

# Certificate course on standard operating procedures (SOP's) in chemical laboratory



## Syllabus

Duration 3 weeks

### 1) Basic layout of laboratory

(3)

- Instrumental section
- Non instrumental section
- Instruments
- Weighing balance
- Reagent section
  - i) Organic ii) Inorganic
- Storage section .

### 2.Solution preparation

(8)

- Concentration – percentage solutions—weight/weight ,percentage weight /volume
- Normality, Molarity, Molality calculation and preparation
- Proper transfer and storage of solution
- Primary standard and secondary standard solution.

### 3) Quantitative analysis and Qualitative analysis

(5)

- Titrimetric analysis
- Introduction to terms Titrant, Titrand, Indicator
- Types of titration
- Standardization and normality determination.

### 4) Instrumental technique

(8)

- i) Potentiometer- introduction
  - principle
  - handling
  - calibration
  - analysis .
- ii) Conductometer-
  - introduction
  - principle
  - handling
  - calibration
  - analysis.



iii) Colorimeter and Spectrophotometer

- introduction
- principle
- handling
- calibration
- analysis

iv) pH-meter :-

- introduction
- principle
- handling
- calibration
- analysis.

5) Graphical analysis / Types of graph.

(4)

6) Safety practice in Lab.

(2)



Board of studies (BOS) members  
Prof. Sujit Patil (HOD- Science faculty)  
Prof. Ketaki Patil  
Prof. Vinaya Patil  
Prof. Pooja Patil  
Tentative schedule  
Topic- 1&2 -Prof. Ketaki Patil  
Topic- 3&4 -Prof. Sujit Patil  
Topic- 5 -Prof. Vinaya Patil  
Topic- 6 -Prof. Pooja Patil  
Total duration 30 Hrs.  
( Approx. 3 weeks-15 days)

PRABHAKAR PATIL EDUCATION SOCIETY'S  
**ARTS, COMMERCE & SCIENCE COLLEGE**  
VESHVI-ALIBAG

(Affiliated to University of Mumbai)  
Accredited with grade "B" by NAAC

**DEPARTMENT OF CHEMISTRY**



A Short Term Course on

**STANDARD OPERATING PROCEDURES (SOP'S) IN CHEMISTRY LABORATORY**

**CERTIFICATE OF APPRECIATION**

This is to Certify that, **VARTAK SUHANI PRAFULL** has completed a Short Term Course on "STANDARD OPERATING PROCEDURES (SOP'S) IN CHEMISTRY LABORATORY". Organized in our college. His / Her enthusiastic presence and inquisitive approach for learning is highly appreciated.

Course Co-ordinator  
Innovative Courses

Head of Department

Principal

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**DEPARTMENT OF CHEMISTRY**



A Short Term Course on

**STANDARD OPERATING PROCEDURES (SOP'S) IN CHEMISTRY LABORATORY**

**CERTIFICATE OF APPRECIATION**

This is to Certify that, **TODANKAR SIYA** has completed a Short Term Course on "STANDARD OPERATING PROCEDURES (SOP'S) IN CHEMISTRY LABORATORY". Organized in our college. His / Her enthusiastic presence and inquisitive approach for learning is highly appreciated.

Course Co-ordinator  
Innovative Courses

Head of Department

Principal

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**DEPARTMENT OF CHEMISTRY**

A Short Term Course on

**STANDARD OPERATING PROCEDURES (SOP'S) IN CHEMISTRY LABORATORY**

**CERTIFICATE OF APPRECIATION**

This is to Certify that, **PATIL SANIKA PRABHAKAR** has completed a Short Term Course on "STANDARD OPERATING PROCEDURES (SOP'S) IN CHEMISTRY LABORATORY". Organized in our college. His / Her enthusiastic presence and inquisitive approach for learning is highly appreciated.

