"Dissemination of Education for Knowledge, Science and Culture"
Shikshanmaharashi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha Kolhapur

Padmabhushan Dr. Vasantraodada Patil Mahavidyalaya, Tasgaon

PG Department of Chemistry
Notice

Date : 25/07/2019

Certificate Course in Analytical Techniques

B. Sc. III Chemistry students are hereby informed that we are going to conduct **Certificate Course in Laboratory Management and Analytical Techniques.**

✓ This course includes

- Fundamentals in Laboratory Management
- Fundamentals in Analytical Chemistry

✓ The students can register their names upto 29th July 2019.

Prof. Dr. S. S. Patil
Head of the Department

Head
Dept. of Chemistry
P.D.V.P. College, Tasgaon

"Dissemination of Education for Knowledge, Science and Culture"- Shikshanmaharshi Dr. Bapuji Salunkhe
Shri Swami Vivekanand Shikshan Sanstha, Kolhapur's
Padmabhushan Dr. Vasantraodada Patil Mahavidyalaya, Tasgaon
Post Graduate Department of Chemistry

A REPORT SUBMITTED
TO
Internal Quality Assurance Cell

Certificate Course in
Analytical Techniques

2019-20

" ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार "

: शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Shri Swami Vivekanand Shikshan Sanstha, Kolhapur

PADMABHUSHAN DR. VASANTRAODADA PATIL MAHAVIDYALAYA, TASGAON

(AFFILIATED TO SHIVAJI UNIVERSITY, KOLHAPUR)

Department of Chemistry

Certificate Course
in
Analytical Techniques

To be implemented from

June 2019

Dissedimentation of education through Knowledge, Science and Wisdom-Shikshanmahrshi Dr. Bapuji Salunkhe

Swami Vivekanand Shikshan Sanshtha, Kolhapur

Padmabhushan Dr. Vasantraodada Patil Mahavidhyalaya, Tasgaon

PG DEPARTMENT OF CHEMISTRY

Date: 10 July 2019

To,
The Principal,
P D V P College, Tasgaon
Tal: Tasgaon, Dist: Sangli - 416 312.

Sub: - Regarding Permission to commencement of Certificate Course in Analytical Techniques

Respected Sir,

With reference to above subject, our department is going to conduct **Certificate Course in Analytical Techniques** for B. Sc. students in this academic year. So, I request you to give us permission to conduct above said course.

Thanking you

Yours faithfully

(Dr. S. S. Patil)
Head
Dept. of Chemistry
P.D.V.P. College, Tasgaon

DEPARTMENT OF CHEMISTRY

CERTIFICATE COURSE IN ANALYTICAL TECHNIQUES

Academic year 2019-20

Dt. 15 July 2019

Notice of Meeting

The meeting of the members of BOS in Certificate Course in **Analytical Techniques** is conveyed on 22th July, 2019 for the preparation of syllabus.

Name	Position	Signature
Prof. (Dr) Suresh S. Patil	Chairman	
Dr. S. D. Jadhav	Member	
Dr. A. N. Ambhore	Member	
Mr. S. A. Wadkar	Member	
Mr. V. M. Desai	Member	

Dr. S. S. Patil
Head
Dept. of Chemistry
P. D. College, Tasgaon

Dr. M. S. Hujare
Principal
Padmabhushan Dr. Vasantraodada Patil
Mahavidyalaya, Tasgaon. (Sangli)

Dissedimentation of education through Knowledge, Science and Wisdom-Shikshanmahrshi Dr. Bapuji Salunkhe

Swami Vivekanand Shikshan Sanshtha, Kolhapur

Padmabhushan Dr. Vasantraodada Patil Mahavidhyalaya, Tasgaon

PG DEPARTMENT OF CHEMISTRY

CERTIFICATE COURSE IN ANALYTICAL TECHNIQUES

Academic year 2019-20

NOTICE

15 JULY, 2019

All the students of B. Sc. III (Chemistry) are hereby informed that, our department is going to conduct Certificate course in **Analytical Techniques** from 1st August, 2019. Students should take admissions upto 25 July 2019.

