

SONOPANT DANDEKAR ARTS, V.S. APTE COMMERCE AND M.H. MEHTA SCIENCE COLLEGE, PALGHAR

DEPARTMENT OF CHEMISTRY

Certificate Course Advance Instrumental Analysis

Under the Aegis of

Centre for Excellence and Innovation

Academic Year: 2019-2020

Prof. Mahesh Deshmukh CFEI - Chairman Dr. Kiran Save Principal

Certificate Course in Advance Instrumental Analysis

Report 2019-2020

INDEX

| Sr. No. | Particular | Page No. |
|---------|-------------------------------------|----------|
| 1 | Introduction and Title of Programme | 2 |
| 2 | Permission Letter | 3 |
| 3 | Syllabus | 4-5 |
| 4 | Notice for students | 6 |
| 5 | Student Enrollment List | 7-11 |
| 6 | Attendance Report | 12-16 |
| 7 | Report | 17 |
| 8 | Feedback Form | 18 |
| 9 | Photo | 19 |
| 10 | Sample Certificates | 20-22 |

Certificate course in Advance Instrumental Analysis

Duration: 48 hours

Aim: To study the advance instrumental analysis.

Features of the course:

• Specially designed to give hands on training.

• Customized for the industry.

• Delivered by faculty members of chemistry departments and as well as experts from the industry.

Objectives:

- To acquire knowledge about advance instrumentation.
- To acquire the skills required in industries.
- To develop skills of handling various analytical instruments.

Eligibility:

Any science students having chemistry as a subject.

Mode of Examination:

Theory: Assignment will be provided.

Practical: Practical exam will be based on experiment performed during the course.

<u>Certification</u>: Certificate will be provided on the basis of practical examination.

Learning Outcome:

Students will acquire detail theoretical knowledge as well as practical experience about various laboratory techniques.

Date: 15th October, 2019 To, The Principal, Sonopant Dandekar Arts, V.S. Apte Commerce and M.H. Mehta Science College, Palghar

Subject: Approval for Certificate Course in Advance Instrumental Analysis (T.Y.B.Sc.)

Respected Sir,

For developing instrumental skills in students, we have designed certificate course for the class of T.Y.B.Sc. The course is aimed at enhancing skills and knowledge of students in basic instrumental techniques. This course will benefit the students by providing them with an opportunity to develop their expertise in this area. Their instrument and apparatus handling skills will be improved by the Certificate Course in Advance Instrumental Analysis for T.Y.B.Sc. course.

The Certificate Course will be offered in the month of November, 2019

The details are provided along with this letter. I request you to kindly grant the permission to start this course.

Thanking you.

Yours faithfully

Dr. Suhas Janwadkar Head, Department of Chemistry

witte

SYLLABUS

| | Content | Theoretical | Practical | Duration | | | | |
|---|--|---|--|----------|--|--|--|--|
| 1 | Chemical Calculation | Interconversions of one unit to other Plotting of Graphs | Problem solving based on theoretical concepts. | 4 hours | | | | |
| 2 | Potentiometer | Role of potentiometry in the estimation of drug | Estimation of diclofenac sodium by potentiometrically using non-aqueous medium. Determination of ketoconazole by potentiometrically using non-aqueous medium. | 4 hours | | | | |
| 3 | Colorimeter | Study of calibration curve Study of determination various content in the blood | Estimation of cholesterol and uric acid. | 4 hours | | | | |
| 4 | Spectrophotometer | Study of calibration curve and standard addition method | Spectrophotometric determination of iron on vitamin tablet | 5 hours | | | | |
| 5 | Non-aqueous titration | Theory Role of Non aqueous in determination of various drugs. Indicators | Estimation of drug by non-aqueous titration. | 4 hours | | | | |
| 6 | Moisture determination | Principle Block diagram Instrumentation Working | Estimation of moisture content in a drug by Karl Fischer apparatus. | 5 hours | | | | |
| 7 | Organic synthesis and Chromatographic techniques | Planning of organic synthesis and its determination of its percentage purity | Synthesis of paracetamol Drug. To find out its purity percentage of paracetamol Drug Preparation of TLC and Column Chromatography | 10 hours | | | | |
| 8 | Analysis of Drug by back titration | Types of titrations Principle behind back titration | Determination of Aspirin using Back Titration | 4 hours | | | | |
| 9 | Acid-Base Titration Redox titration | Types of titrations | Analysis of detergent. | 4 hours | | | | |

| | | Theory behind acidity, alkalinity, oxygen releasing capacity | | |
|----|-------------------|---|---|----------|
| 10 | Spectral Analysis | Basic concepts and interpretation of spectral data | Problem solving based on theoretical concepts | 4 hours |
| | Total Duration: | | | 48 hours |



Sonopant Dandekar Shikshan Mandali's Sonopant Dandekar Arts, V. S. Apte Commerce & M. H. Mehta Science College, Palghar, Dist: Palghar <u>ACADEMIC YEAR 2019-20</u> Date : 5/10/2019

NOTICE

All the **T.Y.B.Sc.** students are hereby informed that their **Certificate Course** in Advance Instrumental Analysis will begin from 4th November, 2019. Batch details are shared along with this notice.

