakti has completed her tenure entirely to the satisfaction of the hospital management.

We wish her all the best in her future endeavor.

For **Kokilaben Dhirubhai Ambani Hospital**

SSSingh

Ms Shrija Singh
HR Officer

(Unit of Mandke Foundation), Four Bungalows, Andheri (W), Mumbai - 400 053, India; Tel. No.: +91 22 3066 6666 / 3099 9999
Accident & Emergency: +91 22 3091 9191; Appointment: +91 22 3069 6969; Toll Free: 1800 3000 3333; Fax: +91 22 3097 2030
Web: www.kokilabenhospital.com /kokilabenhospital /KDAHMumbai /kdahMumbai
CIN: U9999MH1998NPL127767

2018-19

5-Internship-Jehangir Hospital Pune

Internship Completion Certificate

is hereby granted to

Dr./Mr./ Ms. Gayatri. A. Gahire

Who has completed His / Her internship at

Jehangir Hospital, Pune

at Clinical Nutrition Department

in —

w.e.f. 1/11/2018 till 30/11/2018

He / she is found Hardworking, Sincere & Dedicated.

We wish Him / Her all the best for future endeavor.

Akesh Agrey
Head - Human Resourses

Internship Completion Certificate

is hereby granted to

Dr./Mr./ Ms. Vaishnavi P Raka

Who has completed His / Her internship at

Jehangir Hospital, Pune

at Clinical Nutrition Department

in —

w.e.f. 01/11/2018 till 31/DEC/2018

He / she is found Hardworking, Sincere & Dedicated.

We wish Him / Her all the best for future endeavor.

Akash Agrey
Head - Human Resources

Internship Completion Certificate

is hereby granted to

JEHANGIR HOSPITAL

Dr./Mr./ Ms. Pooja . Kedar . S

Who has completed His / Her internship at

Jehangir Hospital, Pune

at Clinical Nutrition Department

in —

w.e.f. 1/11/2018 till 31/12/2018

He / she is found Hardworking, Sincere & Dedicated.

We wish Him / Her all the best for future endeavor.

Akash Agrey
Head - Human Resources

2018-19

6-Internship-Jupitar Lifeline Hospital Pune

Jupiter Lifeline Hospitals Ltd.

13th December 2018

Ref: - JLHL/EL/ICC/024

To Whomsoever It May Concern

This is to certify that **Ms. Dak Vaishnavi Vyakateshrao** has completed her internship in the department Of **Dietetics** , from **12th November 2018 till 12th December 2018** with Jupiter Hospital, Pune

During her tenure with us she was found to be hardworking, sincere and eager to learn

We wish her best luck in her future ventures.

For Jupiter Lifeline Hospitals Ltd.

Pankaj Wagh

DGM– Human Resources

Regd. Office
1004, 10th Floor, 360 Degree Business Park,
Maharana Pratap Chowk, L.B.S. Marg,
Mulund (W), Mumbai - 400 080.
CIN: U85100MH2003PLC137908

Pune
Baner Pimple, Nilakh Road, Baner, Pune - 411 005
Tel: 2729 2799
Web: www.jupiterhospital.com

Thane
Eastern Express Highway, Thane (W) 400 601
Tel: 2172 5005, Fax: 2545 3305
Web: www.jupiterhospital.com

Jupiter Lifeline Hospitals Ltd.

13th December 2018

Ref: - JLHL/EL/ICC/023

To Whomsoever It May Concern

This is to certify that **Ms. Varsha Golekar** has completed her internship in the department Of **Dietetics** , from **12th November 2018 till 12th December 2018** with Jupiter Hospital, Pune.

During her tenure with us she was found to be hardworking, sincere and eager to learn.

We wish her best luck in her future ventures.

For Jupiter Lifeline Hospitals Ltd.

Pankaj Wagh

DGM– Human Resources

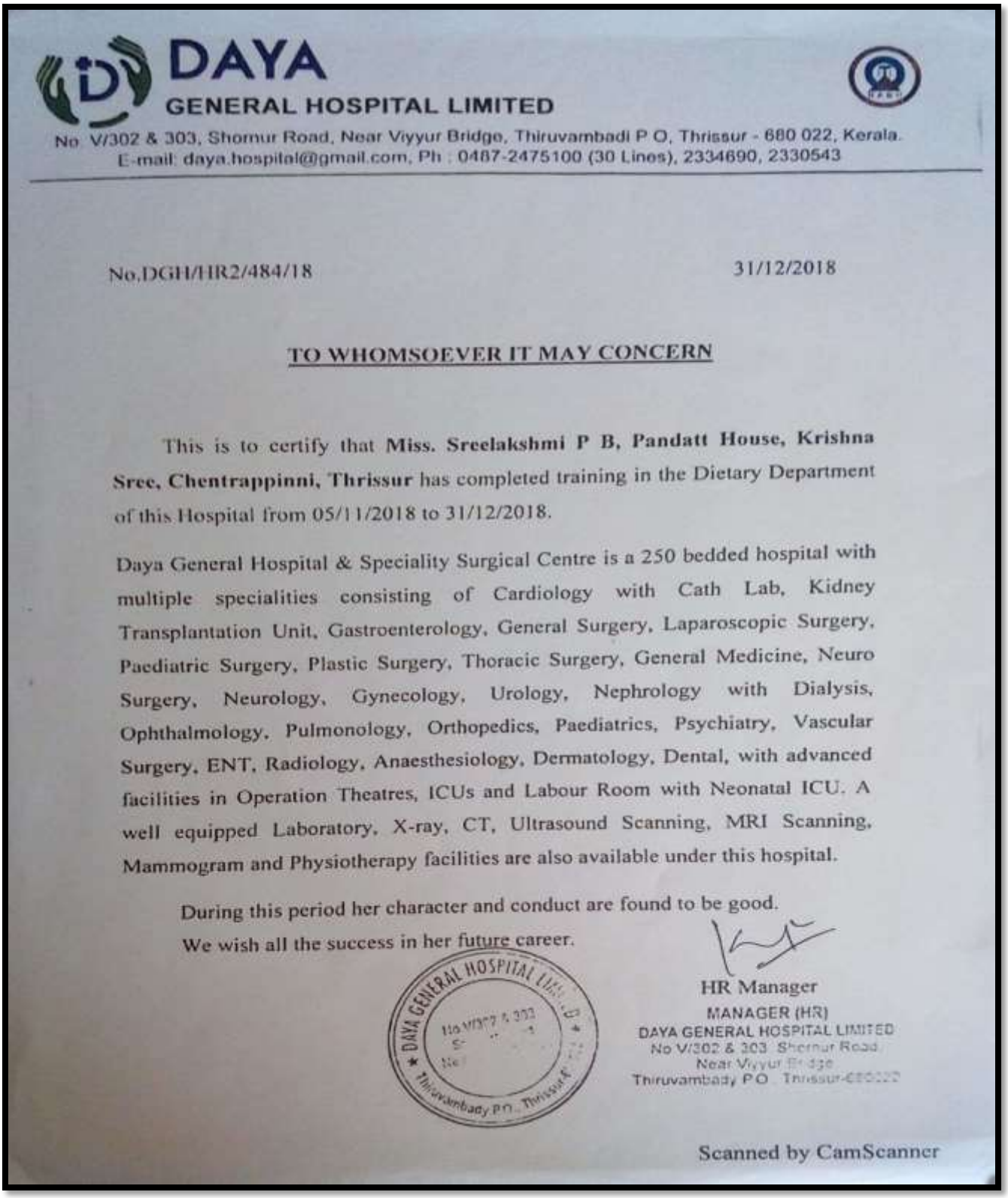
Regd. Office:
1004, 10th Floor, 360 Degree Business Park,
Mahatma Phule Chowk, L.B.S. Marg,
Mulund (W), Mumbai - 400 080.
CIN: U85100MH2002PLC137906

Pune:
Baner Pimple - Wakh Road, Baner, Pune - 411 205
Tel: 2786 2799
Web: www.jupiterhospital.com

Thane:
Eastern Express Highway, Thane (W) 400 601
Tel: 2172 5555 Fax: 2545 3320
Web: www.jupiterhospital.com

2018-19

7-Internship-DAYA General Hospital Ltd. Thrissur (Kerala)



DAYA
GENERAL HOSPITAL LIMITED

No V/302 & 303, Shornur Road, Near Viyyur Bridge, Thiruvambadi P O, Thrissur - 680 022, Kerala.
E-mail: daya.hospital@gmail.com, Ph : 0487-2475100 (30 Lines), 2334690, 2330543

No.DGH/HR2/484/18 31/12/2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Miss. Sreelakshmi P B, Pandatt House, Krishna Sree, Chentrappinni, Thrissur** has completed training in the Dietary Department of this Hospital from 05/11/2018 to 31/12/2018.

Daya General Hospital & Speciality Surgical Centre is a 250 bedded hospital with multiple specialities consisting of Cardiology with Cath Lab, Kidney Transplantation Unit, Gastroenterology, General Surgery, Laparoscopic Surgery, Paediatric Surgery, Plastic Surgery, Thoracic Surgery, General Medicine, Neuro Surgery, Neurology, Gynecology, Urology, Nephrology with Dialysis, Ophthalmology, Pulmonology, Orthopedics, Paediatrics, Psychiatry, Vascular Surgery, ENT, Radiology, Anaesthesiology, Dermatology, Dental, with advanced facilities in Operation Theatres, ICUs and Labour Room with Neonatal ICU. A well equipped Laboratory, X-ray, CT, Ultrasound Scanning, MRI Scanning, Mammogram and Physiotherapy facilities are also available under this hospital.

During this period her character and conduct are found to be good.

We wish all the success in her future career.

DAYA GENERAL HOSPITAL LIMITED
Thiruvambady P.O. Thrissur

HR Manager
MANAGER (HR)
DAYA GENERAL HOSPITAL LIMITED
No V/302 & 303 Shornur Road
Near Viyyur Bridge
Thiruvambady P.O. Thrissur-680022

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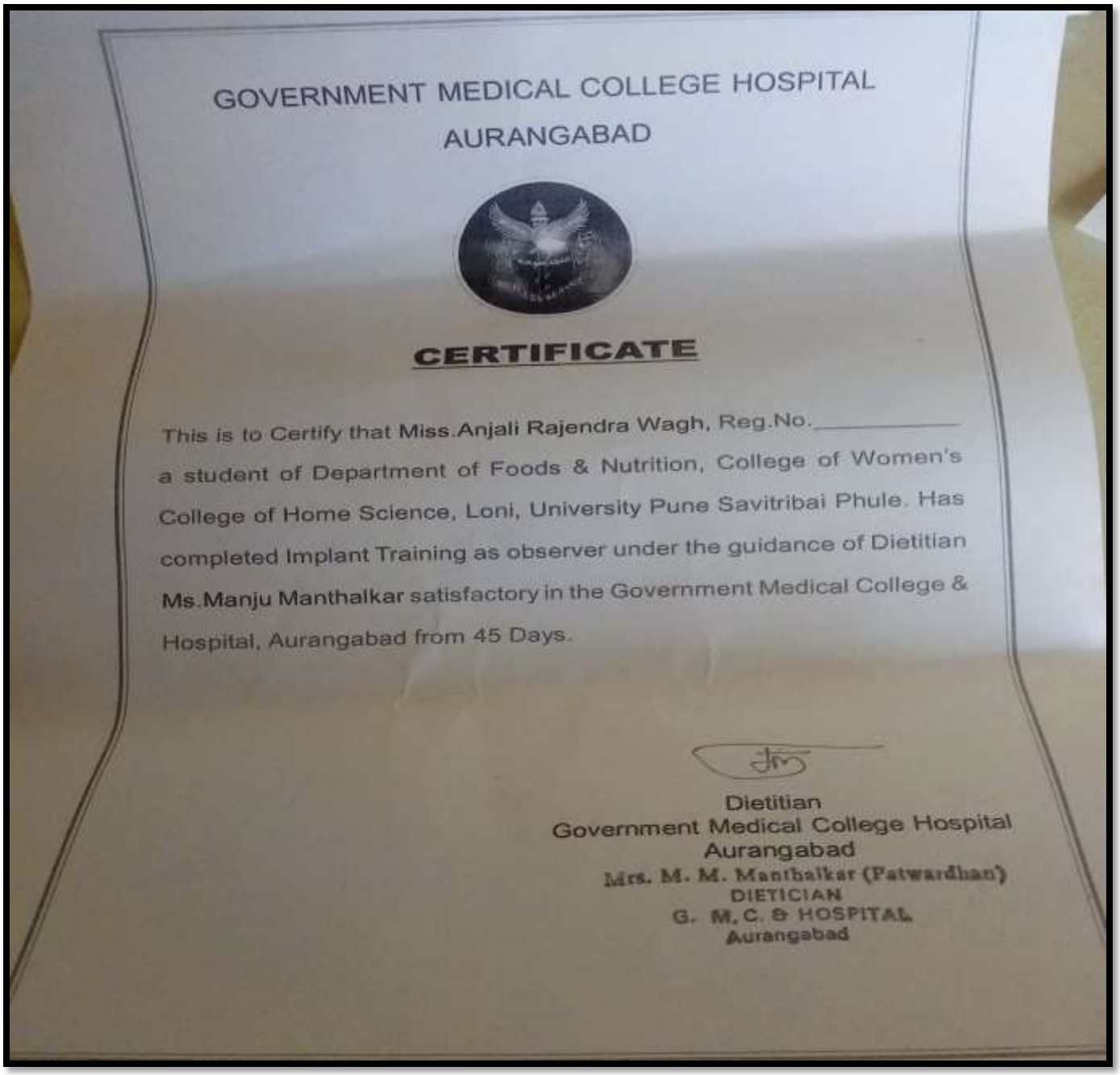
2018-19

8-Internship-Government Medical College Hospital Aurangabad



GOVERNMENT MEDICAL COLLEGE HOSPITAL
AURANGABAD

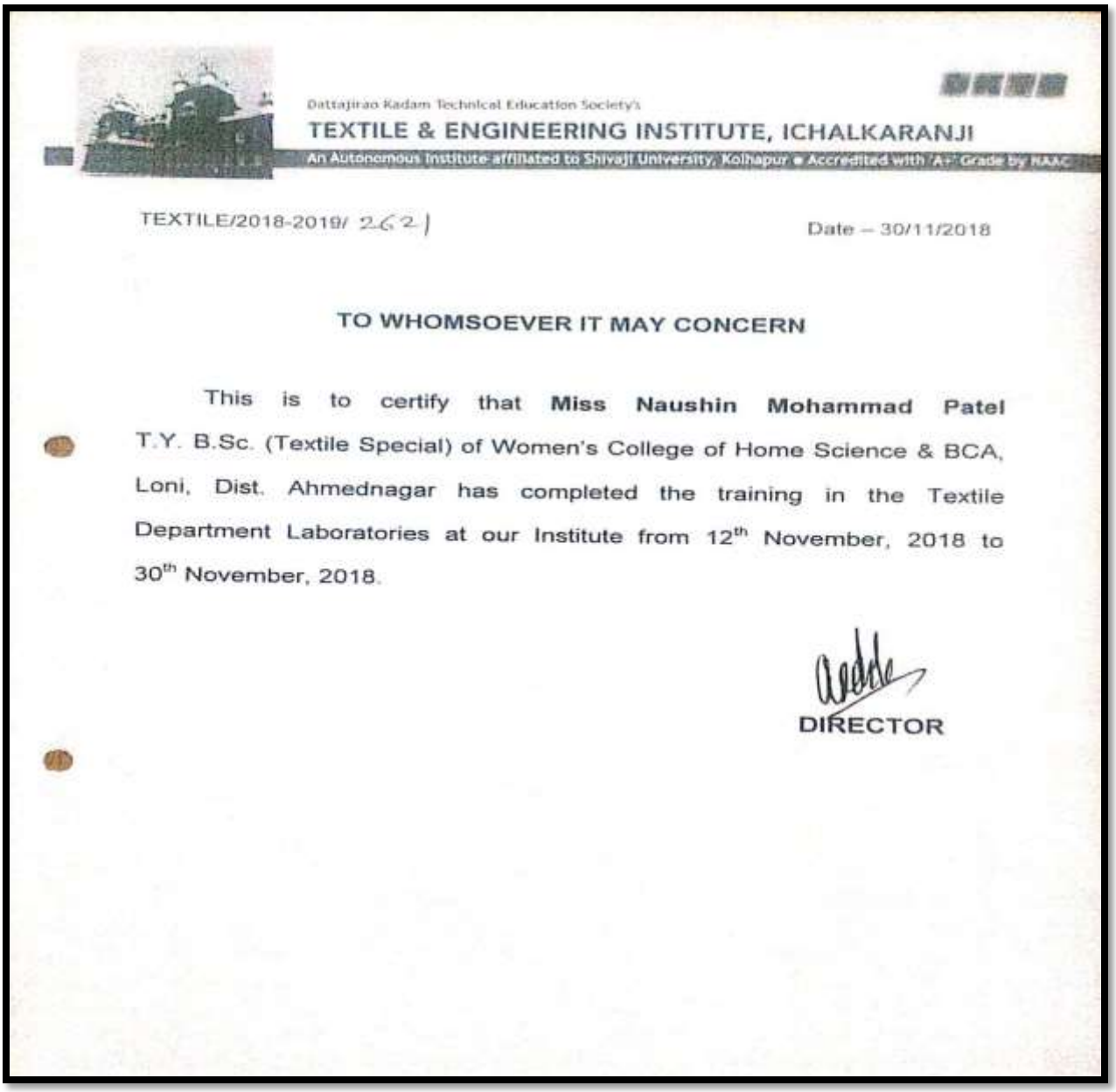
CERTIFICATE

This is to Certify that Miss.Anjali Rajendra Wagh, Reg.No._____ a student of Department of Foods & Nutrition, College of Women's College of Home Science, Loni, University Pune Savitribai Phule. Has completed Implant Training as observer under the guidance of Dietitian Ms.Manju Manthalkar satisfactory in the Government Medical College & Hospital, Aurangabad from 45 Days.