Course Co-ordinator  
Innovative Courses

Head of Department

Principal



## **PRABHAKAR PATIL EDUCATION SOCIETY'S Arts, Commerce & Science College, Veshvi, Alibag**

In Collaboration with  
**Satyam Institute of Tax Accountant, Mumbai**

Registered under  
**Maharashtra Technical & Self Employment Training Society**

A Registered Training & Certification Committee for All Over India  
Under NCT/ITA-Section 20, 1882 Under Govt. of India  
Reg. No.: 847/2022-23/NCT.Govt of India

1. Tally Prime
2. Goods & Service Tax ( upto return )
3. Income Tax ( upto return )
4. TDS
5. Live Project



## TALLY PRIME

Fundamentals of Tally Prime –  
Getting Functional with Tally Prime,  
Creation / Setting up of Company in  
Tally.ERP9

Accounting Masters in Tally.ERP9

F11:Features, F12 Configurations,

Setting up Accounts Heads

Inventory in Tally.ERP9 – Stock  
Group, Stock Categories, Godowns /

Locations, Units of Measure, Stock  
Items, Creating Inventory Masters  
for National Traders

Voucher Entry in Tally.ERP9 –

Accounting Vouchers, Inventory  
Vouchers, Invoicing

Order Processing

Recorder Levels

Tracking Numbers

Stock Valuation

Batch-wise Details

Types of voucher – contra voucher,  
purchase voucher, payment  
voucher, Debit note, sales voucher,  
Receipt voucher, Credit note, Journal  
voucher

Cost center

Tally audit future

Bank reconciliation

Price list

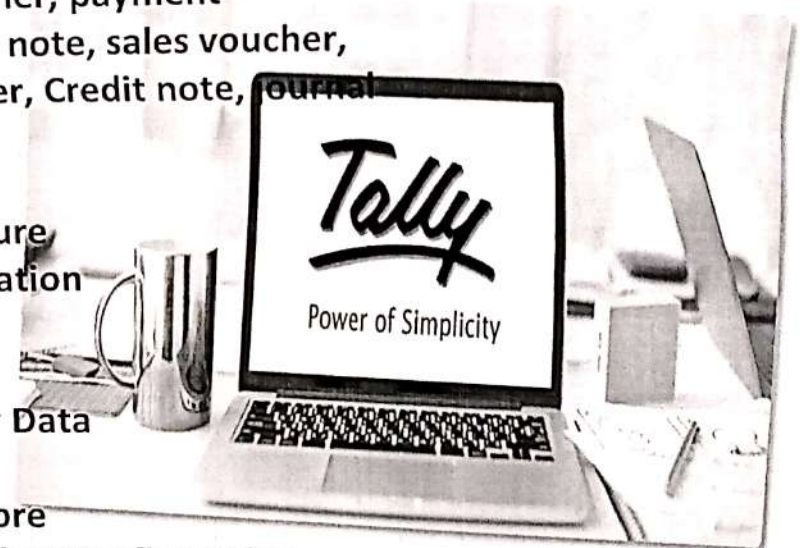
Free quantity

Split company Data

Point of sales

Back up Restore

Voucher Number Configuration



## Income Tax

- What is mean by income tax
- Deduction Under Section 80
- Heads of income practical theory
- Registration with income tax department
- Preparing form 16
- Tax calculation
- ITR 1 & ITR 4 – Online Return
- Income tax online payment (Challan 280)

## TDS

- TDS Return & Payment

## Goods & Service Tax

- GST Act & Rules / GST Composition Dealer / GST Registered Dealer / GST Unregistered Dealer
- GST Law / CGST / SGST/ IGST/ UTGST Act
- CGST and SGST Records maintain in Tally.erp9
- IGST Records maintain in Tally.erp 9
- Different Goods and Different GST rates in one Invoice
- GST Refund / Exempted Goods in GST
- Input Tax Credit (ITC) / Set off input Credit Against Tax Liability / E- Way Billing In GST / Apply for GST Registration (Online) / Amend Cancel and Revoke GST Registration \ Place and Time of Supply / E-Commerce Under GST / Online Return GSTR 1/ GSTR 2A/ GSTR 3B

## Live Project

- We have designed live project based on Accounting Real Vouchers, GST Bills, Setoff, Online Payment Slip, Balance Sheet and other Accounting procedures to give students a live experience of industrial work.