Dr. Suhas Janwadkar

Head ,Department of Chemistry

STUDENT ENROLLMENT LIST

| ROLL NO. | NAME OF THE STUDENT |
|----------|------------------------------|
| 1 | HAKUR PRAJAKTA VASANT |
| 2 | MORE KUNAL VILASRAO |
| 3 | PAWAR SWAPNIL SUBHASH |
| 4 | WADE ADITI SURYAKANT |
| 5 | PATIL GAYATRI PRAKASH |
| 6 | DAS MADHAVKUMAR VIJAYKUMAR |
| 7 | DAS GOVINDKUMAR VIJAYKUMAR |
| 8 | RATHAD VAIBHAVI SANTOSH |
| 9 | PATRAWALA SAKINA YUNUS |
| 10 | MORE PRANJALI PRAMOD |
| 11 | KAMBLE SNEHAL JEEVAN |
| 12 | THAKUR RINKU UMESH |
| 13 | PAWADE AISHWARYA BHALCHANDRA |
| 14 | SHELAR PRAJAKTA VINAYAK |
| 15 | PATIL NIKITA SHRAVAN |
| 16 | GHARAT PURVA NITIN |
| 17 | TANDEL SHREYA RANDHIR |
| 18 | SHINDE BHAVESH VILAS |
| 19 | KINI JANHAVI VIKAS |
| 20 | VAIDYA SHIVANI MOHAN |
| 21 | MALI RUCHI MANOJ |
| 22 | CHAUDHARI VINAY JITENDRA |
| 23 | NAIK BHAVIK ANIL |
| 24 | PATIL RUSHIKESH DATTATREY |
| 25 | UMATOL DEEPALI VASANT |
| 26 | PIMPLE YUKTAA MANOI |
| 27 | SANKHE SHRADDHA VIPIN |
| 28 | CHAUDHARI AKANSHA ASHOK |
| 29 | PAWAR POOJA BIBHISHAN |
| 30 | BHOIR POONAM JAYDEV |



7

| ROLL NO. | NAME OF THE STUDENT |
|----------|---|
| 31 | RAUT AKANKSHARAMBHAU |
| 32 | SANKHE SAMIKSHA GANESH |
| 33 | PATIL TANVI ARUN |
| 34 | PATIL ANKIT ANKUSH |
| 35 | KINI GAURAV DAMODAR |
| 36 | GAIKWAD RUCHITA RAJESH |
| 37 | MALI POOJA BALASAHEB |
| 38 | MHATRE HARSHIKA HEMANT |
| 39 | KHADKE JAYASHRI JANU |
| 40 | MEDHA SACHIN VISHNU |
| 41 | NIKAM ABHISHEK BALASAHEB |
| 42 | ROKADA NITESH NAJU |
| 43 | SHAHU VIKAS KAML |
| 44 | GHARAT YASH YAAY |
| 45. | GHARAT PARAS NILESH |
| 46 | GHARAT JIT DHANANJAY |
| 47 | GURAV ROSHAN BRAHMANAND |
| 48 | PATIL YASH YATIM |
| 40 | PIMPLE SAMRIDDHI SAINATH |
| 50 | PATIL SHWETA YMAY |
| 51 | GHARAT VISMAY SANDEEP |
| 62 | SANKHE TANUJA RABURAO |
| 53 | SAROJ SUREXHA RAMSUMER |
| 64 | NIRMAL POOJA GANESH |
| 55 | THAKUR SAYALI GUBHASH |
| 64 | PAWAR HARSHALI CHANDRAKANT |
| 67 | DHANU BHAVIKA SATISH |
| 58 | MORE PRAJAKTA MOHAN |
| | A STATE A STATE OF A ST |
| 59 | MALI JINAL SHIRISH |



| ROLL NO. | NAME OF THE STUDEN |
|--------------------|-----------------------------|
| 61 | JADHAV RAJ RAVI |
| 62 | YADAV UMESH RAJESH |
| 63 | GHARAT JANHAVI UMESH |
| 64 | GHARAT PRANJAL MINESH |
| 65 | MORE TANVI DHARMENDRA |
| 66 | SINGH GULAB.GAJENDRABAHADUF |
| 67 | MACHHI SAJAN KAMU |
| 68 | SARODE PRATIK RAJENDRA |
| 69 | PADWALE KRUTIKA PRALHAD |
| 70 | YADAV RITESH RAMASHRAY |
| 71 | BHAMARE DURVAS ASHOK |
| 72 | YADAV INDU RAMASHRAY |
| 73 | LADKAT SNEHA DATTATRAYA |
| 74 | AREKAR SNEHAL GANPAT |
| 75 | PRASAD SHANTI RAJKUMAR |
| 76 | THALEKAR PRAGATI BALARAM |
| 77 | AWATE SUWARNA ATRINANDAN |
| 78 | PANDEY PRIYA PUSHPENDRA |
| 79 | YADAV RAHUL LALJI |
| 80 | KADAM DIKSHALI DEEPAK |
| 81 | NAYAK SHIWANI SATYABAN |
| 82 | SINGH RAJPRATAP RAJENDRA |
| 83 | PADHI BAINATH RATNAKAR |
| 84 | BHAGAT SHRADDHA RUDAL |
| 85 | ORE ANKITA JITENDRA |
| 86 | SONI SHANU SHYAMJI |
| 87 | VAIR ATHIRA GOPAKUMAR |
| Section Section 1. | AIR ATHIRA GOPAKUMAR |
| 89 | OHITE SHAMAL DINESH |
| 1 00 | HATRE TANAYA SANTOSH |