Dietitian
Government Medical College Hospital
Aurangabad
Mrs. M. M. Manthalkar (Patwardhan)
DIETICIAN
G. M. C. & HOSPITAL
Aurangabad

2018-19

9-Internship-Textile Engineering Institute Ichalkarangi



Dattajirao Kadam Technical Education Society's

TEXTILE & ENGINEERING INSTITUTE, ICHALKARANJI

An Autonomous Institute affiliated to Shivaji University, Kolhapur ● Accredited with 'A+' Grade by NAAC

TEXTILE/2018-2019/ 262 | Date – 30/11/2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Miss Naushin Mohammad Patel** T.Y. B.Sc. (Textile Special) of Women's College of Home Science & BCA, Loni, Dist. Ahmednagar has completed the training in the Textile Department Laboratories at our Institute from 12th November, 2018 to 30th November, 2018.

DIRECTOR

DKTE

Dattajirao Kadam Technical Education Society's

TEXTILE & ENGINEERING INSTITUTE, ICHALKARANJI

An Autonomous Institute affiliated to Shivaji University, Kolhapur • Accredited with 'A+' Grade by NAAC

TEXTILE/2018-2019/ 262 | Date – 30/11/2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Miss Dipali Changdev Warale** T.Y. B.Sc. (Textile Special) of Women's College of Home Science & BCA, Loni, Dist. Ahmednagar has completed the training in the Textile Department Laboratories at our Institute from 12th November, 2018 to 30th November, 2018.

DIRECTOR

DKTE
Dattajirao Kadam Technical Education Society's
TEXTILE & ENGINEERING INSTITUTE, ICHALKARANJI
An Autonomous Institute affiliated to Shivaji University, Kolhapur ★ Accredited with A++ Grade by NAAC

TEXTILE/2018-2019/ 262

Date – 30/11/2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Miss Pratibha Sunil Kadam** T.Y. B.Sc. (Textile Special) of Women's College of Home Science & BCA, Loni, Dist. Ahmednagar has completed the training in the Textile Department Laboratories at our Institute from 12th November, 2018 to 30th November, 2018.

DIRECTOR

DKTE

Dattajirao Kadam Technical Education Society's

TEXTILE & ENGINEERING INSTITUTE, ICHALKARANJI

An Autonomous Institute affiliated to Shivaji University, Kolhapur & Accredited with 'A+' Grade by NAAC

TEXTILE/2018-2019/ 262 | Date – 30/11/2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Miss Sheetal Shripat Shinde** T.Y. B.Sc. (Textile Special) of Women's College of Home Science & BCA, Loni, Dist. Ahmednagar has completed the training in the Textile Department Laboratories at our Institute from 12th November, 2018 to 30th November, 2018.

DIRECTOR

Dattajirao Kadam Technical Education Society's

DKTE

TEXTILE & ENGINEERING INSTITUTE, ICHALKARANJI

An Autonomous Institute affiliated to Shivaji University, Kolhapur & Accredited with A+ Grade by NAAC

TEXTILE/2018-2019/ 262

Date – 30/11/2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Miss Rohini Kachru Nikalje** T.Y. B.Sc. (Textile Special) of Women's College of Home Science & BCA, Loni, Dist. Ahmednagar has completed the training in the Textile Department Laboratories at our Institute from 12th November, 2018 to 30th November, 2018.

DIRECTOR

Dattajirao Kadam Technical Education Society's
TEXTILE & ENGINEERING INSTITUTE, ICHALKARANJI
An Autonomous Institute affiliated to Shivaji University, Kolhapur & Approved by A.I.C.T.E., New Delhi

TEXTILE/2018-2019/ 062 | Date – 30/11/2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Miss Punam Rajendra Kolhe** T.Y. B.Sc. (Textile Special) of Women's College of Home Science & BCA, Loni, Dist. Ahmednagar has completed the training in the Textile Department Laboratories at our Institute from 12th November, 2018 to 30th November, 2018.

DIRECTOR

DKTE

Dattajirao Kadam Technical Education Society's

TEXTILE & ENGINEERING INSTITUTE, ICHALKARANJI

An Autonomous Institute affiliated to Shivaji University, Kolhapur ★ Accredited with [illegible]

TEXTILE/2018-2019/ 262 | Date – 30/11/2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Miss Bhagyashri Suresh** Fugat T.Y. B.Sc. (Textile Special) of Women's College of Home Science & BCA, Loni, Dist. Ahmednagar has completed the training in the Textile Department Laboratories at our Institute from 12th November, 2018 to 30th November, 2018.

DIRECTOR

DKTE

Dattajirao Kadam Technical Education Society's

TEXTILE & ENGINEERING INSTITUTE, ICHALKARANJI

An Autonomous Institute affiliated to Shivaji University, Kolhapur ● Accredited with 'A' Grade by NAAC

TEXTILE/2018-2019/ 262 | Date - 30/11/2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Miss Monika Subhash Mhaske** T.Y. B.Sc. (Textile Special) of Women's College of Home Science & BCA, Loni, Dist. Ahmednagar has completed the training in the Textile Department Laboratories at our Institute from 12th November, 2018 to 30th November, 2018.

DIRECTOR

DKTE

Dattajirao Kadam Technical Education Society's

TEXTILE & ENGINEERING INSTITUTE, ICHALKARANJI

An Autonomous Institute affiliated to Shivaji University, Kolhapur • Accredited with 'A+' Grade by NAAC

TEXTILE/2018-2019/ 2621

Date – 30/11/2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Miss Shrutika Vilas Kangune** T.Y. B.Sc. (Textile Special) of Women's College of Home Science & BCA, Loni, Dist. Ahmednagar has completed the training in the Textile Department Laboratories at our Institute from 12th November, 2018 to 30th November, 2018.

DIRECTOR

Approved by AICTE, New Delhi. • ISO 9001 : 2015 Certified Organisation

'Rajwada', Ichalkaranji 416115. Dist. Kolhapur (M.S.) India.
(0091-230) 2421300, 2437316 2437317, 2439558, 2439560
Fax : (0230) 2432329
Toll Free No. : 1800 843 1300
dktestextile@gmail.com principal@dktes.com
www.dktes.com www.facebook.com/dktestei

2018-19

10-Student Exchange-Sharadabai Pawar Mahila Mahavidyalaya, Baramati

Agricultural Development Trust Baramati
Shardabai Pawar Mahila Mahavidyalaya
(Arts, Commerce, Science & Home Science)
Shardanagar, Malegaon (Bk.) Tal-Baramati.
Dist : Pune - 413 115 Maharashtra, India.
Tel. (02112) 254250 255576
spmmadt@gmail.com spmm20067@rediffmail.com

O. W. No. : 1647/19

Date : 05-03-19

To,
The Head,
Dept. of Textile,
Pravara Women's College of Home Science and BCA,
Datta Nagar, Tal. Rahata,
Dist. Ahmednagar, Loni.
Maharashtra-413713

Subject: Request to give permission to conduct practicals.

Respected Sir,

With reference to above cited subject, Dept. of Home Science has decided to conduct T.Y. B.HSc (Textile) student's practicals at Pravara Women's College of Home Science and BCA, Datta Nagar, Tal. Rahata, Dist. Ahmednagar, Loni. Under the subject of Textile Testing, (fibre testing, yarns testing and fabric testing) practical's will conducted at your college. T.Y.B.HSc. (Textile) students have to conduct these practical's on 06.03.2019. We request to grant the permission.

Details are given here with for your kind information.

Thank You.

Yours Faithfully

Principal
R. B. Deshmukh 2.2.19

Agricultural Development Trust, Baramati

Shardabai Pawar Mahila Mahavidyalaya

Shardanagar, Malegaon Bk. Tal. Baramati.
Dist. Pune – 413 115

Date: 01.03.2019

List of Students
Dept. of Home Science

Sr. No.	Class	Roll No.	Name of Students	Hostel / Updown
1	TY B.HSC	1	Adagle vrushali kisan	UD
2	TY B.HSC	2	Salunkhe amruta vijay	H
3	TY B.HSC	3	Ghogare shital ishwar	UD
4	TY B.HSC	4	Babar smruti dattatray	UD
5	TY B.HSC	5	Gunjal dhanshree sopan	UD
6	TY B.HSC	6	More trupti vilas	UD
7	TY B.HSC	7	Dawre pratindya samadhan	UD
8	TY B.HSC	8	More pooja suryakant	UD
9	TY B.HSC	9	Shinde sarika sambhaji	UD

Total Hostel Students: 01
Total Up down Students: 08
Total students: 10

List of Faculties
Dept. of Home Science

Sr. No.	Name of Faculties	Mob.No
1	Prof Seema Mohite	9561190114

Tour In charge

Head
Department of Home Science

2-3-19
Principal

2018-19

11-Education Trip-Visit Report DKTE Textile Engineering Institute Ichalkarangi Ta-Ichalkarangi Dist-Kolhapur

Pravara Rural Education Society's

Women's College of Home Science and BCA, Loni

Report: Industrial visit

15 students of Women's college of Home science and BCA, Loni with two teachers had visited to Ichalkaranji industrial area and DKTE college of Textile Engineering on dated 28th -29th October 2018. Students had an algorithmic experience and got lots of information regarding Textile world and textile production units.

At DKTE college of Textile Engineering also known as "Manchester of Maharashtra".

On the way to Ichalkaranji, Chaya industrial area, the merchandiser explain the terms of Peg plan, Drafts, Epi, Ppi etc. to the students.

At Jagwani groups of industry

2018-19

12- Education Trip- Visit Report Sayhadri Farm Producer Company Ltd., Dindori, Nashik

Pravara Rural Education Society's
Women's College of Home Science and BCA, Loni

Industrial visits provide students with a great opportunity to learn in an informal environment, while building long-lasting relationships with other students and teachers. Just reading curriculum books doesn't help students with practical knowledge attained in the real world. Field trips to important places encourage students to develop personalities and learn in an informal setting. Students are even more encouraged and engaged to learn from these experiences.

These visits provided students with an opportunity to learn practically through interaction, working methods and employment practices. It gives students an exposure to current work practices as opposed to possibly theoretical knowledge being taught at college. Industrial visit helps to combine theoretical knowledge with practical knowledge. Industrial realities are opened to the students through industrial visits.

Home Science and BCA students visited to Sayhadri Farm Producer Company Ltd., Dindori, Nashik on 9th Feb. 2019. Total 111 students and 7 staff members had visited at early morning 9.30 am. Sayhadri Farm Producer Company representative gave us all information about how they collect fruits and vegetable from farmers and packaged it and send to customers. They also prepare Mango pulp and preserve and sale in the market.


|| सुस्वागतम् ||


|| सुस्वागतम् ||
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Sahyadri Farms
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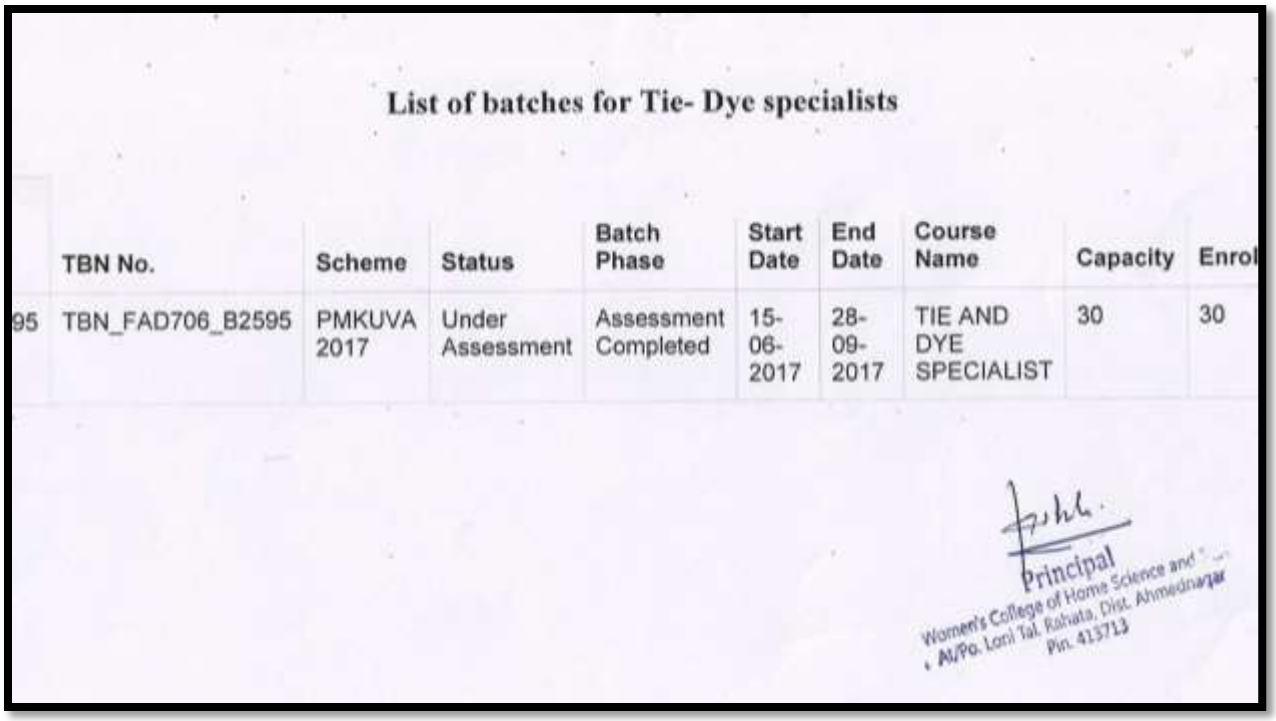
2017-18

13-Maharashtra State Skill Development Scheme -Skill Development Course - Tie and Dye Specialist



List of batches for Tie- Dye specialists

	TBN No.	Scheme	Status	Batch Phase	Start Date	End Date	Course Name	Capacity	Enrol
95	TBN_FAD706_B2595	PMKUVA 2017	Under Assessment	Assessment Completed	15-06-2017	28-09-2017	TIE AND DYE SPECIALIST	30	30

Principal
Women's College of Home Science and
At/Po. Loni Tal. Rahata, Dist. Ahmednagar
Pin. 413713

Government of India

DGT- Skill Development Initiative Scheme

Modular Employable Skills (MES)

Ministry of Skill Development & Entrepreneurship

Direct Candidate Assessment Result Sheet

Skill India

State:	MAHARASHTRA	**Financial Year:**	2017-2018
Testin Center Name:	WOMENS COLLEGE OF HOME SCIENCE AND BCA LONI	**Assessment Batch No.:**	TC-2017-2018-25231
Start Date:	15 Jun 2017	**End Date:**	01 Feb 2018
Assessment Date:	02 Feb 2018	**Course Duration:**	500
Sector:	FASHION DESIGN	**Course:**	Tie and Dye Specialist
Assessing Body:	GHRP Skill India Private Limited	**Assessor:**	Dolly Dharmshaktu