No: 12019031814450

An Internationally Approved Certification body by International Accreditation Organization (IAO) USA, Dubai Government - IAC Center Dubai, International Accreditation Service, California & Member of National Board for Quality Promotion - Quality Council of India (QCI) Government of India  
GOVT OF MAHARASHTRA REG. No. SAN/NER/421/0/34/2004  
FOREIGN AUTHORITY APPROVED & AN ISO 9001:2015 CERTIFIED

**MAHARASHTRA TECHNICAL & SELF EMPLOYMENT TRAINING SOCIETY (MTSTS)**

*Certificate*

*This is to certify that*  
**SWATI SHANKAR KADAM**  
*Has successfully completed and Passed the examination for*  
**MTSTS & IAO USA CERTIFIED TAX ACCOUNTANT PLUS(72 HRS)**

*With 87.60 percentage and Awarded with the grade A+*  
*This Final Examination Conducted by*  
*the Exam committee of Maharashtra Technical & Self Employment Training Society*  
*During January-2019 (DURATION- 01-Sep-2018 TO 01-Jan-2019)*  
AT - SATYAM INSTITUTE OF TAX ACCOUNTANT(PANVEL), ATC CODE :-  
MTSTS/ATC/2016/330  
*In testimony whereof are set the seal & signature of the*  
*Director (MTSTS) Maharashtra State*

Exam Center Head (ATC) Signature  
Board Code:- 18637918

Signature Valid  
Digitally Signed  
Director MTSTS

IAO  
INTERNATIONAL ACCREDITATION ORGANIZATION

QCI  
QUALITY COUNCIL OF INDIA

IAF  
INTERNATIONAL ASSOCIATION OF FINANCIAL ACCOUNTANTS

An Internationally Approved Certification body by International Accreditation Organization (IAO) USA, Dubai Government - IAC Center Dubai, International Accreditation Service, California & Member of National Board for Quality Promotion - Quality Council of India (QCI) Government of India  
GOVT OF MAHARASHTRA REG. No. SAN/NER/421/0/34/2004  
FOREIGN AUTHORITY APPROVED & AN ISO 9001:2015 CERTIFIED

**MAHARASHTRA TECHNICAL & SELF EMPLOYMENT TRAINING SOCIETY (MTSTS)**

**STATEMENT OF MARKS**

CANDIDATE NAME	SWATI SHANKAR KADAM			
COURSE NAME	MTSTS & IAO USA CERTIFIED TAX ACCOUNTANT PLUS(72 HRS)			
NAME OF THE ATC	SATYAM INSTITUTE OF TAX ACCOUNTANT(PANVEL), ATC CODE :- MTSTS/ATC/2016/330			
PLACE	CENTER NO	STUDENT ID	EXAM MONTE	DURATION
PANVEL	MTSTS/ATC/2016/330	2019031814450	January-2019	72 HOURS
SR NO	SUBJECTS	MAXIMUM MARKS	MARKS OBTAINED	RESULT
1	TALLY.ERP 9	100	90	PASS
2	GST ( GOODS & SERVICE TAX )	100	80	PASS
3	LIVE PROJECT	100	90	PASS
4	INCOME TAX	100	95	PASS
5	ADVANCE EXCEL	100	83	PASS
GRADE: A+		500	438	PASS
DATE: 18/03/2019			PERCENTAGE	87.60

Controller of Examinations for MTSTS  
(Exam Center Head Signature) (ATC)

DIRECTOR  
MTSTS  
HEAD EXAMINATION COMMITTEE  
MAHARASHTRA STATE

IAO  
INTERNATIONAL ACCREDITATION ORGANIZATION

QCI  
QUALITY COUNCIL OF INDIA

IAF  
INTERNATIONAL ASSOCIATION OF FINANCIAL ACCOUNTANTS



REGISTERED UNDER THE MAHARASHTRA CO-OPERATIVE SOCIETY ACT 1960  
(AS PER SECTION 24 & SECTION 9(1))  
OF MAHARASHTRA CO-OPERATIVE SOCIETY ACT 1961.  
SOCIETY REG. NO - SAN/MRJ/GNL/O/343/2004

ACCREDITED BY A+ QUALITY RATING FROM THE QUALITY ASSURANCE AND  
ACCREDITATION COMMITTEE (QAAC), NEW DELHI, INDIA, AND AFFILIATED WITH THE  
VOCATIONAL TRAINING AND CERTIFICATION COMMITTEE (VTCC), NEW DELHI, INDIA



# MAHARASHTRA TECHNICAL & SELF-EMPLOYMENT TRAINING SOCIETY (MTSTS)

## Certificate

*This is to certify that*

**HIREN HARJI RAVARIYA**

*has successfully passed the prescribed examination for*

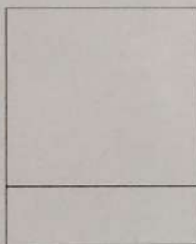
**MTSTS CERTIFIED - CERTIFICATE COURSE IN TAX ACCOUNTANT PLUS(60 HRS)**

*with 86.75 percentage and awarded with the grade A+*

*This course is designed & the final examination  
is conducted as per standards of exam committee under  
Maharashtra Technical & Self-Employment Training Society  
during **May-2024** (DURATION- 02-May-2024 TO 27-May-2024)*