V



| ROLL NO. | NAME OF THE STUDENT |
|----------|------------------------------|
| 91 | PATIL SAYALI SUDHAKAR |
| 92 | JADHAV POOJA SUBHASH |
| 93 | PATIL SAMRUDDHI PRAMOD |
| 94 | CHURI AKSHATA JAYPRAKASH |
| 95 | MULYE ABHISHEK ANAND |
| 96 | JAGTAP ADITYA YASHWANT |
| 97 | MORE HIMANSHU UMESH |
| 98 | PATIL PAVAN RAJU |
| 99 | TANDEL BHAVIK SUDHIR |
| 100 | TARE MEHUL KAMLAKAR |
| 101 | PAUL AKASH DATTATRAY |
| 102 | DHUMAL SATYAM MOHAN |
| 103 | NAIK REVANSIDDHI SACHIN |
| 104 | PATIL SURAJ RAMCHANDRA |
| 105 | PATIL MOHIT GANGADHAR |
| 106 | THAKUR ASHRAYA KISAN |
| 107 | PATIL TAPASVI PARSHURAM |
| 108 | PATIL UGAM DAYANAND |
| 109 | TUMBADA MUKESH SURESH |
| 110 | GURAV PRASAD HARI |
| 111 | BHOIR AADESH DATTATREY |
| 112 | DHANDE PUSA SUDHIR |
| 113 | PATIL PRATIKSHA NARESH |
| 114 | SHUKLA KARAN RAJESH |
| 115 | GHATAL SHITAL ARUN |
| 116 | PAGI VANDANA LAHANU |
| 117 | JADHAV SWAPNA NARAYAN |
| 118 | GOUM GAURANG SUNIL |
| 119 | AMBALAN MOHAMMED SAHIL KASIM |
| 120 | YADAV RAHUL RAMBHARAT |

A not h



| ROLL NO. | NAME OF THE STUDENT |
|----------|-------------------------------------|
| 121 | PATIL DIPESH ROHIDAS |
| 122 | PATIL BHUMIKA MAHENDRA |
| 123 | CHAUDHARI AYUSHRI PRITAM |
| 124 | PATIL RIYA MANOHAR |
| 125 | ANUSE AVINASH APPA |
| 126 | REPALE MADHURI ARUN |
| 127 | MELKUNDE SANDHYA MANIKPRABHU |
| 128 | TARE SPHURTI HARESHWAR |
| 129 | SHAIKH MOHAMMEDFAHAD RAFIQUE |
| 130 | MALI NITI SHYAM |
| 131 | FALAK GAURAV DNYANESHWAR |
| 132 | ANSARI SITARA KHATOON MOHMMAD ISLAM |
| 133 | SINGH ANKIT SANJAY |
| 134 | UPADHYAY HIMANSHU GANESHLAL |
| 135 | DABERAO PRIYANKA GAJANAN |
| 136 | KHARAWAR PRINSEI MISHRIPRASAD |
| 137 | HADAP MANSI SUNIL |