Dr. S. D. Jadhav
Course Coordinator

Dr. S. S. Patil
Head

Head
Dept. of Chemistry
P.D.V.P. College, Tasgaon

Aims and Objectives

In recent times, analytical chemistry has attracted interest in Pharma and Biotech Industry owing to strengthen the stringent regulatory guidelines. In view of this, the present course has been effectively designed to provide skilled manpower to Industry and Academia. The course will cover the aspects such as Introduction to Analytical Techniques, Basic Principles of Chromatography, Spectrometry and Spectroscopy, Analytical Method Development and Validation, Quality Assurance and Quality Control aspects relevant to Industry, Introduction to regulatory aspects related to analytical techniques, Basic operation of instruments such as HPLC, FT-IR, GC-MS, LC-MS and ICP etc., Practical training on analytical method development and validation as per regulatory guidelines, Visits to the nearby industry besides the interactions with industry people, Evaluation of the trained personnel through internal assessment

Learning Outcomes

Undergraduate students upon graduation with a Bachelor degree in Sciences:

1. Students will have a firm foundation in the fundamentals and application of recent scientific theories.
2. Students are able to use modern instrumentation and classical techniques, to design experiments, and to properly record the results of their experiment.
3. Students will be skilled in critical thinking, analytical reasoning and problems solving.
4. Students will be able to identify and solve chemical problems
5. Students will be able to explore new areas of research.
6. Students will able to use modern library searching and retrieval methods to obtain information about an issue relating to chemical techniques.
7. Students will have to knows the regulations for safe handling and use of chemicals
8. Students will be able to communicate the results of their work to society.
9. Students will have to understand the ethical, historic, philosophical, and environmental dimensions of problems and issues facing chemists.
10. Students will be able to explain in proper manner, why chemistry is an integral activity for addressing social, economic, and environmental problems.

11. Students will have to find gainful employment in industry or government, be accepted at graduate or professional schools, or find employment in school systems as instructors or administrators.
12. Students will appreciate the central role of chemistry in society and use knowledge as a basis for ethical behavior in issues facing chemists including an understanding of safe handling of chemicals, environmental issues.

1. Duration of course: One Semester
2. Eligibility to course: Students studying in B.Sc.
3. Admission: On the basis of merit
4. Maximum No. of students: 25

Evaluation System:

All the students will be continuously evaluated by,

a. Attendance	10M
b. Assignments	10 M
c. Class tests	20 M
d. Seminar	10 M
d. One final examination (Two papers)	100 M
	150 M

Practical Course

a. Final examination	
i. Instrumentation	20 M
ii Non-nstrumentation	20 M
iii. Oral	05 M
iv. Laboratory Journal	05 M
	50 M

Nature of Theory question paper

1. Q-1 is of short answer type (one or two sentences) and compulsory, containing 10 sub-questions. (10 marks)
2. From Q-2 to Q-6 (to be divided into sub questions A, B, C &/or D) **any four** questions to be solved (40 marks)

Grades: A grade= above 75, **B grade** = above 60, **C grade** = above 50
Certification: A certificate will be issued on successful completion of the course.

Paper- I [Total periods: 15]

Fundamentals in Analytical Chemistry and Separation Techniques

Unit I: **4 L**

Safety in the laboratory - General safety considerations, Fire, Explosions, Poisoning – solid, liquid, gas, Cuts, Burns, Eye accidents, Electrical safety.

Unit II **4 L**

Basic Techniques – Preparing substances for analysis, Weighing the sample, Dissolving the sample, Decomposing organic compounds, Precipitation, Filtration, Filter papers, Crucibles with permanent porous plates, Washing precipitates, Drying and igniting precipitates.

Unit III **4 L**

a) Sampling of solids, liquids and gases : Definition, types of samples, sampling plan, quality of sample, sub-sampling, sample registration and storage, acceptance sampling, etc.

b) Instrumental methods of analysis, their classification and advantages of instrumental methods, the limitations, sensitivity and detection limits, precision and accuracy, calibration of glassware.

c) Preparation of indicators, reagents and standard solutions.

Unit IV **3 L**

Applications of following techniques of analysis:

pH metery, colorimetry, Spectrofluoriometry, Analysis of Biological samples, Redoximetric methods, Amperometry.

Chromatographic methods: Liquid chromatography, Partition, Ion exchange, Paper, Thin layer, Column, Gel chromatography, GC, GC-MS, HPLC,HPLC-MS & HPTLC.