S.No.	Student Id	Student Name	Father/Husband Name	Mother Name	Gender	Date of Birth	Aadhar No.	Result
1	USPN/005087265	Raka Vaishnavi	Prashant	Baiju	Female	26-10-1999	214372043777	Pass
2	USPN/005087267	Sarda Bhakti	Badrinarayan	Sangeeta	Female	21-03-1999	699547838717	Pass
3	USPN/005087364	Kedar Pooja	Sadashiv	Vimal	Female	30-11-1996	798574438249	Pass
4	USPN/005087395	Pandhare Mayuri	Bhaguji	Suman	Female	10-10-1997	604324891979	Pass
5	USPN/005087444	Patil Damini	Fakira	Janabai	Female	18-12-1997	474066269475	Pass
6	USPN/005087502	Gondkar Varsha	Dattatraya	Suvarna	Female	07-03-1996	627277268623	Pass
7	USPN/005087552	Wakchaure Rajashree	Vijay	Kalpana	Female	31-01-1997	259087150518	Pass
8	USPN/005087583	Shaikh Samreen	Akil	Rjw ana	Female	03-05-1998	980115837886	Pass
9	USPN/005087613	Lahamage Seema	Somnath	Sangita	Female	29-05-1998	307535774167	Pass
10	USPN/005087654	Mhaske Monika	Subhash	Ujw ala	Female	18-09-1998	418363627433	Pass
11	USPN/005087675	Tambe Archana	Prakash	Ashabai	Female	15-02-1996	460242740208	Pass
12	USPN/005087703	Kale Jyoti	Ganesh	Rankaur	Female	19-05-1998	344368217721	Pass
13	USPN/005087727	Game Komal	Balasaheb	Vandana	Female	22-03-1999	929784604190	Pass
14	USPN/005087756	Tamboli Sana	Gaffar	Rubina	Female	12-01-1999	453477149135	Absent
15	USPN/005087795	Deore Trushna	Laxman	Ratna	Female	25-02-1997	917921206587	Pass
16	USPN/005087819	Chaudhari Sonali	Rajendra	Sunita	Female	14-02-1998	303735888217	Pass
17	USPN/005087852	Kharde Rutuja	Subhash	Varsha	Female	04-06-1998	583326206533	Pass
18	USPN/005087917	Kharde Priyanka	Bhausaheb	Sunita	Female	28-08-1997	313879715319	Pass
19	USPN/005087951	Wagh Anjali	Rajendra	Geeta	Female	24-05-1998	943828488532	Pass
20	USPN/005088052	Thakare Shreya	Gajanan	Vaishali	Female	13-08-2000	285607521915	Pass
21	USPN/005088106	Kadam Rutuja	Sandip	Nirmala	Female	14-11-2000	942924538790	Pass
22	USPN/005168397	Gauri Rathi	Nitin	Anuradha	Female	30-03-1998	632581976976	Pass
23	USPN/005170270	gangotri	dnyandeo	satyabhama	Female	03-05-1992	284502223432	Absent
24	USPN/005170321	chhaya	baban	manda	Female	07-07-1997	828896855291	Absent
25	USPN/005170440	snehal	gorkshnath	vandana	Female	09-09-2000	896095870044	Pass
26	USPN/005170530	shreya	gajanan	vaishali	Female	30-08-2000	285607521915	Absent
27	USPN/005170616	ASHWINI	ARJN	PUSHPA	Female	01-01-2001	718491286398	Pass
28	USPN/005175348	pratiksha	darmendra	prabha	Female	02-03-1998	315440606039	Pass
29	USPN/005175736	shrutika	vilas	jyoti	Female	02-12-1997	906546246521	Pass

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Pin. 413713

S.No	Name	Profile ID	Father's / Husband's Name	Mother Name	DOB	Birth Place	Aadhar No	Training Sector	Training Course
1	Raka Vaishnavi	USPN/005087265	Prashant	Baiju	26-10-1999	Dahanu	214372043777	FASHION DESIGN	Tie and Dye Specialist
2	Sarda Bhakti	USPN/005087287	Badrinarayan	Sangeeta	21-03-1999	Aurangabad	699547838717	FASHION DESIGN	Tie and Dye Specialist
3	Kedar Pooja	USPN/005087364	Sadashiv	Vimal	30-11-1998	Shirdi	798574438249	FASHION DESIGN	Tie and Dye Specialist
4	Pandhare Mayuri	USPN/005087395	Bhaguji	Suman	10-10-1997	Tembhi	604324891979	FASHION DESIGN	Tie and Dye Specialist
5	Patil Damini	USPN/005087444	Fakira	Janaba	16-12-1997	Nagardeola	474056269475	FASHION DESIGN	Tie and Dye Specialist
6	Gondkar Varsha	USPN/005087502	Dattatraya	Suvarna	07-03-1996	Shrirampur	627277288623	FASHION DESIGN	Tie and Dye Specialist
7	Wakchaure Rajashree	USPN/005087552	Vijay	Kalpana	31-01-1997	Ashvi	259087150518	FASHION DESIGN	Tie and Dye Specialist
8	Shaikh Samreen	USPN/005087583	Akil	Rijwana	03-05-1998	Hasnapur	980115837686	FASHION DESIGN	Tie and Dye Specialist
9	Lahamage Seema	USPN/005087613	Somnath	Sangita	29-05-1998	Kauthekamleshwar	307535774167	FASHION DESIGN	Tie and Dye Specialist
10	Mhaske Monika	USPN/005087654	Subhash	Ujwala	18-09-1998	Akhatwada	418363627433	FASHION DESIGN	Tie and Dye Specialist
11	Tambe Archana	USPN/005087675	Prakash	Ashabai	15-02-1996	Khirdi	460242740208	FASHION DESIGN	Tie and Dye Specialist
12	Kale Jyoti	USPN/005087703	Ganesh	Ramkaur	19-05-1998	Ekiehra	344368217721	FASHION DESIGN	Tie and Dye Specialist
13	Game Komal	USPN/005087727	Balasaheb	Vandana	22-03-1999	Loni bk	929784604190	FASHION DESIGN	Tie and Dye Specialist
14	Tamboli Sana	USPN/005087756	Gaffar	Rubina	12-01-1999	Pravaranagar	453477149135	FASHION DESIGN	Tie and Dye Specialist
15	Deore Trushna	USPN/005087795	Laxman	Ratna	25-02-1997	Umarane	917921205587	FASHION DESIGN	Tie and Dye Specialist
16	Chaudhari Sonali	USPN/005087819	Rajendra	Sunita	14-02-1998	kolhar	303735688217	FASHION DESIGN	Tie and Dye Specialist
17	Kharde Rutuja	USPN/005087852	Subhash	Varsha	04-06-1998	Bhagawatipur	583326206533	FASHION DESIGN	Tie and Dye Specialist
18	Kasab Pooja	USPN/005087882	Ashok	Kalpana	16-05-1998	Kolhar	590415450649	FASHION DESIGN	Tie and Dye Specialist
19	Kharde Priyanka	USPN/005087917	Bhausaheb	Sunita	28-08-1997	Satral	313879715319	FASHION DESIGN	Tie and Dye Specialist
20	Wagh Anjali	USPN/005087951	Rajendra	Geeta	24-05-1998	Ahamdanagar	943929488532	FASHION DESIGN	Tie and Dye Specialist
21	Thakare Shreya	USPN/005088052	Gajanan	Vaishali	13-08-2000	YAVTMAL	285007521915	FASHION DESIGN	Tie and Dye Specialist
22	Kadam Rutuja	USPN/005088106	Sandip	Nirmala	14-11-2000	vai	942924538790	FASHION DESIGN	Tie and Dye Specialist
23	Gauri Rathi	USPN/005168397	Nitin	Anuradha	30-03-1998	Shrirampur	632581976976	FASHION DESIGN	Tie and Dye Specialist
24	gangotri	USPN/005170270	dnyandeo	satyabhama	03-05-1992	babhaleshwer	284502223432	FASHION DESIGN	Tie and Dye Specialist
25	chhaya	USPN/005170321	baban	nanda	07-07-1997	khajapur	828898855291	FASHION DESIGN	Tie and Dye Specialist
26	snehal	USPN/005170440	gorkshnath	vandana	09-09-2000	sangamaner	896056870044	FASHION DESIGN	Tie and Dye Specialist
27	shreya	USPN/005170530	gajanan	vaishali	30-08-2000	yavatmal	285607521915	FASHION DESIGN	Tie and Dye Specialist
28	ASHWINI	USPN/005170616	ARUN	PUSHPA	01-01-2001	SANGAMANER	718491286398	FASHION DESIGN	Tie and Dye Specialist
29	pratiksha	USPN/005175348	damendra	pratibha	02-03-1998	rahuri	315440606659	FASHION DESIGN	Tie and Dye Specialist
30	shrutika	USPN/005175736	vilas	jyoti	02-12-1997	narayangaon	906546246521	FASHION DESIGN	Tie and Dye Specialist

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Practical Photoes

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Pin. 413713

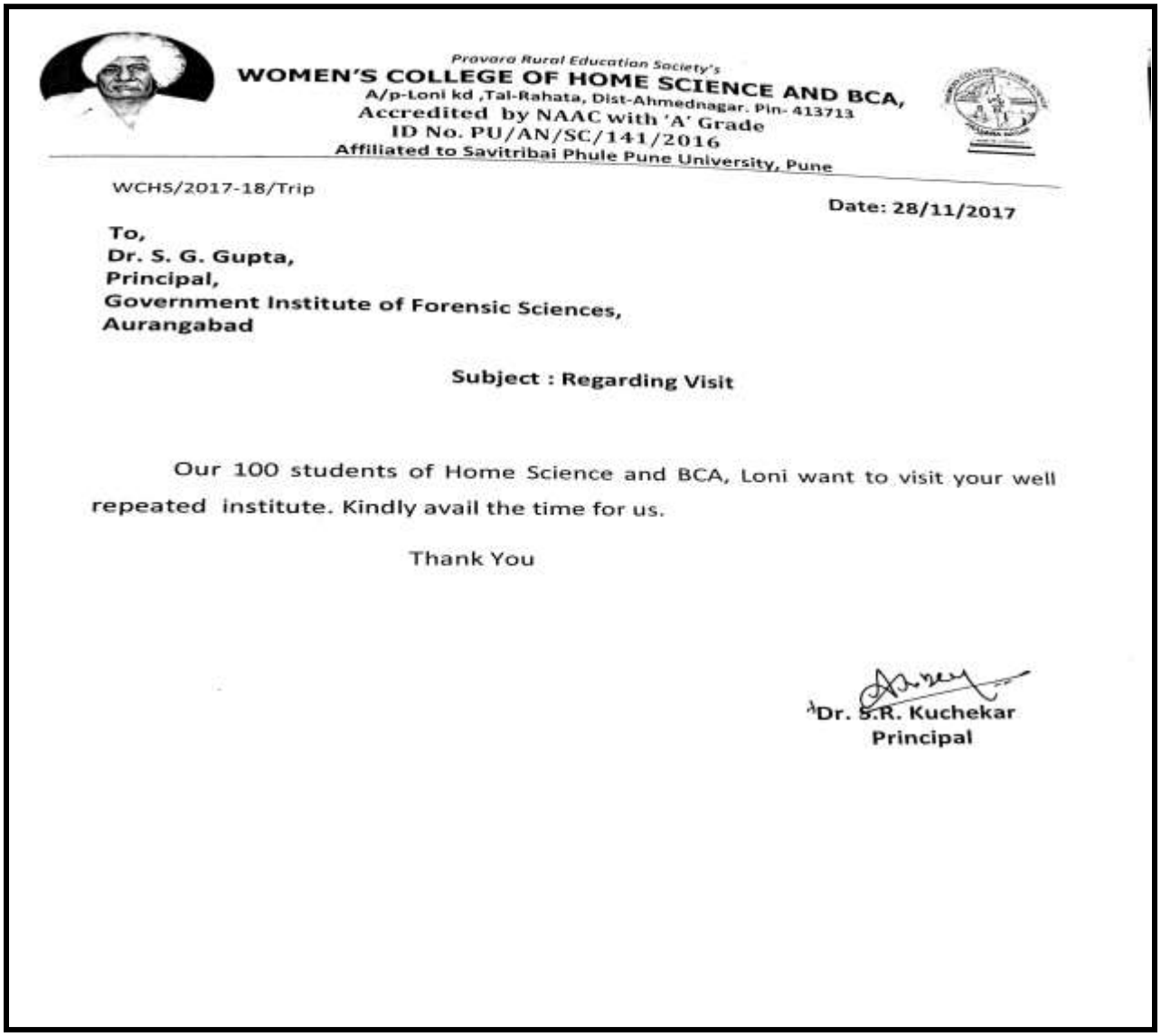
2017-18

14-Visit report -Government Institute of Forensic Sciences, Aurangabad (GIFSA)

Pravara Rural Education Society's

Women's College of Home Science and BCA, Loni

Home Science and BCA students visited to **Government Institute of Forensic Sciences, Aurangabad(GIFSA)** on 17th February 2018. 47 students and 4 staff members had visited. Dr. Charansingh Kayte, Head, Cyber Security Department, GIFSA and their staff member gave us all the information about all the department s of GIFSA. It's very useful for the students.



Pravara Rural Education Society's
WOMEN'S COLLEGE OF HOME SCIENCE AND BCA,
A/p-Loni kd ,Tal-Rahata, Dist-Ahmednagar. Pin- 413713
Accredited by NAAC with 'A' Grade
ID No. PU/AN/SC/141/2016
Affiliated to Savitribai Phule Pune University, Pune

WCHS/2017-18/Trip

Date: 28/11/2017

To,
Dr. S. G. Gupta,
Principal,
Government Institute of Forensic Sciences,
Aurangabad

Subject : Regarding Visit

Our 100 students of Home Science and BCA, Loni want to visit your well repeated institute. Kindly avail the time for us.

Thank You

Dr. S.R. Kuchekar
Principal

Women's College of Home Science and BCA ,Loni Visited at Government Institute of Forensic Sciences, Aurangabad(GIFSA) on 17th February 2018

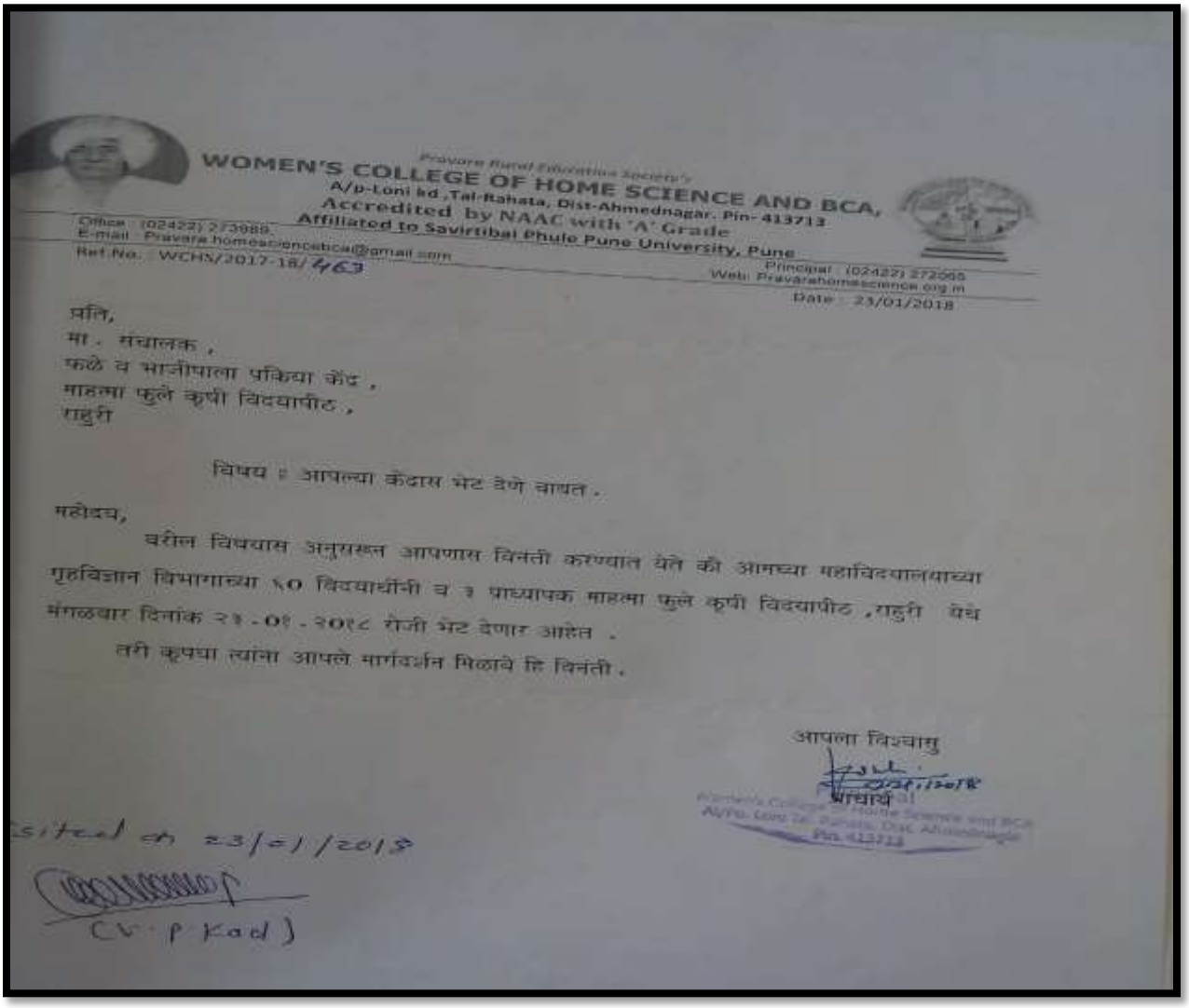
2017-18

15-Visit Report Mahtma Phule Agriculture University at Rahuri Ta-Rahuri Dist-Ahmednagar

Pravara Rural Education Society's

Women's College of Home Science and BCA, Loni

Home Science department students visited **Mahatma Phule Agriculture University Rahuri Ta-Rahata Dist-Ahmednagar on dated 23-01-2018.** 62 students and 3staff members had visited. Mrs.Wadekar Reshma Scientist MPKV gave us all the information about Post Harvesting Technology of different crops and also visited food science and technology department. It's very useful for the students



WOMEN'S COLLEGE OF HOME SCIENCE AND BCA,
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E-mail Pravara.homeasciencebca@gmail.com
Principal (02422) 272065
Web: Pravarahomescience.org.in
Ref No. WCHS/2017-18/463
Date 23/01/2018

प्रति,
मा. संचालक,
फळे व भाजीपाला पक्रिया केंद्र,
महात्मा फुले कृषी विदयापीठ,
राहुरी

विषय : आपल्या केंद्रास भेट देणे बाबत.