ALC: A



ATTENDANCE REPORT

| | T.Y.BSc 19-20 | 041 | Date | 15/11/ | 5 1)' | 08/11/2 | 03/11/2 | 1/1/19 | 13/11/19 | 26/12/2 | 27/2/12 | | | | |
|----------|--|---------|---------|---------------|-----------|-----------|----------------|-----------|-----------|-----------|----------|------------|--|--|--|
| Roll. NO | NAME OF THE STUDENT | Black | VHP9- | VIR4 | VtPq_ | | MPQ_ | Villed- | Vited. | Vitted- | Konnell | | Kond | | |
| 1 | THAKUR PRAJAKTA VASANT | VITA- | | KNMM | | Kymosi | Komese | | 0 | KNMil | Paula | 4. | Paulor | | |
| 2 | MORE KUNAL VILASRAO | Komose | | ANIT-Q | Bugt | | Pausa | | 1- | Pausar | Anadl | | Awad | | |
| 3 | PAWAR SWAPNIL SUBHASH | Poular | Atrial | and | Andt | Awall | And | Awall | Amadu | April | Ballit | Gentil | | | |
| 4 | WADE ADITI SURYAKANT | Aveall | Optil | 10000 | ARALL | GPALIL | GPOLL | | Geolfil | | 211/203 | mas | 1. | | |
| 5 | PATIL GAYATRI PRAKASH | GRAL | | NUDY | modes | MOAS | ma | mag | mars | mon | Nores | Das | 1 | | |
| 6 | DAS MADHAVKUMAR VIJAYKUMAR | NOUS | VAUS | - | piper | spore | Keas. | (Cras | | VEPCY | (ata) | Kantor | Lato) | | |
| 7 | DAS GOVINDKUMAR VIJAYKUMAR | apas | Gorde | | Fanta | and | F | opter | | (andre) | 10 | aus | grop) | | |
| 8 | RATHAD VAIBHAVI SANTOSH | (and | - | Gup | - | GND | and | Sup | Sup | Sup | Sup | any | 2. P | | |
| 9 | PATRAWALA SAKINA YUNUS | Carp | Gup | | | 14 | | | 1 | gx | SK | SK | SR. | | |
| 10 | MORE PRANJALI PRAMOD | Rome | | ak | GK. | | | A | SK | 20 | Rinky | Ricky | Rinky | | |
| 11 | KAMBLE SNEHAL JEEVAN | a. | the | Rink | | Rinky | Rick | | Ricky | - | Kinky | Krika | the | | |
| 12 | THAKUR RINKU UMESH | Rintu | 10 | | the | THE | to | · Jus | the | 10. 4 | 10 | Vitarak | | | |
| 13 | PAWADE AISHWARYA BHALCHANDRA | the | | 1/raxal | r rinayot | Viraganiy | Koranik A | | 1 | (irental | - ALE | 1 Que | Co2 | | |
| 14 | SHELAR PRAJAKTA VINAYAK | Vireyah | Witesph | lan | 10 | Ro | at | 2 | the | Tabal | Lilohan | Watar | Vahorat | | |
| 15 | PATIL NIKITA SHRAVAN | - | thude | Natox | Natora | Nakara | Nakan | Nakad | | Natora | | el cortand | alspeand | | |
| 16 | GHARAT PURVA NITIN | Nethan | | I Desidential | 9 1 0 1 1 | spranc | le splan | del splan | spland | el spland | 1 NA | 1 har | 300 | | |
| 17 | TANDEL SHREYA RANDHIR | SRIan | DI/ | M NKA | h Ha | | 4 JXn | 4 ' | onder | 01 | | tor | VIDA | | |
| 18 | SHINDE BHAVESH VILAS | Nin | 5.0 | AT WERE | 100 | TAL | Var | 1 1100 | Tay | Tary | + anni | S | Da | | |
| 19 | KINI JANHAVI VIKAS | YAN | H | A | Du | eRre | R | 2 Pu | Ru | | 1 | I mool | mpat | | |
| 20 | VAIDYA SHIVANI MOHAN | Pr | H mm | | | | | di mma | | Immo | | | choor | | |
| 21 | MALI RUCHI MANOJ | mma | | | the | | cho | de chet | Ehd | | chall | 192 | BANG | | |
| 22 | CHAUDHARI VINAY JITENDRA | Char | - | 0 0 1 | A | of BON | 10 | 0. | (0) Barro | JE BAN | With BAN | | the state of the s | | |
| 23 | NAIK BHAVIK ANIL | BAN | ax Ban | | | | No contraction | | 11 ppoti | | 12 pode | 1 | Vmo | | |
| 24 | PATIL RUSHIKESH DATTATREY | Dpcu | 4 4 400 | | | 100 | | | VIDA | | LID | | Fine | | |
| 25 | UMATOL DEEPALI VASANT | Ver | | 7 2 | de Think | | | | ple =15mg | | AT TIMP | 10 010 | 1 - 10 | | |
| 25 | THE REPORT A MANIOL | =16 | HIT | | PL FIN | | SUI | | tuip | HK _ | SVIL | | turent | | |
| 20 | | SVI | | IN | | EFFE | AS | | Otto | - | DO DE | | P.FI | | |
| 28 | A A A A A A A A A A A A A A A A A A A | 1 | 0 | | 85) | | PJ | | PJ | | PJ | | NO PP | | |
| 20 | DIA | PJ | FPJ | | 1000 | DIPO | | Jpoc | 101 | Po | om pr | DIO P | 10-17 | | |
| 30 | THE RECEIPTION OF THE RECEIPTI | PO | nallec | pap | - 1100 | - | | - | | | | | | | |