Reference books:

1) Analytical Chemistry (J.W) G. D. Christian
2) Introduction to Chromatography: Bobbit
3) Instrumental Methods of Analysis (CBS) H. H. Willard; L.L Merit; J. A. Dean & F. A. Settle
4) Instrumental Methods of Analysis: Chatwal and Anand
5) Instrumental Methods of Inorganic Analysis (ELBS): A.I. Vpge;
6) Chemical Instrumentation, A Systematic approach; H. S. Strobel
7) Physical Chemistry ; P. W. Atkins.
8) Principles of Instrumental Analysis- D. Skoog and D. West
9) Treatise on Analytical Chemistry; Vol. I to VII I, .M. Kolthoff.
10) Computer' Fundamentals: P. K. Sinha.
11) Programming in BASICS: Balaguruswamy.
12) Computer Programming made simple: I Maynard.
13) Vogel's textbook of Quantitative Chemical Analysis – Sivasankar.
14) Laboratory techniques in organic chemistry – Aggarwal.

Paper- II [Total periods: 15]

Instrumental Methods in Analytical Chemistry

Unit I **4 L**

Introduction to Spectroscopic techniques in chemical analysis- UV, IR, NMR and MS spectroscopic analysis

Unit II **4 L**

Introduction to AAS, Flame emission, fluorescence, XRD, Nephelometry, and related techniques

Unit III **4 L**

Electro analytical techniques A)Polarography, Cyclic voltametry:

Theory, Apparatus; derivative, polarography, modified polarographic techniques, and their application in qualitative and quantitative analysis.

Unit IV **3 L**

Conductometry: Defination of conductometric titration, measurement of conductance by Wheatstone Bridge, direct reading Wheatstone Bridge, general procedure of conductometric titration, types of conductometric titration, cell constant, types of cell constant.

References Books:

1. Introduction to Instrumental Analysis; R. D. Braun,
2. Instrumental Methods of Analysis; Willard, Merritt, Dean and Settle
3. Standard Methods of Chemical AnalysisVol.3, Part A & B F. J. Welcher:
4. Instrumental Methods of Analysis, 4th &5th editions; G. W. Ewing,.
5. Instrumental Methods of Analysis; Chatwal and Anand.
6. Electroanalytical Chemistry, Ed. H. W. Nurnberg.
7. A Textbook\k of Electrochemistry, Kortum and Bockris,
8. Principles of Electrochemistry; D. A. Maclines,

9. Analytical Chemistry – G. D. Christain
10. Introduction to Chromatography, Bobbit.
11. Instrumental Methods of Inorganic Analysis (ELBS): A.I.Vogel
12. Chemical Instrumentation: A Systematic Approach, H.A. Strobel
13. The Principles of ion-selective electrodes membrane transport, W.E. Morf.
14. Physical Chemistry, P. W. Atkins.
15. Principles of Instrumental Analysis, D. Skoog & D. West
16. Principles of Physical Chemistry, Puri and Sharma.

Practical Course

Part – I: Non-Instrumentation (Any ten)

1. Estimation of nickel from chocolate sample
2. Fertilizer analysis
3. To determine the percentage of nitrogen in fertilizer by Kjeldhal method.
4. Study of adsorption of acetic acid on charcoal.
5. Determination of isoniazide from pharmaceutical tablet.
6. Determination of iron from iron tablet samples.
7. To determine the acid value of given oil.
8. Determination of calcium from given drug sample.
9. Determination of hardness, alkalinity and salinity of water sample.
10. Thin layer chromatography (TLC).
11. Column chromatography.
12. Soil analysis: Environmental samples BOD, COD, DO etc.
13. Determination of caffeine from tea powder.

Part – II: Instrumentation (Any five)

Potentiometry:

1. Determination of binary mixture of weak and strong acid.
2. To determine the iron potentiometrically by titrating with potassium dichromate

Colorimetry:

1. To verify the Beer-Lamberts Law and determine the concentration of given organic dye solution colorimetrically.
2. Verify Beer-Lamberts Law by Colorimetric method.

Conductometry:

1. Determination of mixture of acids and relative strength of weak acids.
2. Determination of solubility of lead sulphate.

Spectrophotometer:

1. To verify Beer-Lambert's Law for potassium permanganate solution and hence to determine the molar extinction coefficient and unknown concentration of given sample Spectrophotometrically

Refractometry:

1. Determination of concentration of sugar in unknown sample.
2. Determination of composition of mixture of liquids

Polarimetry:

1. Kinetics of inversion of cane sugar in presence of strong acid.

pH- metry:

1. Determination of dissociation constant of dibasic acid.
2. Determination of pH of different soil samples by using pH metry

Reference books:

1) Text book of Quantitative Inorganic Analysis by A. I. Vogel.