महोदय,

वरील विषयास अनुसरुन आपणास विनंती करण्यात येते की आमच्या महाविदयालयाच्या गृहविज्ञान विभागातल्या ५० विदयार्थीनी व ३ प्राध्यापक महात्मा फुले कृषी विदयापीठ,राहुरी येथे मंगळवार दिनांक २३.०१.२०१८ रोजी भेट देणार आहेत.

तरी कृपया त्यांना आपले मार्गदर्शन मिळावे हि विनंती.

आपला विश्वासु

आचार्य

Visited on 23/01/2018

(V. P. Kad)

Women's College of Home Science and BCA, Loni Visited at Mahatma Phule Agriculture University Rahuri Ta-RahataDist-Ahmednagar on dated 23-01-2018 .

2017-18

16- Visit Report 'Samruddhi Agro Group' Ta-Rahuri Dist-Ahmednagar

Pravara Rural Education Society's

Women's College of Home Science and BCA, Loni

'Samruddhi Agro Group' Educational visit

Educational visit was inducted on 23rd January, 2018 at 'Samruddhi Agro Group' especially for Home Science students. The main objective behind the visit was to make students aware about various activities, a new phenomenon can be introduced in marketing field of Home science & to generate a entrepreneur sensation in students and to get a new idea of "Women Entrepreneurship".

Teachers along with 62 students left for the visit at 9.45 am and reached to our second destination 'Samruddhi Agro Group' at 1pm. It is located at Devlali Pravara which is food processing unit.

As we reached the unit, we were guided by Mrs. Ushatai Sapanrao Kadam and workers for lunch arrangement and they served their product as snacks – 'Jowar Flax Chiwda' to everyone which was delicious and nutritious to eat.

After that we all together in a group were guided by Mr. Sapanrao Kadam, Head of Production department, about the unit, its history and setup. It was great to know that unit contains totally a new technology for processing; greatly each machinery was automatic and made up of steel, purchased from different states of India. The total setup of unit was to around 40-60 lakhs.

They introduced about their brand i.e. 'Gud-2-eat' which prepares various Jowar products i.e. Sorghum flax, Jowar chiwda, Rava (Semolina), Multigrain Thalipeeth flour, Jowar Idli mix, chakli mix, Jowar shev etc, these products are essential for diabetic and obese people, contains high dietary fibre and antioxidants, gluten free and low-caloric food.

After the setup and product introduction, they gave information about each and every machinery in unit. In that, firstly they told us about the 'Distoner Machine'- this machine generally works for cleaning purpose of cereals. Especially, they clean Jowar in which the stones and brans present in cereals are separated. The capacity of machine is around 4-5 Quintals. After cleaning, it is passed in 'Polishing Machine' also called 'Dehuller Machine'. After the process of cleaning, it is been polished by which the outer coating of Jowar is been easily removed, this machine runs on SHP & ZHP motors and capacity is around 2-2½ Quintals. Polished Jowar is again cleaned in Distoner machine for removal of waste particles and them it is passes in 'Grading Machine' for Grading of Jowar in two types of Grades, one is 'Big size Jowar' used in production of flaxes of different quantities and 'Small sized Jowar' is been used for making Jowar Semolina. Small sized Jowar is forwarded to 'Palvorizer' where the semolina is been prepared of various sizes. 'Flour shifter Machine' is been used for separating flour and semolina, in machine flour and semolina comes from two different openings.

Remaining big sized jowar is passed to cooker for 'Softening of Jowar', where around 3-4 litres of water of normal temperature used, been prepared in boiler-steamis prepared for around 15-20 minutes and after that 20-25% steam is been incorporated inside the cooker and for half an hour it is been cooked and capacity range of cooker is around 7-8 quintals. The soft jowar is been passed t 'Flaxer Machine',in which different sizes of flaxes can be prepared i.e. flat, big and small sizes of flaxes. Flaxer machine has different strainers for different sizes. For crispiness and crunchiness to flaxes, flaxer machine is used. Around in an 1 hour – 1 quintal of flaxes be prepared. After that, the flaxes are passed in

'Roasting Machine' for Roasting. The roasting machine is used for roasting various products. Flaxes are roasted in 15-20mins, the machine needs gas as well as electricity for working. Flaxes prepared are again graded for different use, big sized flaxes are used as it is and small sized flaxes are used in preparation of 'chiwdas'. 'Oil Extractor Machine', which removes extra oil from chiwdas is been used in the unit. 'Spices Mixer Machine' is used for making various 'Mix Instant Foods' in unit. For packaging of products 'Vacuum Packaging Machine' is used in these types of packaging totally air is removed from packages which increases shelf life of products. Around each product has maximum 6 months of expiry.

The total unit was maintained with proper hygiene and cleanliness. Each and every product has been tested through government Laboratories, and given 'Trademarks' as well as "FSSAI" recommendations. Their brand 'Gud-2-eat' is been exported in European countries. In 3 years of journey, they have exported 1500kgs of material and products to other countries. They sell their products in overall Maharashtra as well as in other states of India. Their products are been sold online also.

It was great pleasure to know that the unit which was started before 3 years on small scale working platforms of Mrs. Sarojini Tatyasaheb Phadtare Kadam, Former student of Women's college of Home science & BCA, Loni, preparation her own formation product, which is healthy and nutritious, has now set up a big unit with 5-10 workers working along with family. The support of Mr. and Mrs. Kadam towards their daughter as well as support of husband Mr. Tatyasaheb Ramchandra Phadtare brought completes her aim and dream.

'SamruddhiAgro Group' has been awarded with various special awards i.e. Precious "Doordrshan Sahayadri Krishi Sanman Award 2016"," Adarsh Udyojak Puraskar 2016", "IBN Lokmat Puraskar","ABP Majha Puraskar". At last vote of thanks was presented by Prof. Deshmukh K S HOD Home science Department.

We took almost an hour to see complete set of production which was followed by question of students. It is rightly said that 'see & know' is better than 'read & learn'. All students got a real feel & inspiration of a good Entrepreneur in an own. The practical knowledge will really help all students in future also.

Home Science Department ,Visited Samruddhi Agro Group, Deolali Pravara Tal- Rahuri, District – Ahmednagar on dated 23rd January 2018


समृध्दी अॅग्रो ग्रुप


JOWAR
SORGHUM

2017-18

17-Title of the collaborative activity - Chromatography solvent extraction and material science - Research

Hanyang University

Department of Chemistry

Haengdang-dong 17, Sungdong-ku, Seoul, Korea, 133-7910
(Tel. +822-2220-0934/Fax. +822-2299-0762/E-mail. shhan@hanyang.ac.kr)

Dec. 22, 2017

To whom it may concern:

Dr. Shashikant R. Kuchekar, Principal, Pravara Rural Education Societys, Women's College of Home Science & BCA At/PO. Loni(Kd), Tal. Rahata, Dist. Ahmednagar, MS, is associated with Inorganic Nano-Materials Laboratory, Department of Chemistry, Hanyang University, Haengdang-dong 17, Sungdong-ku, Seoul 133-791, Korea. He is actively engaged with collaborative research work in the field of "chromatography, solvent extraction and material science".

Best regards,

Sung-Hwan Han

Prof. Sung-Hwan Han
Inorganic Nano-Materials Laboratory
President of "Institute of Materials Design"
Hanyang University
Sungdong-Ku, Haengdang-dong 17, Seoul, Korea 133-791
E-mail: shhan@hanyang.ac.kr
Tel: +82-2-2220-0934; Fax: +82-2-2299-0762

ICC
Iranian Chemical Communication
Original Research Article
Payame Noor University http://icc.journals.pnu.ac.ir

Solvent extraction, spectrophotometric determination of copper (II) from environmental samples using o-methylphenyl thiourea as a novel reagent

Shashikant R. Kuchekar[a,*], Shivaji D. Pulate[a], Haribhau R. Aher[b], Vishvas B. Gaikwad[c], Sung H. Han[d]

[a]*Principal, Pravara Rural Education Society's, Women's College of Home Science & BCA, Tal-Rahata, Dist-Ahmednagar, (MS), 413713, India*

[b]*P. V. P. College, Pravaranagar, India*

[c]*Principal, K. T. H. M. College, Nashik, India*

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Received: 17 May 2017, Accepted: 18 June 2018, Published: 1 April 2019

Abstract

A simple and rapid method has been developed for solvent extraction and spectrophotometric determination of copper (II) using o-methylphenyl thiourea (OMPT) as a sensitive reagent. The basis of proposed method is formation of copper (II)-OMPT complex. Copper (II) was extracted with 0.020 mol L^{-1} OMPT in chloroform from aqueous solution in 0.075 mol L^{-1} potassium iodate. The absorbance of complex was measured at 510 nm. Beer's law was obeyed up to 600 µg mL^{-1} for copper (II). The molar absorptivity and Sandell's sensitivity of the complex were 1.0167×10^3 L mol^{-1} cm^{-1} and 0.0625 µg cm^{-2} respectively. Correlation coefficient of the method was 0.93. The stoichiometry of copper (II)-OMPT complex was 1:1 established from slope ratio, mole ratio and job's continuous variation methods. The stability of copper (II)-OMPT complex was >24 h. The proposed method is free from interferences from large number of foreign ions. The proposed method was successfully applied for separation and determination of copper (II) from real samples (vegetable and environmental samples), binary and ternary synthetic mixtures. Precision of method was checked by finding relative standard deviation for eight determinations that was 0.23%.

Keywords: O-methylphenyl thiourea; environmental samples; solvent extraction; analysis; copper; spectrophotometry.

Introduction

Copper is extensively distributed in environment and it is the third most nutritionally necessary trace element in the body following iron and zinc [1]. The copper is present in all body tissues; however, the liver, the brain, the heart and the kidney contain copper in maximum amount. Copper is transported, absorbed, stored, distributed and excreted in the body. A complex homeostatic process ensures a

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ISSN:2278-3458

Chemical Science Transactions
2019, **8(1)**, 1-6

RESEARCH ARTICLE

Green Synthesis of Copper Nanoparticles Using *Syzygium Cumin*, Leaf Extract, Characterization and Antimicrobial Activity

H. R. AHER[1*], S. H. HAN[2], A. S. VIKHE[3] and S. R. KUCHEKAR[3]

[1]Department of Chemistry, P.V.P. College, Pravaranagar, India

[2]Inorganic Nanomaterial Laboratory, Department of Chemistry, Hanyang University, Seoul, South Korea

[3]Department of Food Science, Women's College of Home Science and BCA, Loni, Tal-Rahata, Dist-Ahmednagar, (MS), 413713, India

shashi17@gmail.com

Received 31 May 2018 / Accepted 15 June 2018

Abstract: The use of plant material for synthesis of nanoparticles is a green technology. This green technique was used for synthesis of copper nanoparticles by biologically reducing copper sulphate solution with aqueous *Syzygium Cumin* leaf extract at pH 5.0. The formation of copper nanoparticles was indicated by the colour change from yellow to brown. The UV-Visible spectrum of copper nanoparticles gave surface Plasmon resonance (SPR) of 190 nm. The synthesized nanoparticles were characterized using scanning electron microscopy (SEM), x-ray, diffraction (XRD) and FTIR, These biologically synthesized copper nanoparticles were tested for antimicrobial activity against human pathogens *viz. Bacillus subtilis* and *E-coli*. Presence of elemental copper was revealed by EDAX. These biologically synthesized copper nanoparticles were found to be effective in controlling growth of human pathogens *viz., Bacillus subtilis* and *E-coli.*

Keywords: *Syzygium cumini*, SEM, XRD, EDAX, FTIR, UV-Vis, *Bacillus subtilis* and *E- coli*

Introduction

Nanoscience and nanotechnology include the areas of synthesis, characterization, exploration, application of nanostructure and nanosize materials[1]. Nanoparticles have been extensively studied over the last decade due to its characteristics like chemical, physical, electronic, electrical, mechanical, magnetic, thermal, dielectric, optical and biological properties[1]. In recent years, the biocidal properties of copper nanoparticles (CuNPs) have wide application in treating wounds. CuNPs are used through processed bandages with affordable cost of preparation as well as exceptional physical and chemical properties[2,3]. Preparation of nanoparticle is primarily based on their smaller size and their high surface to volume ratio. Now a day's metal and metal oxide nanoparticles are receiving increasing attention in a large variety of application. They have industrial usage such as gas sensors,

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RESEARCH ARTICLE

Biosynthesis and Characterization of Nickel Nanoparticle Using *Ocimum sanctum* (Tulsi) Leaf Extract

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Abstract: Nickel nanoparticles were synthesized by biosynthesis method with the help *ocimum sanctum* leaf extract. The properties of nickel nanoparticles were characterized by using various techniques *viz.* UV-Visible spectrophotometer, Fourier transform infrared spectrometry(FT-IR) and scanning electron microscopy(SEM) coupled with energy dispersive micro analysis(EDAX) and XRD. The spectroscopic methods confirmed the formation of nickel nanoparticles and the microscopic technique confirmed the shape and size of the nickel nanoparticles as spherical. Antibacterial activity of the synthesized nanoparticles was measured by zone inhibition method. The nickel nanoparticles showed effective antibacterial activity against human pathogenic bacteria such as *Pseudomonas*, *Aeruginosa* and *Escherichia coli*. The usage of plant extract for the biosynthesis of nickel nanoparticle makes the process cost effective, non-hazardous and green method.

Keywords: Nickel nanoparticles, *Ocimum sanctum* leaf extract, Biosynthesis

Introduction

The green synthesis is an eco-friendly pathway for nanoparticle synthesis. The chemical constituents of this herbs includes ursolic acid, eugenol, oleanalic acid, rosmarinic acid, linalool and carvacol. The high eugenol contain in this plant helps to act like a pain killer. These functions are often attributed to tulsi's high content of phenolic compounds and antioxidant properties, with Krishna tulsi (black/purple variety) having a higher phenolic content and antioxidant capacity than white Vana (wild) tulsi[1]. Synthesis of metal nanoparticles has gained significant interest in last twenty years because of their unusual properties and

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Green synthesis of cobalt nanoparticles, its characterization and antimicrobial activities

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Abstract

In the present study, cobalt nanoparticles were synthesized by an recyclable and cost effective method using ocimum sanctum extract and characterized using various techniques such as UV-visible spectrophotometry, Fourier transform infrared spectrometry(FT-IR) and Scanning electron microscopy(SEM) coupled with Energy dispersive micro analysis(EDAX) and XRD. The spectroscopic methods confirmed the formation of cobalt nanoparticles and the microscopic technique confirmed the shape and size of the cobalt nanoparticles as spherical. Antibacterial activity of the synthesized nanoparticles was measured by zone inhibition method. The cobalt nanoparticles showed effective antibacterial activity against human pathogenic bacteria such as Pseudomonas Aeruginosa and Escherichia coli. The usage of plant extract for the preparation of Cobalt nanoparticle makes the process cost effective, non-hazardous and green method.

Keywords: cobalt nanoparticles, ocimum sanctum leaf extract.

INTRODUCTION

Nanoparticle research is presently an area of strong scientific interest due to a wide variety of potential application in biomedical, optical and electronic fields. Cobalt is considered to be the first catalyst made from nonprecious metal with properties closely matching with those of platinum[1]. The shape and size of the nanoparticles influence the physical characterization of these novel materials. Nanoparticles are the nano-sized particles[2-3] which have found various applications in the fields of medicine[4-7], biology [8-11], catalysis[12-14]etc. The nanoparticles can be synthesized by physical, chemical or biological methods. Cobalt nanoparticles can be synthesized by various approaches like ultrasonic spray pyrolysis, DC magnetron sputtering[15], thermal decomposition[16],electrochemical[17] and Liquid-Phase Reduction[18] process and also by biological methods such as microbial synthesis [19] of nanoparticles. Recently, many studies have proven that the plant extracts act as a potential originator for the synthesis of the nanomaterials in harmless ways. The plants are used successfully in the synthesis of several greener nanoparticles such as cobalt, copper, silver, gold, palladium, platinum, zinc oxide and magnetite. Plant mediated biological synthesis of nanoparticles is gaining importance due to its simplicity, cost effective and eco-friendliness [20-21]. Cobalt nanoparticles could be efficient nanoparticles as they possess good catalytic[22-23] and high performance permanent magnetic properties[24-25] and also possess biomedical[26] and cytotoxic[27] activity.