| | | - | | | | | 9 | | 1 | | | | |
|----|----------------------------|-----------|----------|----------|------------|---|----------|---------|----------|-----------|-----------|---|----------------|
| 31 | RAUT AKANKSHA RAMBHAU | | | 1.8 | | | | | | 1 | 1 | 1 | 1 |
| 32 | SANKHE SAMIKSHA GANESH | Frant | Apout | Reaut | | Reaut | ARgut | Acaut | Acust | | Acout | AROU | Ray |
| 33 | PATIL TANVI ARUN | A. Patil | A Pati | A. Patil | A. patil | - Andrew - | A. Patil | | A. Pahil | A. Patil | A. Potil | The fa | - Wika |
| 34 | PATIL ANKIT ANKUSH | Pali | - And | Apatil | | | 1.10011 | (April) | Acatil | Apatil | Restil | Beti | 0. |
| 35 | KINI GAURAV DAMODAR | kini | Kini | | Kini | Kini | | Kini | Kinj | V Partit | Kini | C partit | Kil |
| 36 | GAIKWAD RUCHITA RAJESH | RIE | R.G | R.G | | ne | | RG | DrG | | 12,0 | 12.0 | |
| 37 | MALI POOJA BALASAHEB | Pendi | mindi | mandi | Ruch | | manuli | Wend | | Mendy | Rent | and the second se | |
| 38 | MHATRE HARSHIKA HEMANT | Hener | Hand | X | Handa | Homen | | Hmen | | Manan | | Honeol | |
| 39 | KHADKE JAYASHRI JANU | Q | Sel | 8 | Q. | arrings | R | Filen | 91 | -THE COM | tel | Emen | en |
| 40 | MEDHA SACHIN VISHNU | Genetic | Smelle | | Smedia | Swedte | ax | Sandha | anedla | Greethe | Greatha | Camella | Some |
| 41 | NIKAM ABHISHEK BALASAHEB | | | | 22 | 02 | 1.0/100 | 02 | P | 22 | 02 | A | De |
| 42 | ROKADA NITESH RAJU | Minokalay | Neaturda | Nochada | Nort ado | Reado | Hetada | | the add | Protected | Neckada | Turk | Real |
| 43 | SHAHU VIKAS KAPIL | | | | | | 1.00 | | Terrer | PROPIN | The KAGOL | Paculante | A Rei |
| 44 | GHARAT YASH VIJAY | Sphert | - | Vout | Valt | Grant. | Guret | • | Vealet | Saut | | Gert | Kter. |
| 45 | GHARAT PARAS NILESH | Fabout | Patient | Report | | Patient | Rebert | -# | | Patret | Adrest | Rebert | |
| 46 | GHARAT JIT DHANANJAY | ilt | iA | wit | iit | liil | lit | alt | sit | int | Aquart | | Statistics and |
| 47 | GURAV ROSHAN BRAHMANAND | Gett | | The | - | G | Ca | - | Gan | JE | Cat | JIF | CF |
| 48 | PATIL YASH YATIN | Jash | Jash | Tash | | Tarb | Jash | Tark | Tash | Tash | 0 | Tash | Mas |
| 49 | PIMPLE SAMRUDDHI SAINATH | 1 | 1 | 122 | 1 | 1000 | pro | part | 1000 | (010) | | fair | (AS |
| 50 | PATIL SHWETA VIJAY | Patil | Spatil | Spatil | Grutil | 1.1.1 | 17180 | Spatil | Gatel (| Gatil | Gentil (| Grahil | Gat |
| 51 | GHARAT VISMAY SANDEEP | | - | Vishang | | vieling | Vismon | Vitamen | | Vichans | vidiam | | - |
| 52 | SANKHE TANUJA BABURAO | . 1 | | 1 | | 10.1 | Vignar | 1 | VIONAL | winany | Vincing | VURLing | visa |
| 53 | SAROJ SUREKHA RAMSUMER | rems | 2 | ROW | | Ram | | Ram | | Ram | | Pom | |
| 54 | NIRMAL POOJA GANESH | PROTA. | Pasa | Poors | Poola | POTA | POOTA | | p0019 | POOTA | POOTA | 1 | |
| 55 | THAKUR SAYALI SUBHASH | 12 | | 12 | 1 | 12 | 10000 | 12 | For | 1000 | Poola | POOR | pog |
| 56 | PAWAR HARSHALI CHANDRAKANT | Pour | - | Paux |) | Pauda | ~ | | Alwa | | Paug | | Pat |
| 57 | DHANU BHAVIKA SATISH | Sohany | Colopy | Cohemi | Bohom | and the second se | _ | 1 | Poromy | lame | 15 / | - | Coho |
| 58 | MORE PRAJAKTA MOHAN | | | TP | a de la la | 41 | Nil | | thur. | there. | fin | | flora |
| 59 | MALI JINAL SHIRISH | NIKI | | Nikil | | Man | 1VIII | | Nitcil | | Nicil | | Mito |
| 60 | KALE SHUBHAM PANDURANG | Exale | Six L | Zul I | Q.L | | Skale | Grate | 1 | | | Scale | WK |