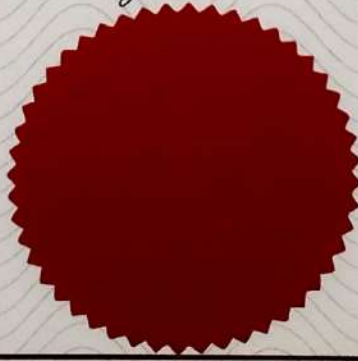
**AT - SATYAM INSTITUTE IN COLLABORATION WITH PPES PNP ARTS COMMERCE  
AND SCIENCE COLLEGE VESHVI, ALIBAG**

*In testimony whereof are set the seal & signature of the  
Director, Maharashtra Technical & Self-Employment  
Training Society.*



**MTSTS – LEARNING  
CENTER (MLC)  
(Coordinator Signature)**

**Issued Date:- 13/05/2024**



**Signature Valid  
Digitally Signed  
Director MTSTS  
www.mtsts.org**

\* THIS CAREER ORIENTED COURSE IS DESIGNED BY MTSTS & THIS CERTIFICATE IS ISSUED AS PER ORDER REFERENCE  
OF NES-EEM No. 1/2016/PT-1/VII/7.3, No. DGE & T.M.21014/1/2009-EE.1, MINISTRY OF LABOUR & EMPLOYMENT, NEW DELHI, INDIA.



ACCREDITED  
English Version Data 6.0



Verify this certificate online on [www.mtsts.org](http://www.mtsts.org) or scan the QR code

Gradation: A++ :90% and above, A+ : 75% to 89%, A : 60% to 74%, B : 50% to 59%, C : 40% to 49%



SOCIETY REG. NUMBER : SAN/MRJ/GNL/O/343/2004  
ACCREDITED BY A+ QUALITY RATING FROM THE QUALITY ASSURANCE AND  
ACCREDITATION COMMITTEE (QAAC), NEW DELHI, INDIA, AND AFFILIATED WITH THE  
VOCATIONAL TRAINING AND CERTIFICATION COMMITTEE (VTCC), NEW DELHI, INDIA



## AN ISO 9001-2015 CERTIFIED MAHARASHTRA TECHNICAL & SELF - EMPLOYMENT TRAINING SOCIETY (MTSTS)

### STATEMENT OF MARKS

CANDIDATE NAME	HIREN HARJI RAVARIYA			
COURSE NAME	MTSTS CERTIFIED - CERTIFICATE COURSE IN TAX ACCOUNTANT PLUS (60 HRS)			
NAME OF THE ATC	SATYAM INSTITUTE IN COLLABORATION WITH PPES PNP ARTS, COMMERCE AND SCIENCE COLLEGE VESHVI			
PLACE	CENTER NO	STUDENT ID	EXAM MONTH	DURATION
NAVI MUMBAI	MTSTS/ATC/ 2016/330	2024051343647	May-2024	60 HOURS

SR NO	SUBJECTS	MAXIMUM MARKS	MARKS OBTAINED	RESULT
1	TALLY PRIME	100	100	PASS
2	GST ( GOODS & SERVICE TAX )	100	92	PASS
3	INCOME TAX & TDS	100	65	PASS
4	LIVE PROJECT	100	90	PASS
GRADE: A+		400	347	PASS
DATE: 13/05/2024			PERCENTAGE	86.75



MTSTS - Learning Center (MLC)  
(Coordinator Signature)

\*THIS CAREER ORIENTED COURSE IS PRIVATELY DESIGNED BY MTSTS & MARKLIST  
IS ISSUED AS PER ORDER REFERENCE OF NES-EEM NO. 1/2010/PT. 14/1/7.9. NO. DGE  
& T-M.27014/1/2009-EE1, MINISTRY OF LABOUR & EMPLOYMENT, NEW DELHI, INDIA.



*[Signature]*

Director  
MTSTS  
Maharashtra Technical and  
Self-Employment Training Society

English Version Data 4.0

Graduation: A++ :90% and above, A+ : 75% to 89%, A : 60% to 74%, B : 50% to 59%, C : 40% to 49%