Here we have taken into account green chemistry concept and synthesized cobalt nanoparticles by using osmium santum leaves extract. Osmium sanctum (tulsi) is cultivated for spiritual and therapeutic purposes

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Tridax Procumben Leaf Extract Mediated Green Synthesis of Iron Oxide Nanoparticles: Spectroscopic and Microscopic Studies

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ABSTRACT

An ecofriendly green synthesis of iron oxide nanoparticles were rapidly synthesized by reduction of Ferric chloride using Tridax Procumbens leaf extract. UV-visible spectra showed the maximum absorbance of 450 nm due to the surface Plasmon viberations in the iron oxide nanoparticles formation. The average particle size of the synthesized iron oxide nanoparticles was estimated to be 4-5nm using Scherrer's equation. The formation of Fe3O4 nanoparticles as well as their morphological dimensions in the SEM study revealed that the particles were aggregated

KEYWORDS: Iron oxide nanoparticles, Tridax Procumbens leaf extract.

INTRODUCTION

Nanoparticles are ultrafine particles with their size ranging from 1-200 nm.Nanoparticles have attracted considerable attraction due to their unusual and fascinating properties with various applications, over their bulk counterparts[1-2]. Synthesis of metal nanoparticles using plant extract is very cost effective so can be used as an economic and valid alternative for the large scale production of metal nanoparticles[3].The bioreduction of metal nanoparticles by combination of biomolecules found in plant extract such as enzymes, proteins, aminoacids, vitamins, polysaccharides typically obtained by contact of a broth of plant with metal salts, has been intensively investigated in recent years[4]. Iron as a nanoparticles has been somewhat neglected. This is unfortunate, but understandable, extreme reactivity has traditionally made iron nanoparticles difficult to study and inconvenient for practical applications. Recent work has begun to take advantages of irons potential and work in this field appears to be blossoming[5] . Iron oxide nanoparticles have attracted intensive research interest because of their important applications in cancer therapy, drug delivery magnetic resonance imaging (MRI) and waste water treatment[6].The biosynthesis of iron oxide nanoparticles of different sizes and shapes has been reported using bacteria[7], fungi[8] and plant extract. Green synthesis of nanoparticles is very cost effective, environment friendly and non toxic. In the present scenario, there is an urgent and continuous need of exploration and development of cheaper, effective new plant based nanoparticles with better bioactive potential and least side effects. The entire plant of Tridax procumbens is used by indigenous people in Guatemala for the treatment of protozoal infections (malaria, leishmaniasis, dysentery) and gastrointestinal disorders (colic/stomach pains, gastritis/enterocolitis)[9-11]. Local people known it as "Ghamara", in English popularly called 'coat buttons' and is dispensed for "Bhringraj" by some of the practitioners of Ayurveda. Tridax procumbens is a widely

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Synthesis and Characterization of Silver Nanoparticles using Azadirachta indica (Neem) leaf extract

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Abstract: *The synthesis of stable silver nanoparticles by the bioreduction method was investigated. Aqueous extract of Azadirachta indica (Neem) plant was used as reducing and stabilizing agent respectively. On treating silver nitrate solution with Azadirachta indica (Neem) leaf extract rapid reduction of silver ions was observed leading to the formation of stable silver nanoparticles in solution. The characteristics of silver nanoparticles were studied using UV-Vis spectroscopy, X-ray diffraction analysis (XRD), Scanning electron microscopy (SEM) and Energy dispersive spectroscopy (EDX). The UV-Vis spectra gave surface Plasmon resonance for synthesized silver nanoparticles at 450 nm.*

Keywords: *Azadirachta indica (Neem) leaf extract, Biosynthesis, Silver nanoparticles.*

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I. INTRODUCTION

Nanotechnology is emerging as a rapidly growing field with its application in Science and Technology for the purpose of manufacturing new materials at the nanoscale level[1]. In recent years, noble metal nanoparticles have been the subject of focused research due to their unique, optical, electronics, mechanical, magnetic and chemical properties that are significantly different from those of bulk materials[2]. The synthesis of noble nanoparticles for electronics and environmental and biotechnology applications is an area of continued research. Preparation of silver nanoparticles has attracted particularly considerable attention due to their diverse properties and uses, like magnetic and optical polarizability[3], electrical conductivity[4], catalysis[3], antimicrobial and antibacterial activities[5-6], DNA sequencing[7], and surface enhanced Raman scattering (SERS)[8].

Various techniques of synthesizing silver nanoparticles, such as chemical reduction of silver ions in aqueous solutions with or without stabilizing agents[9], thermal decomposition in organic solvents[10], chemical reduction and photo reduction in reverse micelles[11] and radiation chemical reduction[12-14] have been reported in the literature. Most of these methods are extremely expensive and also involve the use of toxic, hazardous chemicals which may poses potential environmental and biological risks, thus there is a growing need for green synthesis that includes clean, non toxic and environment friendly methods of nanoparticles synthesis[15] with sustainable commercial viability. Green synthesis makes use of environmental friendly, non-toxic and safe materials[16] like bacteria, fungi, enzymes, plants or plant extracts have been suggested as possible eco-friendly alternatives to chemical and physical methods. Sometimes the synthesis of nanoparticles using plants or parts of plants can prove advantageous over other biological processes by eliminating the elaborate processes of maintaining microbial cultures[17]. Azadirachta indica, commonly known as Neem belongs to Meliaceae family, and is well known in India and its neighboring countries for more than 200 years as one of the most versatile medicinal plant having a wide spectrum of biological activity. Every part of the tree has been used as a traditional medicine for household remedy against various human ailments from antiquity[18-20].

It has been reported that silver nanoparticles are non-toxic to humans and most effective against bacteria, virus and other eukaryotic micro-organisms at low concentrations and without any side effects[21]. The most important application of silver and silver nanoparticles is as tropical ointments to prevent infection against burns and open wounds[22]. The extension of our previous work[23] we investigated the synthesis of stable silver nanoparticles with the bioreduction method using Azadirachta indica (Neem) leaf extract which acted as reducing agent and its characterization.

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Rapid determination of tellurium(IV) by ultraviolet spectrophotometry using *o*-methylphenyl thiourea as a new chromogenic ligand

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O-Methylphenyl thiourea (OMPT) coordinates with tellurium(IV) as a 1:1 (tellurium(IV)-OMPT) complex in hydrochloric acid medium (7.0 mol L^{-1}). The novelty of the proposed method is the instant complex formation at room temperature with no need of heating or standing. Method is applicable over a wide Beer's range (up to 70 μg ml^{-1}). A low reagent concentration is required (2 ml, 0.018 mol L^{-1} in methanol). The complex exhibits maximum absorption at a wavelength of 280 nm. The molar absorptivity is 1.98×10^4 L mol^{-1} cm^{-1}, Sandell's sensitivity is 0.00641 μg of tellurium(IV) cm^{-2}. The proposed method was successfully applied for analysis of a real sample.

Keywords: Tellurium(IV); UV-spectrophotometry; Analysis, Real sample.

INTRODUCTION

Abundance of tellurium in the earth's crust is 0.001 ppm. Its compounds are used in metallurgy, mostly in making steel and non-ferrous alloys [1]. It is used as a semiconductor material. Tellurium and its compounds are widely used in thin films, rechargeable batteries and charge transfer systems. Compounds like hydrogen telluride are highly toxic in nature. Tellurium exposure results into garlic-like breath. Tellurium aerosol irritates the eyes and the respiratory track. Tellurium compounds may affect liver and central nervous system. It causes abdominal pain, constipation and vomiting. It is a potential toxic environmental pollutant [2]. Addition of tellurium to lead prevents corrosion [3]. Cadmium telluride photovoltaic modules have become the lowest-cost producer of solar electricity [4]. Trace abundance, application in metallurgy, solar and semiconductors, environmental toxicity and health hazards support the necessity and demand for the development of a simple, sensitive method for determination of tellurium and monitoring trace tellurium concentrations in various sample matrices.

Many analytical techniques have been studied and methods for determination of tellurium have been reported such as voltammetry [5], stripping voltammetry [6,7], inductively coupled plasma atomic emission spectroscopy (ICP-AES) [8,9], inductively coupled plasma mass spectrometry (ICP-MS) [10-12], atomic absorption spectrometry (AAS) [13,14] and hydride generation atomic fluorescence spectrometry [15]. These methods, based on different instrumental techniques, have positive merits like determination at trace level, low limit of detection, minimum interferences, analysis of various sample matrices and fast determination. However, practical application of these techniques has serious drawbacks and it requires sophisticated instrumentation. Spectrophotometric molecular absorption methods involve less expensive instrumentation, and are simple to operate with high sensitivity.

Recently, very few reagents and a limited number of methods are reported for spectrophotometric determination of tellurium. According to the review of literature for spectrophotometric determination of tellurium, the methods are based on catalytic kinetic determination [16-19], synergic extraction [20], direct spectrophotometric determination [21-25], solvent extraction spectrophotometric determination [26-31], determination after extraction using molten naphthalene [32-34] and determination by ion-association complex formation [35]. These methods are sensitive, but have the drawback that catalytic kinetic methods need controlled conditions. Most direct determination methods suffer from interferences from associated metal ions and extraction spectrophotometric determination methods require costly and environmentally hazardous organic solvents.

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ORIGINAL ARTICLE

Extraction spectrophotometric determination of rhodium(III) with *o*-methylphenyl thiourea

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KEYWORDS

Rhodium(III);
o-Methylphenyl thiourea;
Mutual separation:
palladium(II), rhodium(III), platinum(IV) and iridium(III);
Synthetic mixtures

Abstract Trivalent rhodium was determined spectrophotometrically as its 1:2 rhodium *o*-methylphenyl thiourea (OMPT) complex, extracted into chloroform from aqueous acetate buffer media at pH 5.4. The complex exhibits maximum absorption at 320 nm (Molar absorptivity 9.76×10^3 L mol^{-1} cm^{-1}), Sandell's sensitivity 0.0105 μg of rhodium(III) cm^{-2}. Beer's law obeyed up to 10.0 μg/ml. The method is free from a large number of interferences from cations and anions. The method is simple, selective and reproducible. It permits separation and determination of rhodium(III) from synthetic mixtures corresponding to alloys. A scheme for mutual separation of palladium(II), rhodium(III), platinum(IV) and iridium(III) has been developed.

1. Introduction

Rhodium is a precious element usually found in ores mixed with other elements viz. platinum, palladium, silver and gold. Its abundance in earth's crust is only 0.001 ppm. It has application in catalysis, corrosion, electrical and electronic apparatus. The major medicinal use of rhodium is in radiotheorapy using ^{106}Rh isotope to treat retinoblastoma, rhodium(II) carboxylates as antitumor agents and rhodium(II) pyrimidine derivatives with bacteriostatic and bactericidal properties.

Literature survey reveals that many extractants are used for the separation of rhodium(III) but very few of them give quantitative results with positive merits. Hence low abundance, high price, low natural occurrence, and a wide range of applications, demand a novel method for separation and determination of rhodium.

Rhodium(II) was complexed with 1-(2-pyridylazo)-2-naphthol(PAN) in the pH range 3.2–4.7, adsorbed on modified multiwalled carbon nanotubes (MMWCNT's) eluted with *N*,*N*-dimethylformamide and determined by FAAS (Ghaseminezad et al., 1999). PAN was used for the determination of rhodium by laser induced thermal lense spectrometry (Li-TLS) however use of surfactant and phase separation at 50 °C demerits the method (Shokoufi and shemirani, 2007). High performance liquid chromatography was applied for the separation of platinum, palladium and rhodium (Quinfen et al., 2005) but it requires long time. 2-(5-Bromo-2-pyridylazo)-5-diethylaminophenol was used for the determination of rhodium(III) with FAAS, The method needs preconcentration of samples (Molaakbari et al., 2011). Rhodium along with platinum and gold was determined from archeological specimens

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Selective determination of selenium(IV) from environmental samples by UV-visible spectrophotometry using O-methoxyphenyl thiourea as a chelating ligand

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Development of a Reliable Method for the Spectrophotometric Determination of Palladium(II) with o-Methoxyphenyl Thiourea: Separation of Palladium from Associated Metal Ions

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ABSTRACT

A simple and sensitive method is described for the solvent extraction and spectrophotometric determination of palladium(II) using low concentrations of o-methoxyphenyl thiourea (OMePT). Trace concentrations of palladium(II) were quantitatively extracted when equilibrated with OMePT in chloroform at 1.0 mol L^{-1} hydrochloric acid media for 10 s. The absorbance of a yellow coloured palladium(II)-OMePT complex was measured at 325 nm. The palladium(II)-OMePT complex was stable for more than 72 h. The composition of extracting species was 1:1, determined by mole ratio, Job's continuous variation method and it was confirmed by a log–log plot. Beer's law was obeyed up to 15.0 μg mL^{-1}. The molar absorptivity and Sandell's sensitivity were 3.38×10^3 L mol^{-1} cm^{-1} and 0.031 μg cm^{-2}, respectively. The method was free from a large number of interferences from cations and anions. The method was applied for separation of palladium(II) from multi-component mixtures and synthetic mixtures corresponding to alloy.

KEYWORDS

Solvent extraction, spectrophotometric determination, o-methoxyphenyl thiourea, palladium.

1. Introduction

Palladium is a rare and lustrous silvery white metal. It has a wide range of applications in the chemical industry. Palladium is biologically important for determination of N-acetyl-L-cysteine[1] and nucleic acids.[2] It catalyzes the oxidative degradation of paracetamol.[3] Palladium (II) is used in the jewellery and cosmetics industry in the form of alloys.[4,5] The use of palladium is growing continuously and its health hazards are also observed.[6] The literature review gives a clear representation of the widespread applications of palladium. Hence it is necessary to determine palladium in various samples. Amongst available methods, spectrophotometric methods are widely used as these are easy, with high accuracy and precision. Extraction of palladium is reported using 5-chloro-8-hydroxy-7-iodoquinoline as a chromophore,[7] the method has a narrow Beer's range (0.0–2.6 μg mL^{-1}). A reagent, 1-(2-quinolylazo)-2,4,5-trihydroxybenzene (QATB), forms coloured complexes with palladium in acidic and basic media.[8] With this method iodide, thiosulfate and manganese interfere seriously. The extractive spectrophotometric determination method has been reported using five thiosemicarbazone reagents,[9] although limited parameters were studied, specifically the effect of solvent and that of pH. Spectrophotometric determination of palladium was carried out using p-[N,N-bis(2-chloroethyl)amino] benzaldehyde thiosemicarbazone,[10] while Pt(IV), Cu(II) and I^- interferes with the method.

In our laboratory, we have developed extraction and spectrophotometric determination methods for platinum(IV)[11] and ruthenium(III)[12] using o-methylphenyl thiourea (OMPT). Here we report the analytical applications of OMePT for spectrophotometric determination of palladium(II). The proposed method uses OMePT as a new chromogenic ligand, and when compared with other methods, it is found to be more sensitive and selective (Table 1).[13–26]

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2. Experimental

2.1. Instrumentation

A double-beam UV-visible spectrophotometer (Elico, model SL-191) with matching 10 mm quartz cells was used for absorbance measurements. An electronic balance (Contech, model CA-123) was used for weighing purposes. Calibrated glassware were used and are cleaned by soaking in dilute nitric acid followed by washing with soap and rinsed two times with water.

A Systronics 8130 atomic absorption spectrometer equipped with a hydride generator was used for comparative purposes.

2.2. Reagents

All the reagents used were of analytical reagent grade unless otherwise stated. A standard stock solution of palladium (II) was prepared by dissolving 1.0 g palladium (II) chloride ($PdCl_2$) (Loba Chem) in 1.0 mol L^{-1} hydrochloric acid and diluted to 250 mL in a calibrated flask with distilled water and was standardized by a gravimetric method.[27] A working standard solution of palladium (II) 75 μg mL^{-1} was prepared by diluting

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BIOSYNTHESIS OF SILVER NANOPARTICLES USING *NICOTIANA TOBACCUM* LEAF EXTRACT

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ABSTRACT

Plant extract from tobacco leaf was used for the synthesis of silver nanoparticles (AgNps) using the silver nitrate solution. AgNps were characterized by UV-Vis spectrophotometer, X-ray diffractometer (XRD), Scanning electron microscope (SEM) and Energy dispersive spectroscopy (EDX). The formation and stability of the reduced silver nanoparticles in the colloidal solution were monitored by UV-Vis. Spectrophotometer analysis. The mean particle diameter of silver nanoparticles was calculated from the XRD pattern according to the line width of the plane, refraction peak using the scherrers equation. SEM determination of the brown colour stable sample showed the formation of silver nanoparticles and well dispersed nanoparticles could be seen in the samples treated with silver nitrate. EDX analysis gives elemental status that may be involved in the formation of nanoparticles. In the research, article we present a simple and eco- friendly bio-synthesis of silver nanoparticles using tobacco leaf extract as reducing agent.