| | Contract of Manufacture of Contraction | 1000 | - | 1 | | - | | | | | | | |
|----|--|----------|-------------|------------|-------------|-----------|----------|----------|----------|-----------------|----------|-----------|-------|
| 61 | JADHAV RAJ RAVI | RJad | 0 - | Bain | R R Loool | RJan | REda | 1 | Riado | Rhde | Rinden | Ringh | Rind |
| 62 | YADAV UMESH RAJESH | 0.10 | - | | - | | | | | | | | |
| 63 | GHARAT JANHAVI UMESH | Gu | 10 | 1 | let | 1 | ar | | GL | - | 35 | - | R |
| 64 | GHARAT PRANJAL MINESH | band | Bran | 1011 | BROWN | bor | Jean y | 1 | | frong | Brooks | The falls | Beau |
| 65 | MORE TANVI DHARMENDRA | Thors | . They | TIME | Triop | | Triog | Thom | · Tron | -TMOR. | Times. | | Trug |
| 66 | SINGH GULAB GAJENDRABAHADUR | | | 0.000 | | | | 1 | Victor | | 1 | | |
| 67 | MACHHI SAJAN KAMU | SP | Si | So | 50 | 5.0 | 5.9 | 150 | Sus | Guid | 5.0 | 0000 | 5= |
| 68 | SARODE PRATIK RAJENDRA | 1 march | a statement | | A A A A A A | | | | | 1 | | | |
| 69 | PADWALE KRUTIKA PRALHAD | P.KP | PARP | R.I. P | 1 | W.10.P | > | P.I.F | , | ner | 8. (2.) | P | RIC. |
| 70 | ŸADAV RITESH RAMASHRAY | Qu | Can | Con | Com | Gow | 0 | Gan | Go | Const | And | But | |
| 71 | BHAMARE DURVAS ASHOK | 4 | | 14 | | 14 | 4 | g. | Car | GT- | Gun | 000 | Gunt |
| 72 | YADAV INDU RAMASHRAY | 3 | 8 | 8 | 32 | 8 | 8 | 8 | 8- | 9 | 8- | 8 | 0 |
| 73 | LADKAT SNEHA DATTATRAYA | Sindb | 100 | 11 | 11 | 11 | | 10 | 10 | A | 12 | | N |
| 74 | AREKAR SNEHAL GANPAT | Snehal | Soeha | Snehe | L Coshal | D'Lag Rot | Snehal | 15-Lodko | snehal | | | | |
| 75 | PRASAD SHANTI RAJKUMAR | 0.0100 | Sileier | - Siler La | Julio | Shenon | STUIN | Strand | sneru | Snehal | snehal | Sinehal | spena |
| 76 | THALEKAR PRAGATI BALARAM | mes | | KARAS | - | PROL | | nDal | | 0.10 | 1 | hh | 1962 |
| 77 | AWATE SUWARNA ATRINANDAN | 412 | F | P | | E | - | 1 Po | _ | Ral | | PRA | - |
| 78 | PANDEY PRIYA PUSHPENDRA | AD D.Jn | PRiya | ARIAO | | PRiya | | 2011 | 001 | | 0/15 | | 10.0 |
| 79 | KADAM DIKSHALI DEEPAK | Dikshali | | Bikshall | | Dikstiali | Cikshali | PRiva | | 1 | PRiza | (Dird ali | PRit |
| 80 | YADAV BAHUL LALII | R | Ø | 105 | R | Olean | (R) | C/A | ajkanali | a | Pikshali | Dikshafi | Ciple |
| 81 | NAYAK SHIWANI SATYABAN | Land | - Ab | ICM. | 1CM | | | (K) | (R) | (\mathcal{B}) | R | Ø | (R) |
| 82 | SINGH RAJPRATAP RAJENDRA | Sing | | singl | | in al | | mont | | | | 0 | 201 |
| 83 | PADHI BAINATH RATNAKAR | DIG | | PIP | - | singt | | singu | + - | Sing | 2 | Sign | - |
| 84 | BHAGAT SHRADDHA RUDAL | | - | 0 | | | | U | | - | 1-mail 4 | | |
| 85 | KORE ANKITA JITENDRA | . Level | | - | a 14 mm/ | | | | | | | | 1 |
| 86 | SONI SHANU SHYAMJI | A-MOR | AHOM | 1 | ALLONC | P.Kase | ANOX | ARON | 1 | AXON | | ALLON | -AKO |
| 87 | | Som | SSOM | Ssoni | Ssowi | 124 | 1 | Ssom | ssioni | Ssowi | | Ssowi | Ssami |
| 88 | NAIR ATHIRA GOPAKUMAR | Amain | Arain | Anatr | | Amin | Anair | | Anatr | Anair | W.S.P.L. | Anald | Araic |
| | MOHITE SHAMAL DINESH | STE NE | | | | | | 1 | | | | 124 50 | |
| 89 | NAVALE DISHANKA VITTHAL | 61 | | | - | 1 | | | | | 1 adams | | No. |
| 90 | MHATRE TANAYA SANTOSH | matru | what | matre | whate | whater | whatre | | Mhatse | whata | whatre | Mate | |

| 1 . | 4 | | 27 | | | | | 3 | | | | | | |
|----------|-------|------------------------------|----------|----------|----------|------------|--------|-----------------|---------------|----------|---------|----------|--|-----------|
| / | 1/ 91 | PATIL SAYALI SUDHAKAR | 8000 | 1 286 1 | 1 fogd / | | Spalit | 1 | 11.03 | I G Lu | Spal. | 1 0013 | | 10-1 |
| 1 | 92 | JADHAV POOJA SUBHASH | Roop | 8000 | Rox | Rox | 8000 | 20030 | Sperty 8008 | any | oragen | Spal ! | 1 | opat: |
| ~ | 93 | PATIL SAMRUDDHI PRAMOD | Spati | | | Spatil | | | | C 111 | Koox | exant | | |
| | 94 | CHURI AKSHATA JAYPRAKASH | achum | Achor | adun | Destrui | IARSh | Spatil | | | Spatil | Spati | 1 | Spath |
| | 95 | MULYE ABHISHEK ANAND | 1 Partie | 1, 10.01 | Previori | Put 71 NON | HESDO | pection | Abunoti | | prenni | | Plkehuj | Arowni |
| | 96 | JAGTAP ADITYA YASHWANT | Ange | P. | Atagta | Applat | Aiagta | PAingta | P | Alagicip | 0 | - | - | |
| | 97 | MORE HIMANSHU UMESH | Marpo | Honore | Vinorel | | 4-0- | | | 1990-4 | Apagtap | | | |
| | 98 | PATIL PAVAN RAJU | | Ppoti | | poti | epati | Reati | Hmore | 1.1 | Horn | Morena | | Hore |
| | 99 | TANDEL BHAVIK SUDHIR | Tand | | | Tandel | ppan | | | Protis | Ppati | Ppati | Rear | leparti / |
| | 100 | TARE MEHUL KAMLAKAR | Tare | Tore | lavae | Torre | lander | Tanda) | | T | | - | - | |
| | 101 | PAUL AKASH DATTATRAY | Paul | Paul | | Paul | 0.1 | Tarre | | lare | | Torre | | Tar |
| | 102 | DHUMAL SATYAM MOHAN | 1201 | 17401 | | raul | Paul | Paul | - | Paul | | Paul | Paul | Paul |
| | 103 | NAIK REVANSIDDHI SACHIN | Naik | | Naik | | Naik | | 1 24 | | | | 1.1 00 | |
| | 104 | PATIL SURAJ RAMCHANDRA | Ø2. | NS. | R. | B. | DB. | | Naik | 10 | Naik | Naik | | |
| | 105 | PATIL MOHIT GANGADHAR | Mohut | mabit | Mohut | mobile | mobile | Mont. | QE. | D. | (NB). | œ. | NZ. | NS. |
| | 106 | THAKUR ASHRAYA KISAN | Sur | 1. Que | Tillan | India | roun | hand | nohit | mobut | mobile | mohet | Moltet | mohit |
| | 107 | PATIL TAPASVI PARSHURAM | TPati | Tpoti | Trati | TPOTI | Tpatil | tit | | 111 | | | | |
| | 108 | PATIL UGAM DAYANAND | 14- | 1 ipu- | 16. | Tpart | TPOM | reatil | | Tpatil | Tpoti | Tpotil | - | Tpati |
| | 109 | TUMBADA MUKESH SURESH | migh | mich | meh | much | mich | much | 1 | | - P | | | , · |
| | 110 | GURAV PRASAD HARI | Porter | porsal | | parisat | ponsei | porsal | parisal | | mugh | | mug | mur |
| | 111 | BHOIR AADESH DATTATREY | Bhoix | | Bhar | - | Rhor | | | 6 | parisad | / | Pares | parsad |
| | 112 | DHANDE PUJA SUDHIR | < Ruig | Ruja | River | | Reia | | 3huid | - | Rhow | | Bher | |
| | 113 | PATIL PRATIKSHA NARESH | Pall | Patil | Patil | DULI | what | RIA | Rije. Patt | 0111 | Rija | | He ja | Rigg |
| | `114 | SHUKLA KARAN RAJESH | diit | TUS 19 | Palit | racto | ratit | | pelli 1 | Patil | | Pall | 0 | Patt, |
| | 115 | GHATAL SHITAL ARUN | made | Citodal | | - | | | | | Falil | | elli [| - |
| | 116 | PAGI VANDANA LAHANU | PUSI | Cintra | Vaci | | Pall | Gingore | | Crhatel | Wash | Undertoo | | what |
| | 117 | JADHAV SWAPNA NARAYAN | Talker | - | Tadhar | | | < 11.00 | peloi | - D of | fact | | Rey | |
| | 118 | GOLIM GAURANG SUNIL | holin | Urolin | viola_ | | | Jadhan | | Jadhan | | Tadhav | | Jadhav |
| | 119 | AMBALAN MOHAMMED SAHIL KASIM | Yadav | | | | | biolin | | orollin | | V . | the second s | wollm |
| | 120 | YADAV RAHUL RAMBHARAT | Rahal | Rappel | Yadav | Rahal | Jadar | | ladav | 0.1.1 | Jadar | ladav | Varlar | Yanav |
| 18 17 12 | 121 | PATIL DIPESH ROHIDAS | Vahi | Drahi | | Plati | Opatil | Rahul Apatil | | Rahul | Pratil | Rahul | | 1-10 |