KEYWORDS: Biosynthesis, Tobacco leaf extract, Silver nanoparticles.

INTRODUCTION

The field of nanotechnology is one of the most active areas of research in modern material science. Nanotechnology is emerging and a rapidly growing field with its application in science and technology for the purpose of manufacturing new material at the nanoscale level. (Albercht et. al 2006). New applications of nanoparticles and nonmaterial's fields are

Development of a Reliable Method for the Spectrophotometric Determination of Palladium(II) with o-Methoxyphenyl Thiourea: Separation of Palladium from Associated Metal Ions

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KEYWORDS

Solvent extraction, spectrophotometric determination, o-methoxyphenyl thiourea, palladium.

1. Introduction

Palladium is a rare and lustrous silvery white metal. It has a wide range of applications in the chemical industry. Palladium is biologically important for determination of N-acetyl-L-cysteine[1] and nucleic acids.[2] It catalyzes the oxidative degradation of paracetamol.[3] Palladium (II) is used in the jewellery and cosmetics industry in the form of alloys.[4,5] The use of palladium is growing continuously and its health hazards are also observed.[6] The literature review gives a clear representation of the widespread applications of palladium. Hence it is necessary to determine palladium in various samples. Amongst available methods, spectrophotometric methods are widely used as these are easy, with high accuracy and precision. Extraction of palladium is reported using 5-chloro-8-hydroxy-7-iodoquinoline as a chromophore,[7] the method has a narrow Beer's range (0.0–2.6 μg mL^{-1}). A reagent, 1-(2-quinolylazo)-2,4,5-trihydroxybenzene (QATB), forms coloured complexes with palladium in acidic and basic media.[8] With this method iodide, thiosulfate and manganese interfere seriously. The extractive spectrophotometric determination method has been reported using five thiosemicarbazone reagents,[9] although limited parameters were studied, specifically the effect of solvent and that of pH. Spectrophotometric determination of palladium was carried out using p-[N,N-bis(2-chloroethyl)amino] benzaldehyde thiosemicarbazone,[10] while Pt(IV), Cu(II) and I^- interferes with the method.

In our laboratory, we have developed extraction and spectrophotometric determination methods for platinum(IV)[11] and ruthenium(III)[12] using o-methylphenyl thiourea (OMPT). Here we report the analytical applications of OMePT for spectrophotometric determination of palladium(II). The proposed method uses OMePT as a new chromogenic ligand, and when compared with other methods, it is found to be more sensitive and selective (Table 1).[13-26]

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2. Experimental

2.1. Instrumentation

A double-beam UV-visible spectrophotometer (Elico, model SL-191) with matching 10 mm quartz cells was used for absorbance measurements. An electronic balance (Contech, model CA-123) was used for weighing purposes. Calibrated glassware were used and are cleaned by soaking in dilute nitric acid followed by washing with soap and rinsed two times with water.

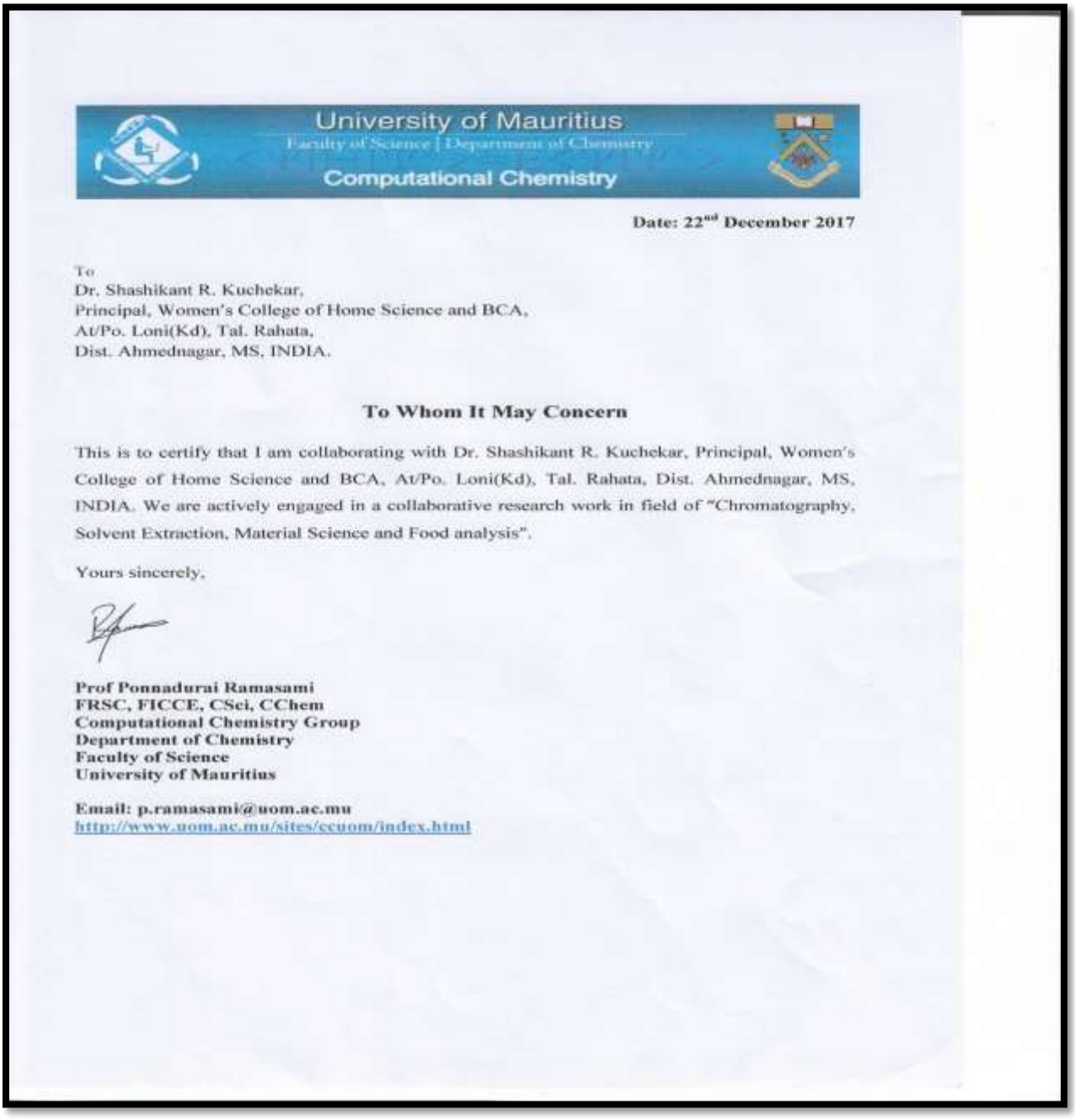
A Systronics 8130 atomic absorption spectrometer equipped with a hydride generator was used for comparative purposes.

2.2. Reagents

All the reagents used were of analytical reagent grade unless otherwise stated. A standard stock solution of palladium (II) was prepared by dissolving 1.0 g palladium (II) chloride ($PdCl_2$) (Loba Chem) in 1.0 mol L^{-1} hydrochloric acid and diluted to 250 mL in a calibrated flask with distilled water and was standardized by a gravimetric method.[27] A working standard solution of palladium (II) 75 μg mL^{-1} was prepared by diluting

2017-18

18-Title of the collaborative activity - Chromatography solvent extraction and material science - Research



University of Mauritius
Faculty of Science | Department of Chemistry
Computational Chemistry

Date: 22nd December 2017

To
Dr. Shashikant R. Kuchekar,
Principal, Women's College of Home Science and BCA,
At/Po. Loni(Kd), Tal. Rahata,
Dist. Ahmednagar, MS, INDIA.

To Whom It May Concern

This is to certify that I am collaborating with Dr. Shashikant R. Kuchekar, Principal, Women's College of Home Science and BCA, At/Po. Loni(Kd), Tal. Rahata, Dist. Ahmednagar, MS, INDIA. We are actively engaged in a collaborative research work in field of "Chromatography, Solvent Extraction, Material Science and Food analysis".

Yours sincerely,

Prof Ponnadurai Ramasami
FRSC, FICCE, CSci, CChem
Computational Chemistry Group
Department of Chemistry
Faculty of Science
University of Mauritius

Email: p.ramasami@uom.ac.mu
http://www.uom.ac.mu/sites/ccuom/index.html

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Solvent extraction separation and spectrophotometric determination of ruthenium(III) with *p*-methylphenyl thiourea: sequential separation of ruthenium, osmium and iron

Shashikant R. Kuchekar, Haribhau R. Aher, Somnath D. Bhumkar, and Ponnadurai Ramasami

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ABSTRACT

A selective and sensitive solvent extraction and spectrophotometric study of the ruthenium(III)–*p*-methylphenyl thiourea (PMPT) system is presented. The optimum conditions were determined by a critical study of acid concentration, reagent concentration, equilibration period, heating time and effect of solvent on the equilibrium. Ruthenium(III) forms 1:1 complex with PMPT in 20% ethanol and extracted into chloroform. Conformity to Beer's law at 600 nm was observed up to 40 μg mL^{-1} of ruthenium. Molar absorptivity and Sandell's sensitivity were found to be 2.31×10^3 L $mol^{-1}cm^{-1}$ and 0.044 μg cm^{-2}, respectively. The detection limits were 0.11 μg mL^{-1} of ruthenium. The method is free from interferences from large number of cations and anions. Proposed method was successfully applied to the separation and determination of ruthenium from synthetic alloys, catalyst and water samples. Sequential separation and determination method for ruthenium(III), osmium(VIII) and iron(II) has been developed.

ARTICLE HISTORY
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KEYWORDS
P-methylphenyl thiourea; solvent extraction; sequential separation

Introduction

Ruthenium is a rare transition metal of the platinum group. Pure ruthenium is a cool white metal, remains hard and brittle even at 1500°C.[1] Osmium tetroxide and ruthenium tetroxide resemble a potent adhesive and stain for electron microscopy of organic materials and mostly used to detect the structure of polymer samples.[2,3] Due to highly efficient capability of ruthenium to harden platinum and palladium, it is used in platinum and palladium alloys to make severe wear-resistant electrical contacts.[4] Several ruthenium complexes find the use in medical field.[5–12] In comparison with platinum complexes, ruthenium complexes exhibit more selective action on tumours. Many ruthenium-containing compounds exhibit useful catalytic properties.[13–15]

The increasing interest and importance of the use of ruthenium in widely differing fields, such as metallurgy, pharmaceuticals and high technology components, has made it necessary to develop simple, inexpensive and sensitive method for separation and the determination of trace amounts of this element. Spectrophotometry is a simple and sensitive technique for the quantitative determination of a variety of valuable metal ions.[16–19] Thio compounds play a vital role in analytical chemistry due to highly sensitive colour reaction, stability and selectivity for complex formation with various metal ions.[20] 4-Hydroxy-3,5-dimethoxy benzaldehyde 4-hydroxy benzoylhydrazone[21] is used as an analytical reagent for spectrophotometric determination of ruthenium in presence of miceller medium. Extraction of ruthenium and its separation from rhodium and palladium is carried out with 4-pyridone derivatives.[22] This protocol requires the equilibration for 20 min. Phenanthraquinone monothiosemicarbazone (PTS) has been used in the determination of ruthenium by spectrophotometric method.[23] This method has limitations as it requires heating for two hours. Extraction of ruthenium from organic acids using 2-dodecylaminopyridine is reported which gives 99.50% recovery of ruthenium.[24] This method demands the stripping of extracted species. Extraction of ruthenium (IV) from hydrochloric acid medium with N-octylaniline and its spectrophotometric determination with pyrimidine-2-thiol has been reported.[25] The reagent 4-benzylideneamino-3-mercapto-6-methyl-1,2,4-triazine(4H)-5-one has been used for spectrophotometric determination of ruthenium.[26] Interference of Mn(II), Ce(IV), Zr(IV), Cu(II), V(VI) Mg(II), and Li(I) limits the applications of this method. Method for extractive spectrophotometric determination of ruthenium(III) using 2-nitrobenzaldehyde thiocarbohydrazone is reported.[27] Method is applied

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SOLVENT EXTRACTION, SPECTROPHOTOMETRIC DETERMINATION AND SEPARATION OF RHODIUM(III) FROM SYNTHETIC ALLOY SAMPLES USING P-METHYLPHENYL THIOUREA

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Abstract : A selective and sensitive solvent extraction and spectrophotometric study of the rhodium(III) - p-methylphenyl thiourea (*PMPT*) system is presented. The optimum conditions of complexation were determined by study of acid concentration, reagent concentration, equilibration period, heating time and effect of solvent on the equilibration. Rhodium(III) forms 1:2 complex with *PMPT* in 20 % ethanol and extracted into chloroform. Conformity to Beer's law at 298 nm was observed up to 40 μg mL^{-1} of rhodium. Molar absorptivity and Sandell's sensitivity were found to be 1.65 x 10^3 L mol^{-1} cm^{-1} and 0.066 μg cm^{-2} respectively. The detection limits was 0.079 μg mL^{-1} of rhodium(III). Proposed method was successfully applied to the separation and determination of rhodium from synthetic alloys samples, binary and ternary mixtures.

Key Words - **p-methylphenyl thiourea, solvent extraction, alloy, rhodium(III).**

I. INTRODUCTION

Rhodium is a rare, silvery-white, hard, corrosion resistant, precious and chemically inert platinum group metal. ^{103}Rh is the only naturally occurring isotope of rhodium. Rhodium is found in platinum or nickel ores together with the platinum group metals. The main use of rhodium is as the catalysts in the three-way catalytic converters in automobiles. Rhodium is usually alloyed with platinum or palladium and finds applications in high-temperature and corrosion-resistive coatings. Wilkinson's catalyst, well known rhodium-halogen compound which is used in the hydroformylation or hydrogenation of alkenes(Osborn, Jardine, Young, & Wilkinson, 1966). Rhodium forms chelating complex with the drug promethazine hydrochloride and is used for the determination of promethazine hydrochloride from pharmaceutical samples (AL-Ayash, Jasim, & Zair, 2008).Various rhodium compounds exhibits anti-tumer activity(Katsaros & Anagnostopoulou, 2002; Ruiz et al., 2012). A new field of rhodium nanoparticals has been emerged in recent years and its possible future is highlighted(Lin, Chen, & Su, 2013; Motoyama, Takasaki, Yoon, Mochida, & Nagashima, 2009; Yuan, Yan, & Dyson, 2012).Catalytic performance of rhodium has been reported for various reactions like hydroformylation(Cobley, Ellis, Guy Orpen, & Pringle, 2000) ,hydrogenation(Ojeda, López Granados, Rojas, Terreros, & Fierro, 2003), reduction(Terada & Toda, 2012; Wu, Tang, Pettman, & Xiao, 2013), oxidative cycloaddition(Hyster & Rovis, 2010; Shibata & Tanaka, 2012), amidation(Deng et al., 2012), C-H activation(Song, Wang, & Li, 2012) and C-C bond formation(Fagnou & Lautens, 2003).

Due to low natural abundance, significant properties, prominent catalytic role and numerous applications, development of a sensitive, cost effective and selective method for separation and determination of rhodium from various matrices is of vital importance.

Various analytical methods were reported for the determination of rhodium. Some of them were flame atomic absorption spectrometry(Ghaseminezhad, Afzali, & Taher, 2009; Suvardhan et al., 2007),ICP-AES(Panahi et al., 2009),ICP-OES(Tavakoli et al., 2008), Laser induced-thermal lens spectrometry(Shokoufi & Shemirani, 2007) and Differential pulse polarography(Puri, Dubey, Gupta, & Puri, 1997).Tediuos procedures, high cost of instruments are the demerits of these methods.

Comparatively, solvent extraction is the most efficient technique for separation of metals which offers simplicity, high speed and applicable to both tracer and macro quantities of metal ions.

Variety of extractants were used for the separation of rhodium like 2-Dodecylaminopyridine(Shep, Bagal, & Arbad, 2017), Aliquat 336(Levitin & Schmuckler, 2003), TBP(Zou, Chen, & Pan, 1998). These methods give quantitative separation at trace level but require external chromogenic reagents for spectrophotometric determination, stripping agents and backwashing.

Variety of complexing reagents were reported for the spectrophotometric determination of rhodium(III). 1, 2, 3-Cyclohexanetrione dioxime forms 1:2 complex with rhodium. Absorbance measurement requires standing time of 10 min. The method also lacks the interference study and applications(Ganescu et al., 2002). Spectrophotometric Determination of Rhodium with Phenanthraquinone Monothiosemicarbazone is reported. Method requires heating of content for 90 min.(Sinha & Tomar, 2017).

Extractive spectrophotometric determination using various extractants is more advantageous with ease of methodology, minimum interferences and maximum applications. Red colored 2-[(5-bromo-2-pyridylazo)]-5-diethylaminophenol-rhodium complex was extracted into dichloromethane. Method is sensitive but narrow beers range limits its applicability(Thakur, Khande, & Deb, 2005). 2-(5- bromo-2-oxoindolin-3-ylidene) hydrazine carbothioamide extracts rhodium(III) into n-amyl alcohol(Borgave & Barhate, 2016). Method requires digestion of contents in water bath for 10 min. N - (O- Hydroxy benzylidene) pyridine - 2 - amine extracts rhodium into n-amyl alcohol in the pH range 4.5-5.7(Gupta & Barhate, 2012).Method needs digestion for 20-25 min. Comparison of present method with previously reported methods was summarized (Table 1) (El-Sayed, 1995; Kawamura, Igarashi, & Yotsuyanagi, 2006; Keyvanfard & Ensafi, 2003; Panahi, Kalal, Menderjani, & Moniri, 2011; Sánchez Rojas, Ojeda, & Pavón, 2004; Tofan, 2011; Xu, Chen, & Hu, 1994).

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SOLVENT EXTRACTION, SPECTROPHOTOMETRIC DETERMINATION OF SELENIUM (IV) AT MICROGRAM LEVEL USING O-METHYLPHENYL THIOUREA AS A SENSITIVE REAGENT: ANALYSIS OF PHARMACEUTICALS, SYNTHETIC MIXTURES AND REAL SAMPLES

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ABSTRACT

A simple and rapid method has been developed for solvent extraction and spectrophotometric determination of selenium (IV) using o-methylphenyl thiourea (OMPT) as a sensitive reagent. The basis of proposed method is formation of selenium (IV)-OMPT complex. Selenium (IV) was extracted with 0.015 mol L^{-1} OMPT in chloroform from aqueous solution in 3.6 mol L^{-1} hydrochloric acid. The absorbance of complex was measured at 335 nm. Beer's law was obeyed up to 800.0 µg mL^{-1} for selenium (IV). The molar absorptivity and Sandell's sensitivity of the complex were 4.066×10^2 L mol^{-1} cm^{-1} and 0.1942 µg cm^{-2} respectively. The Stiochiometry of selenium (IV)-OMPT complex was 1:2 established from slope ratio method, mole ratio method and job's continuous variation method. The stability of selenium (IV)-OMPT complex was >48 h. The proposed method is free from interferences from foreign ions and suitable masking agents were used wherever necessary to enhance selectivity of method. The

Solvent Extraction, Spectrophotometric Determination of Antimony(III) from Real Samples and Synthetic Mixtures Using *O*-Methylphenyl Thiourea as a Sensitive Reagent

Shashikant R. Kuchekar, Shivaji D. Pulate, Vishwas B. Gaikwad

Abstract:-A simple and selective method is developed for solvent extraction, spectrophotometric determination of antimony(III) using *O*-MethylphenylThiourea (OMPT) as a sensitive chromogenic chelating agent. The basis of proposed method is formation of antimony(III)-OMPT complex, was extracted with 0.0025 M OMPT in chloroform from aqueous solution of antimony(III) in 1.0 M perchloric acid. The absorbance of this complex was measured at 297 nm against reagent blank. Beer's law was obeyed up to 15µg mL^{-1} of antimony(III). The Molar absorptivity and Sandell's sensitivity of the antimony(III)-OMPT complex in chloroform are 1.66730×10^3 L mol^{-1} cm^{-1} and 0.0730282 µg cm^{-2} respectively. The Stiochiometry of antimony(III)-OMPT complex was established from slope ratio method, mole ratio method and Job's continuous variation method was 1:2. The complex was stable for more than 48 h. The interfering effect of various foreign ions was studied and suitable masking agents are used wherever necessary to enhance selectivity of the method. The proposed method is successfully applied for determination of antimony(III) from real sample and synthetic mixtures. Repetition of the method was checked by finding relative standard deviation (R.S.D.) for 10 determinations which was 0.42%.

Keywords - Antimony (III), *O*-MethylphenylThiourea, Spectrophotometry.

Introduction

The abundance of antimony in the earth's crust is 0.20 ppm. Antimony is used in lead alloy, storage battery, grids, rubber, matches, ceramics, paints and textile industries[1]. It is well known that the toxicity and physiological behavior of antimony depends on its oxidation state.

Antimony is a potentially important element for plants; it not shows identified essential function in animals. The trivalent antimonials are more toxic than the pentavalentantimonials, they are used for 283 therapy. In other metal such as lead and zinc mixed antimony frequently to form mixtures of metals called alloys. In lead storage batteries, solder, ammunition and pewter these alloy are used [2]. Antimony possibly originates in the environment as a result of various anthropogenic behaviors. Antimony and its compounds shows industrially significant role in manufacturing of alloys, paper, plastics, paints, textiles, glass, clay products and rubber. Highly pure antimony has been worn in the construction of the semiconductor compound, indium antimonide also in the formulation of bismuth telluride type compound used for thermoelectric applications.

In the production of glass and ceramics as well as fire retardants antimony containing compounds is used. Street traffic is also an important source as it is used in brake linings and tyre vulcanization that require antimony containing additives. Antimony is harm on human being health seriously; micro quantity of antimony will inspire respiratory zone, mucous membrane of alimentary canal and skin, still lead to pulmonary edema. Antimony have conventional relatively little concentration since it is unnecessary for life and because it's content in most matrices is very low[3]. Elementalantimony is more toxic than its salts, in addition to commonly trivalent antimony compounds are ten times higher toxic than pentavalent antimony species , it might cause lung cancer[4]. The highly toxic gas stibine is capable of causing mutually serious injury to the central nervous system and hemolysis. Inductively coupled plasma mass spectrophotometer and atomic absorption spectrometry [5]-[6], plasma emission spectroscopy [7], Neutron activation analysis[8]and chromatography techniques [9]-[10] are used in the antimony speciation. These techniques are comparatively expensive, not adequately selective and simply adapted to routine analyses. It requires costly maintenance and skilled hands for process. Due to simplicity, spectrophotometry technique is most widespread method of analysis and also used in determination of antimony. The separation and determination of antimony(III) is of analytical importance. For the extraction of antimony(III) high molecular weight amines (HMWA) are used. The bromo complex of antimony(III) was extracted with 3% trioctylamine in isobutyl methyl ketone (MIBK) and determined by the AAS method. Dyes are used for spectrophotometric determination of antimony through malachite green [11]. Antimony is determined spectrophotometrically with vanallylfluorone in presence of poly vinyl alcohol in acidic media. Tin, thorium, bismuth and thiosulphate interfere seriously. By extraction of reduced molybdoantimonyl phosphoric acid with butyl acetate antimony can be determined colorimetrically [12]. Different micellar media had different effect on adsorption spectra of complexes of bromopyrogallol with antimony (III and V). A method for quantitative separation of antimony (III) by absorption on polyether based polyurethane foam and its spectrophotometric determination has been described. The

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Shivaji D. Pulate, is student from Department of Chemistry, P. V. P. College, Pravaranagar, At/Po. Loni(Kd), Tal Rahata, Dist. Ahmednagar, MS, 413713 (e-mail: shivajipulate1@gmail.com).

Dr. Vishwas B. Gaikwad, Author is principal at KTHM College, Nashik, MS, India (e-mail: dr.gaikwadvb@rediffmail.com).

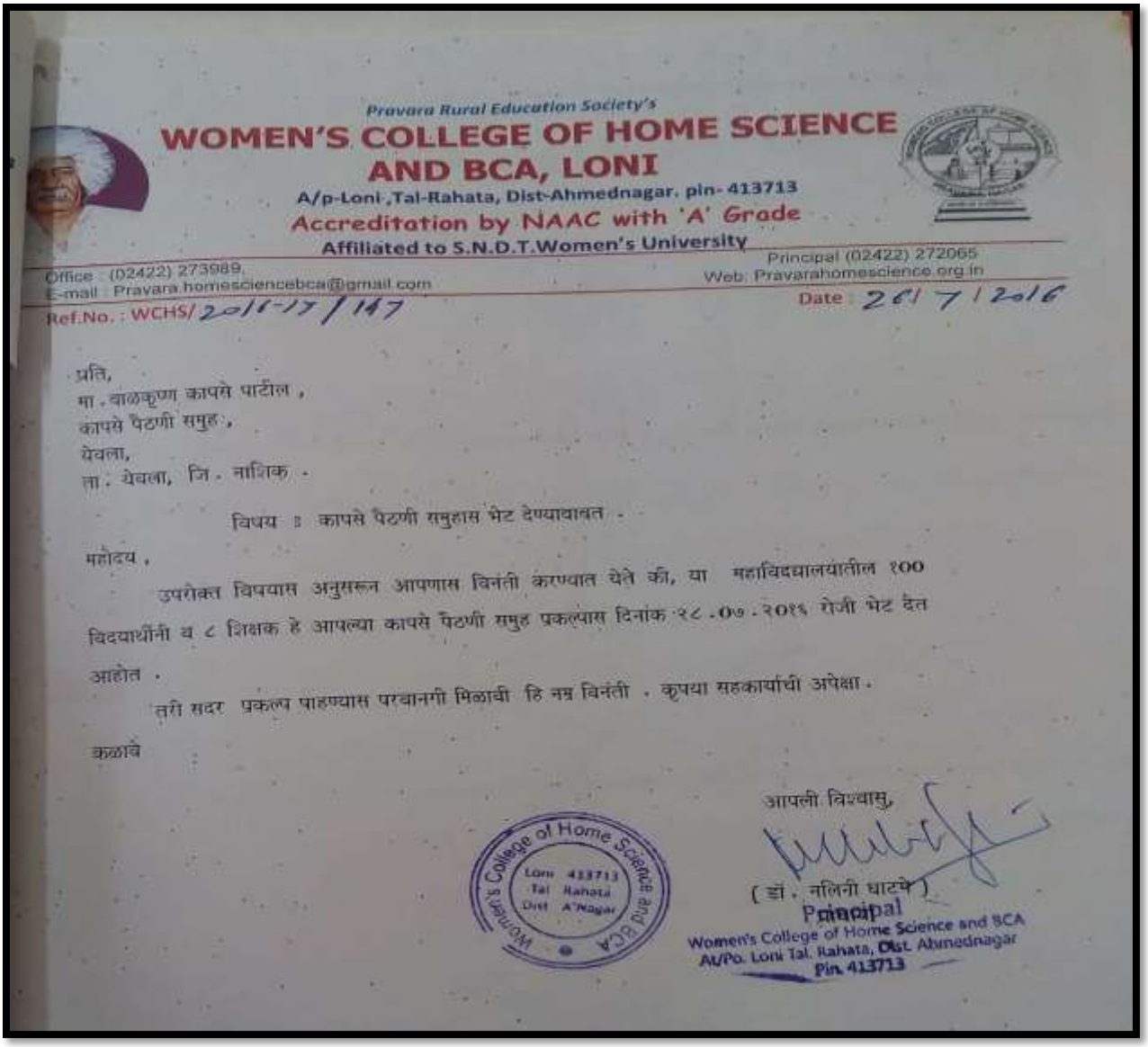
2016-17

19-Visit Report Kapase Paithani Park at Yewala District Nashik

Pravara Rural Education Society's

Women's College of Home Science and BCA, Loni

Home Science and BCA students visited **Kapase Paithani Park at Yewala District Nashik on dated 28 th July 2016**. 95 students and 4 staff members are visited. **Kapase Paithani Park' representative** gave us all the information about all types of Saree and Pathaini collections, its making process, handloom process etc. It's very useful for the students



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WOMEN'S COLLEGE OF HOME SCIENCE AND BCA, LONI

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Ref.No. : WCHS/2016-17/147 Date 26/7/2016

प्रति,
मा . बाळकृष्ण कापसे पाटील ,
कापसे पैठणी समुह ,
येवला,
ता . येवला, जि . नाशिक .

विषय : कापसे पैठणी समुहास भेट देण्याबाबत .

महोदय ,

उपरोक्त विषयास अनुसरून आपणास विनंती करण्यात येते की, या महाविद्यालयातील १०० विद्यार्थीनी व ८ शिक्षक हे आपल्या कापसे पैठणी समुह प्रकल्पास दिनांक २८ .०७ . २०१६ रोजी भेट देत आहोत .

तरी सदर प्रकल्प पाहण्यास परवानगी मिळावी हि नम्र विनंती . कृपया सहकार्याची अपेक्षा .

कळावे

आपली विश्वासु,

(डॉ . नलिनी धाटपे)
Principal
Women's College of Home Science and BCA
At/Po. Loni Tal. Rahata, Dist. Ahmednagar
Pin. 413713

Women's College of Home Science and BCA Loni 413713 Tal Rahata Dist A'Nagar

Women's College of Home Science and BCA ,Loni Visited at Kapase Paithani Park at Yewala, District Nashik on dated 28 July2016.

2016-17

20-Visit Report Krishi Vighyan Kendra at Babhaleshwar Ta-Rahata Dist-Ahmednagar

Pravara Rural Education Society's

Women's College of Home Science and BCA, Loni

Home Science department students visited **Krishi Vighyan Kendra at Babhaleshwar Ta-Rahata Dist-Ahmednagar on dated 10 th September 2016**. 30 students and 2 staff members had visited. Mr.Sunil Borude Sr.Scientist gave us all the information about KVK activities and especially the role of Krishi Vigyan Kenderas for the empowerment of rural womento adopt new ways and technologies in fields and homes to become self- sufficient.It's very useful for the students

Visited at KVK Babhaleshwar with student for field trip -10/09/2016

2015-16

21-Visit Report Ralegan siddhi and Hiware Bazar Ta-Parner Dist-Ahmednagar

Pravara Rural Education Society's

Women's College of Home Science and BCA, Loni

Home Science and BCA department students visited **Ralegan siddhi and Hiware Bazar Ta-Parner Dist-Ahmednagar on dated 12-02-2016**. 77 students and 4 staff members had visited. By visiting Ralegan Siddhi village, which is a result of remarkable work by Padma Bhushan Mr. Annasaheb Hazare. Throughout the visit, the students were enlightened about the notable journey of Padma Bhushan Mr. Anna Hazare, who not only transformed the village through his demonstration, but also empowered the villagers to lead the development.

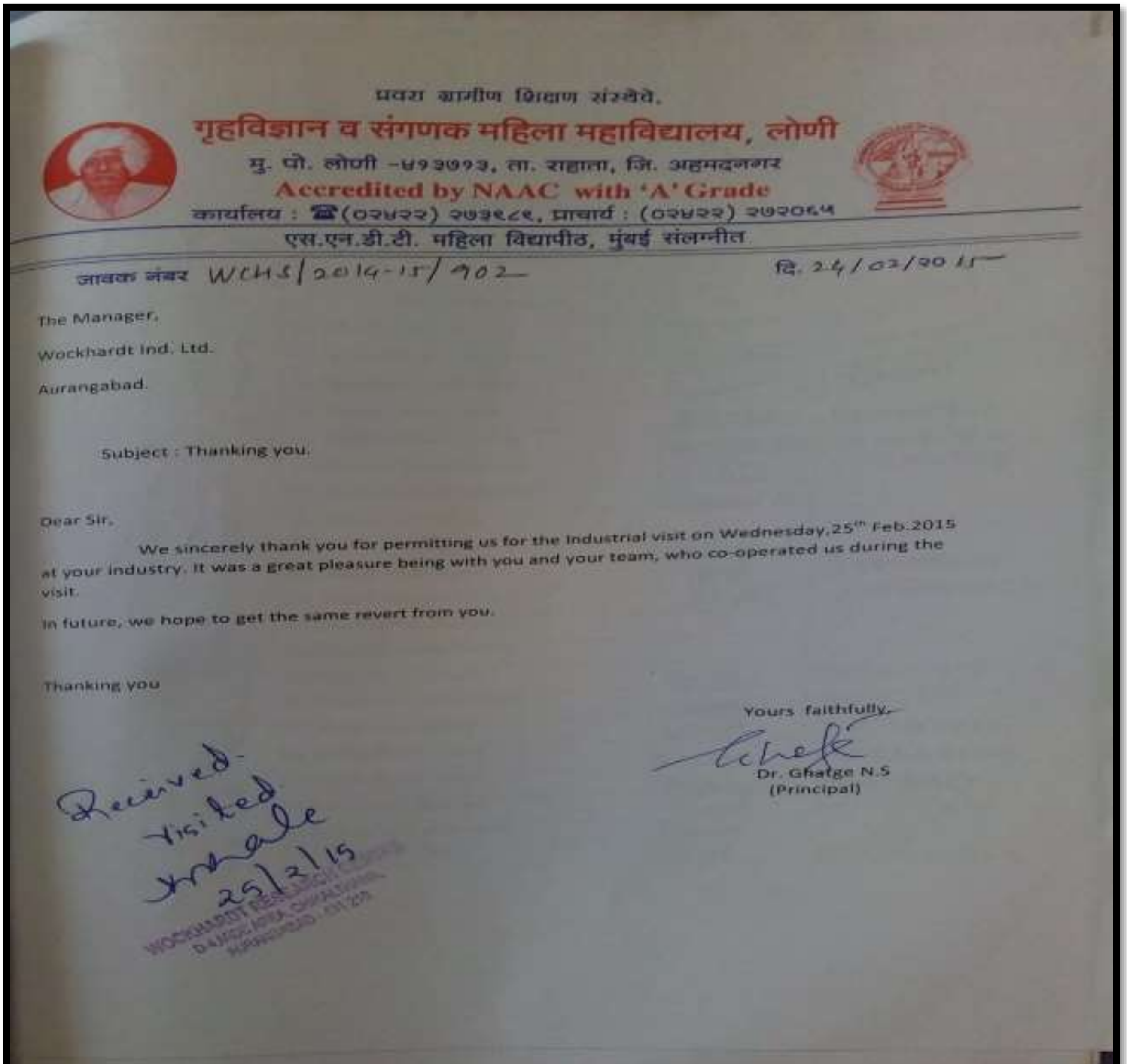
We also visited at Hiware Bazar village which is located in the drought prone district of Ahmednagar in Maharashtra State. Under the guidance of Mr.Popatrao Pawar the village Hiware Bazar was able to transform from a drought-prone village to a green and prosperous model village. The trip to Hiware bazaar was very inspiring and interesting. To listen to Popat rao Pawar and see the work he has done is very memorable.