| 122 | PATIL BHUMIKA MAHENDRA | BPalt | Bald- | BPale | Braft | BRAQUE | - | | BRalt | Brady | - , | BROUN | Brake |
|-----|-------------------------------|--------|---------|-----------|---------|--------|---------|---------------------|----------|--------|---------|-------|--------|
| 123 | CHAUDHARI AYUSHRI PRITAM | 1 | | | | | | | | | | | |
| 124 | PATIL RIYA MANOHAR | ppatil | potil | | * potil | | repotil | ppotis | ppotr | ppoter | | epour | reati |
| 125 | ANUSE AVINASH APPA | | | | | | | and a second second | | | | | |
| 126 | REPALE MADHURI ARUN | | 1.114 | | | | | | | | | | |
| 127 | MELKUNDE SANDHYA MANIKPRABHU | | | a la como | 1. 11.1 | | | | | | | | |
| 128 | TARE SPHURTI HARESHWAR | | | 12 | | 10 | 12 | 10 | | | 20- | 1 P | 1.1.18 |
| 129 | SHAIKH MOHAMMEDFAHAD RAFIQUE | Nghait | . NShut | · MEtalla | Mehant | nonet | MEhall | Mshalk. | narout | | Mohale. | | |
| 130 | MALI NITI SHYAM | manali | n Smeli | nomali | nsmali | | nsmal: | nSmali | nSmali | | | | n Sma |
| 131 | FALAK GAURAV DNYANESHWAR | falak | folak | folak | Falak | falah | | falak | | falak | | folal | Falah |
| 132 | ANSARI SITARA KHATOON MOHMMAD | SLAM | Asilan | Priton | Paita | Baim | Asitum | Pasilin | Biten | Geston | Adm | | |
| 133 | SINGH ANKIT SANJAY | | | | | | | | | | | | - |
| 134 | UPADHYAY HIMANSHU GANESHLAL | | | | | Sugar. | 1991 | 2.4 | | | | | |
| 135 | DABERAO PRIYANKA GAJANAN | Chaber | Poten | Dater | Cebebar | Epebar | | Below | Rebeboro | Coebar | Beboo | Debo | ebeb |
| 136 | KHARAWAR PRINSEJ MISHRIPRASAD | | | 1.1 | | | | | | | 1 | | |
| 137 | HADAP MANSI SUNIL | Marsi | Mari | mant | | Mann | Marsi | | Mans | Marsi | Kland | | mans |

COMPLIANCE REPORT

Certificate Course in Advance Instrumental Analysis was conducted for the students of T.Y.B.Sc. Students were trained for basic handling of apparatus, chemical calculations, preparation of standard solutions.

A certificate course in advance instrumental analysis provides several benefits to learners. It enhances their skills and knowledge in the field of chemistry.

The course helps to develop a solid understanding of various analytical techniques and methods used in the laboratory and theoretical concepts. Learners gain hands-on experience in using instruments and correct way to handle apparatus.

A certificate in this course adds an advantage to learner's resume. Various sophisticated instruments are widely used in industries, acquiring skills in this area can makes the learner highly relevant and valuable in these sectors, as they can immensely contribute to various areas in the industry.

Course Commencement: 04/11/2019

Course Completion: 30/12/2019

Number of students enrolled for the course: 137

Number of students completed the course: 137

Duration of the course: 48 hours

Dr. Suhas Janwadkar HOD - Chemistry

FEEDBACK FROM THE STUDENTS

28/02/19

Sonopant Dandekar Arts, V.S. Apte Commerce and M.H.Mehta Science College, Palghar

Internal Quality Assurance Cell

Feedback Form on Certificate Course for Undergraduate in Chemistry

Name: <u>Grayatri Prakash Patil</u>

Class: T.Y.B.S.C

Roll No.:

| Sr.No. | Parameters | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|--------|--|-------------------|-------|---------|----------|----------------------|
| 1 | After completing this course, my knowledge in the topic has increased. | ~ | | | | |
| 2 | This course increased my interest in chemistry related topics. | ~ | 18- | | | |
| 3 | The teacher communicated clearly and effectively | ~ | | | | |
| 4 | The teacher encouraged feedback, class participation and interaction | ~ | | | | |
| 5 | The course started and ended on schedule | ~ | | | | |
| | Course objectives were clearly presented | ~ | | | | |
| | Course material was well prepared | ~ | | | | |
| ι | The course developed my inderstanding of concepts and principles | ~ | | | | |

Signature of student

ACTION PHOTOGRAPHS



STUDENTS PERFORMING NON-AQUEOUS TITRATION

SAMPLE CERTIFICATES

SONOPANT DANDEKAR SHIKSHAN MANDALI'S Sonopant Dandekar Arts, V.S. Apte Commerce & M.H. Mehta Science College, Palghar



This is to certify that

Mr. NAYAK BHAVIK N.

had successfully completed Certificate course Advance Instrumental Analysis

Jan Oor

Head Department of Chemistry

MDeshmukh

CFEI - Chairman

DATE: 12/02/2020

SONOPANT DANDEKAR SHIKSHAN MANDALI'S Sonopant Dandekar Arts, V.S. Apte Commerce & M.H. Mehta Science College, Palghar



This is to certify that

Ms. PATIL NIKITA SHRAVAN

had successfully completed Certificate course Advance Instrumental Analysis

istar Ara

Head Department of Chemistry MDeshmukh

CFEI - Chairman



PRINCIPAP TINCIPAP Socopant Dandekar Arts place V.S. Apte Commerce College & M.H. Mehta Science College PALGHAR (W.R.) Diet Palebat, Pin-401404

DATE: 12/02/2020

SONOPANT DANDEKAR SHIKSHAN MANDALI'S Sonopant Dandekar Arts, V.S. Apte Commerce & M.H. Mehta Science College, Palghar

Certificate

OF COMPLETION

This is to certify that

Ms. PATIL TANVI ARUN

had successfully completed Certificate course Advance Instrumental Analysis

Townlor Head

A LEER

Department of Chemistry

MDeshmukh

CFEI - Chairman

PRINCIPAP TINCIPAP Senopant Dandekar Arts Dide V.S. Apte Commerce College & M.H. Mehta Science College PALGHAR (W.R.) Dist. Palghar, Pin-401404

DATE: 12/02/2020