Padma Bhushan Mr. Anna Hazare delivering information about progress of village Ralegan siddhi to the students.

2014-15

22-Visit Report WOCKHARDT INDIA LTD. at Aurangabad,

Pravara Rural Education Society's **Women's College of Home Science and BCA, Loni**
BCA department students visited to **WOCKHARDT INDIA LTD. at Aurangabad, on dated 25th February 2015**. 71 students and 4 staff members had visited. Mr.V.N.Kale, Manager, Wockhardt Reaserch Centre, gave us all the information about all the departments of Wockhardt . It's very useful for the students



प्रवरा ग्रामीण शिक्षण संस्थेचे,
गृहविज्ञान व संगणक महिला महाविद्यालय, लोणी
मु. पो. लोणी -४१३७१३, ता. राहाता, जि. अहमदनगर
Accredited by NAAC with 'A' Grade
कार्यालय : ☎(०२४२२) २७३९८९, प्राचार्य : (०२४२२) २७२०६५
एस.एन.डी.टी. महिला विद्यापीठ, मुंबई संलग्नीत

जावक नंबर WCHS/2014-15/902   दि. 24/02/2015

The Manager,
Wockhardt Ind. Ltd.
Aurangabad.

Subject : Thanking you.

Dear Sir,

We sincerely thank you for permitting us for the industrial visit on Wednesday,25th Feb.2015 at your industry. It was a great pleasure being with you and your team, who co-operated us during the visit.

In future, we hope to get the same revert from you.

Thanking you

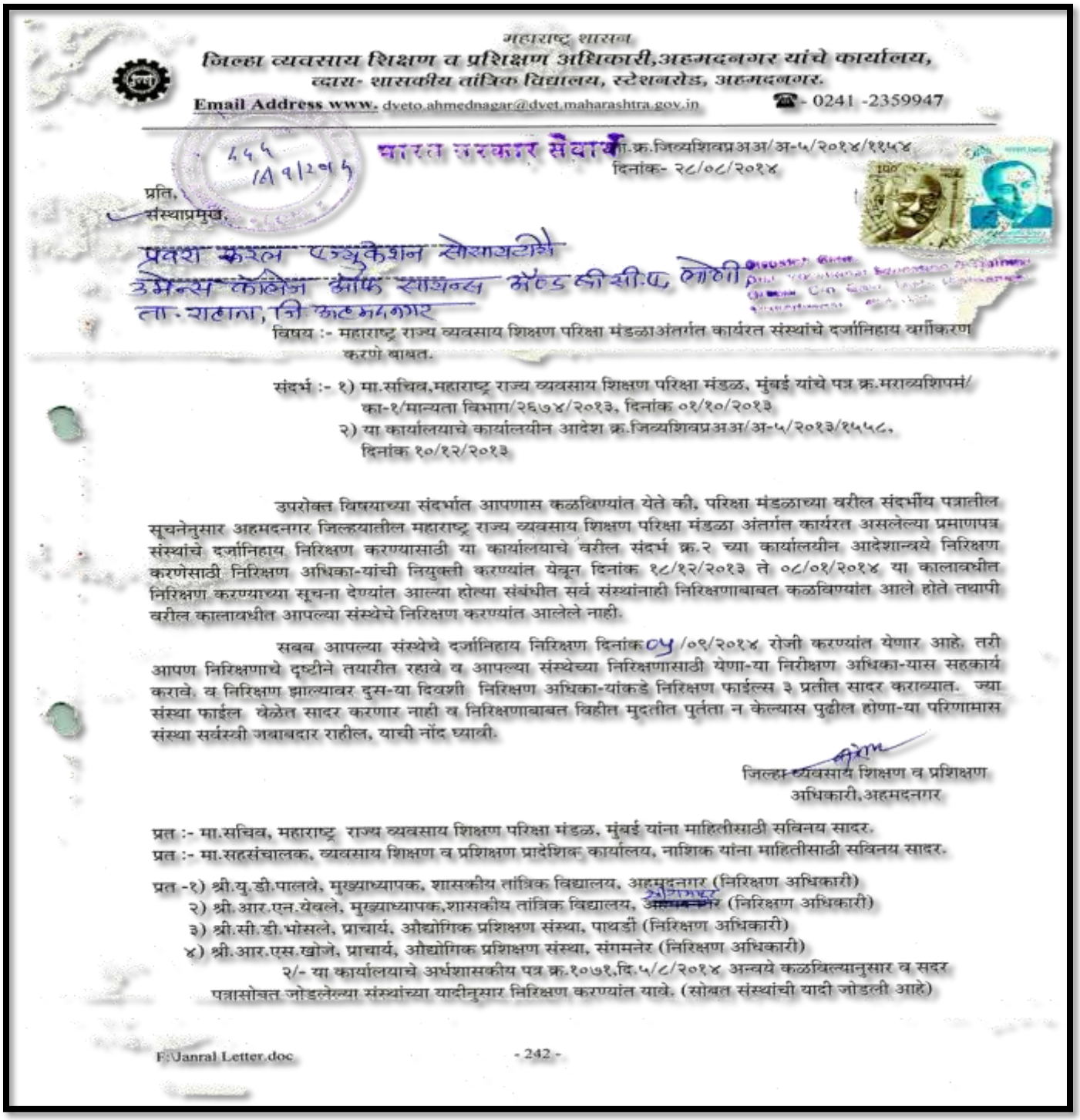
Yours faithfully,
Dr. Ghatge N.S
(Principal)

Received
Visited
25/2/15

Women's College of Home Science and BCA , Loni visited at WOCKHARDT INDIA LTD. at Aurangabad, District Aurangabad on dated 25th February 2015.

2014-15

23-Maharastra State Board Vocational Education Ahmednagar- Vocational Course



महाराष्ट्र शासन

जिल्हा व्यवसाय शिक्षण व प्रशिक्षण अधिकारी,अहमदनगर यांचे कार्यालय,
द्वारा- शासकीय तांत्रिक विद्यालय, स्टेशनरोड, अहमदनगर.

Email Address www. dveto.ahmednagar@dvet.maharashtra.gov.in ☎- 0241 -2359947

भारत सरकार सेवार्थ

क्र.जिव्यशिवप्रअअ/अ-५/२०१४/११५४
दिनांक- २८/०८/२०१४

प्रति,
संस्थाप्रमुख,

प्रवरा रूरल एज्युकेशन सोसायटीचे
उमेन्स कॉलेज ऑफ सायन्स अॅण्ड सी.ए, लोणी
ता.राहाता, जि.अहमदनगर

विषय :- महाराष्ट्र राज्य व्यवसाय शिक्षण परिक्षा मंडळाअंतर्गत कार्यरत संस्थांचे दर्जानिहाय वर्गीकरण करणे बाबत.

संदर्भ :- १) मा.सचिव,महाराष्ट्र राज्य व्यवसाय शिक्षण परिक्षा मंडळ, मुंबई यांचे पत्र क्र.मराव्यशिपमं/का-१/मान्यता विभाग/२६७४/२०१३, दिनांक ०१/१०/२०१३
२) या कार्यालयाचे कार्यालयीन आदेश क्र.जिव्यशिवप्रअअ/अ-५/२०१३/१५५८, दिनांक १०/१२/२०१३

उपरोक्त विषयाच्या संदर्भात आपणास कळविण्यांत येते की, परिक्षा मंडळाच्या वरील संदर्भीय पत्रातील सूचनेनुसार अहमदनगर जिल्हयातील महाराष्ट्र राज्य व्यवसाय शिक्षण परिक्षा मंडळा अंतर्गत कार्यरत असलेल्या प्रमाणपत्र संस्थांचे दर्जानिहाय निरिक्षण करण्यासाठी या कार्यालयाचे वरील संदर्भ क्र.२ च्या कार्यालयीन आदेशान्वये निरिक्षण करणेसाठी निरिक्षण अधिका-यांची नियुक्ती करण्यांत येवून दिनांक १८/१२/२०१३ ते ०८/०१/२०१४ या कालावधीत निरिक्षण करण्याच्या सूचना देण्यांत आल्या होत्या संबंधीत सर्व संस्थांनाही निरिक्षणाबाबत कळविण्यांत आले होते तथापी वरील कालावधीत आपल्या संस्थेचे निरिक्षण करण्यांत आलेले नाही.

सबब आपल्या संस्थेचे दर्जानिहाय निरिक्षण दिनांक ०५ /०९/२०१४ रोजी करण्यांत येणार आहे. तरी आपण निरिक्षणाचे दृष्टीने तयारीत रहावे व आपल्या संस्थेच्या निरिक्षणासाठी येणा-या निरीक्षण अधिका-यास सहकार्य करावे. व निरिक्षण झाल्यावर दुस-या दिवशी निरिक्षण अधिका-यांकडे निरिक्षण फाईल्स ३ प्रतीत सादर कराव्यात. ज्या संस्था फाईल वेळेत सादर करणार नाही व निरिक्षणाबाबत विहीत मुदतीत पुर्तता न केल्यास पुढील होणा-या परिणामास संस्था सर्वस्वी जबाबदार राहील, याची नोंद घ्यावी.

जिल्हा व्यवसाय शिक्षण व प्रशिक्षण
अधिकारी,अहमदनगर

प्रत :- मा.सचिव, महाराष्ट्र राज्य व्यवसाय शिक्षण परिक्षा मंडळ, मुंबई यांना माहितीसाठी सविनय सादर.
प्रत :- मा.सहसंचालक, व्यवसाय शिक्षण व प्रशिक्षण प्रादेशिक कार्यालय, नाशिक यांना माहितीसाठी सविनय सादर.

प्रत -१) श्री.यु.डी.पालवे, मुख्याध्यापक, शासकीय तांत्रिक विद्यालय, अहमदनगर (निरिक्षण अधिकारी)
२) श्री.आर.एन.येवले, मुख्याध्यापक,शासकीय तांत्रिक विद्यालय, संगमनेर (निरिक्षण अधिकारी)
३) श्री.सी.डी.भोसले, प्राचार्य, औद्योगिक प्रशिक्षण संस्था, पाथर्डी (निरिक्षण अधिकारी)
४) श्री.आर.एस.खोजे, प्राचार्य, औद्योगिक प्रशिक्षण संस्था, संगमनेर (निरिक्षण अधिकारी)
२/- या कार्यालयाचे अर्धशासकीय पत्र क्र.१०७१,दि.५/८/२०१४ अन्वये कळविल्यानुसार व सदर पत्रासोबत जोडलेल्या संस्थांच्या यादीनुसार निरिक्षण करण्यांत यावे. (सोबत संस्थांची यादी जोडली आहे)

F:\Janral Letter.doc - 242 -

MSBVE

Student Register **Admission Month September Year**

District Code 11 **District Name** AHMEDNAGAR

Institute Code 110304 **Institute Name** WOMENS COLLEGE OF VCO

Course Code & Name 401105 PRESERVATION OF FRUITS AND VEGETABLES

Duration 6 MONTH

Sr.No	Name Of Student	Photo	Signature
1	UDAMALE SHRADDHA NANDKUMAR		
2	KANKATE VAISHALI NANASAHEB		
3	KHAN YASMIN ANSAR		
4	NAGALE ADNYA DEEPAK		
5	RANMALE SHILPA KAILAS		
6	PARKHE ANUDHA RAMESH		
7	UNDE PRIYANKA PRALHAD		
8	UNDE PRITAM PRALHAD		
9	NASHTE NEHA SANTOSH		
10	THAKUR GAURI PRITAM		

Principal
Women's College of Home Science and BCA
At/Po.- Loni Tal.- Rahata.

ENROLMENT CUM EXAM FORM

Enrollment Fee Receipt No 02 Date 29/09/2014

Year Of Admission		Institute Code	Taluka Code	Course Code
9 (Month)	2014 (Year)	110304	092	401105

Category	Sex	Date of Birth	Handicap	Passed From Maharastra State	Educational Qualification Code
06	Female	06/11/1995	06	Y	03

Applicant's Name in English SURNAME	Applicant's Name in Marathi
KANKATE	कानकाटे
FIRST NAME	
VAISHALI	वैशाली
FATHER'S OR HASBAND'S NAME	
NANASAHEB	नानासाहेब
MOTHER'S NAME	
SUMAN	सुमन

Permanent Postal Address

SARE

City / Place: SANGAMNER

Taluka: SANGAMNER

District: AHMEDNAGAR

Pin Code:

Correspondence Postal Address

Certified that the above information is ture.

Date : _____ Place : _____

Signature of Applicant

TO BE FILLED BY INSTITUTION ONLY

CERTIFICATE

Certified that the above information is ture. Place : _____ Date : _____

Principal

Signature of Principal with Rubber Stamp

Arts, College of Home Science and BCA
At/Po. - Loni, Tal. - Rahata,
Dist. - Ahmednagar, Pin. 413713

TO BE FILLED BY DISTRICT OFFICE ONLY

TO BE USED BY DVETO

Verified and found correct. Date : _____

Signature of the DVETO

मु.पो.लोणी, ता.राहाता, जि.अहमदनगर

महाराष्ट्र राज्य व्यवसाय शिक्षण परीक्षा मंडळ, मुंबई

Maharashtra State Board of Vocational Education Examinations, Mumbai

गुणपत्रक

STATEMENT OF MARKS

1501110362

MR./MS. THAKUR GAURI PRITAM

श्री /श्रीमती ठाकुर गौरी प्रितम

Enrollment No. 1471100362 **Seat No.** 1501110362

Examination January 2015 **Duration** 6 MONTH

Institute Code 110304

Certificate Course in PRESERVATION OF FRUITS AND VEGETABLES

TITLE OF SUBJECTS		Max. Marks	Min.	Obtained
METHOD OF PRESERVATION 40110511	TH	100	35	28 *
FUNDAMENTAL OF FOOD PROCESSING & PRESERVATION 40110521	PR	200	100	152
FRUIT, BEVERAGE AND OTHER PREPARATION 40110522	PR	100	50	81

Result With %	Total Marks	
	Max.	Obtained
	400	261
FAIL		

SECRETARY
MAHARASHTRA STATE BOARD
OF VOCATIONAL EXAMINATIONS

INSTRUCTIONS

1. Report any discrepancy in this certificate to head of institution.
2. This certificate of marks is issued as per prevailing rules and regulations of MSBVE at the time of this Exam.

ABBREVIATION DETAILS

TH	Theory	@	Condoned Marks	AB	Absent
PR	Practical	*	Failure Marks	%	Percentage of Marks
AG	Aggregate	#	Carry Forward Marks	CON	Condoned

No. 1501110353

महाराष्ट्र राज्य व्यवसाय शिक्षण परीक्षा मंडळ, मुंबई

Maharashtra State Board of Vocational Education Examinations, Mumbai

प्रमाणित करण्यात येते की

This is to Certify that

श्री / श्रीमती उदमले श्रध्दा नंदकुमार

Shri./Smt. UDAMALE SHRADDHA NANDKUMAR

ह्यांनी प्रमाणपत्र अभ्यासक्रम यशस्वीरित्या पूर्ण केल्याबद्दल

having successfully completed the Certificate Course in

PRESERVATION OF FRUITS AND VEGETABLES

of **6 MONTH** duration and having passed the Examination held in

January 2015 in **FIRST CLASS**

हे प्रमाणपत्र महाराष्ट्र शासनाच्या वतीने देण्यात येत आहे.

This Certifcate is awarded on behalf of Government of Maharashtra

(110304)

Chairman
M.S Board Of Vocational
Examinations