2) A Text book of Practical Organic Chemistry by A. I. Vogel

P. D. V. P. Mahavidyalaya, Tasgaon
Department of Chemistry
B. Sc. III
Certificate course in Analytical Techniques (Batch I) (T)
2019-20

Sr. No.	Roll No.	Name of the student	05/08/19 01:30	6/8/2019 1:30	07/08/19 1:30	13/8/2019 1:30	14/08/19 1:30	19/08/19 01:30	20/8/19 1:30	21/08/19 1:30	26/08/19 1:30	27/8/2019 1:30
1	6041	Patil Shweta Balaso										
2	6044	Patil Supriya Vasant										
3	6203	Patil Rutuja Rajendra	Rpatil	Rpatil	Rpatil	Rpatil	Rpatil	Rpatil	Rpatil	Rpatil	Rpatil	Rpatil
4	6005	Deshmukh Pooja Suresh										
5	6043	Patil Sneha Vilas										
6	6042	Patil Shweta Popat										
7	6019	Mahajan Bhagyashri K.		Ab								
8	6210	Patil Yashashri Dilip										
9	6209	patil Vaibhavi Sachin	Ab						Ab			
10	6051	Pithade Mahin shafik										
11	6055	Salunkhe Amruta Bajrang			Ab							
12	6057	Sankpal Tejashree Nanda									Ab	
13	6034	Patil Bhagyashri Hanmant										
14	6144	Disale Pallavi J										
15	6012	Karade Sonali Dadaso					Ab					
16	6179	Patil Abhishek Shashikant										
17	6175	Nalawade Shubham B								Ab		
18	6151	Jadhav Rahul P.									Ab	
19	6048	Patil Vaishali Vitthal	Ab									
20	6066	Shinde Rushikesh Bhanu						Ab				Ab
21	6052	Rajmane Vinaya Sanjay				Ab						
22	6218	Shinde Aishwarya M.										
23	6056	Salunkhe Sarika Prakash										
24	6069	Tasgaonkar Pranita Dayanand										
25	6017	Lokhande P.S										
			VVP(T)	SDG	PAK	SDG	VVP(T)	PAK	SDG	PAK	PAK	SDG

P. D. V. P. Mahavidyalaya, Tasgaon

Department of Chemistry

B. Sc. III

Certificate course in Analytical Techniques (Batch I) (T)

2019-20

Sr. No.	Roll No.	Name of the student	26/08/19 01:30	09/09/19 01:30	11/09/19 1:30	16/09/19 01:30	17/9/019 1:30	12/09/19 01:30	23/09/19 01:30	24/9/19 01:30	25/09/19	30/09/19 01:30
1	6041	Patil Shweta B.										
2	6044	Patil Supriya V.										
3	6203	Patil Rutuja Rajendra										
4	6005	Deshmukh Pushpa Surend-										
5	6043	Patil Sneha Vilas										
6	6042	Patil Shweta Popat										
7	6015	Mahajan Bhagyashri K.					Ab					
8	6210	Patil Yashashri Dilip										
9	6209	Patil Vaibhavi Sachin										
10	6055	Salunkhe Amruta Bajrang										
11	057	Sankpal Tejashri Narhar	Ab									
12	6051	Pathade Mahin Shafik										Ab
13	6034	Patil Bhagyashri Hanmant										
14	6144	Pisale Pallavi J										
15	6012	Kurade Sonali Dadaso						Ab				
16	6179	Patil Aishwarya Shrikant										
17	6175	Nalawade Shubham B.							Ab			
18	6151	Jadhav Rahul P.										
19	6048	Patil Vaishali Vitthal			Ab							
20	6066	Shinde Rushikesh Bhaiya										
21	6052	Rajmane Vijaya Sanjay										
22	6218	Shinde Aishwarya M.										
23	6056	Salunkhe Sarika Prakash	Ab									
24	6069	Franita Dayanand Tasgaon										
25	6017	Lokhande P.T										
			VVP(T)	VVP(T)	PAK	VVP(T)	SDG		SSM	VVP(M)		SSM

P. D. V. P. Mahavidyalaya, Tasgaon
Department of Chemistry
B. Sc. III
Certificate course in Analytical Techniques (Batch I) (T)
2019-20

Sr. No.	Roll No.	Name of the student	11/10/19 01:30	14/10/19 01:30	15/10/19 01:30	16/10/19 01:30	17/10/19 01:30	18/10/19 01:30	21/10/19 01:30	22/10/19 01:30	23/10/19 01:30	24/10/19 01:30
1	6041	Patil Shweta B.	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
2	6044	Patil Supriya V	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
3	6203	Patil Rutuja Rajendra	Pepatil	Pepatil	Pepatil	Pepatil	Pepatil	Pepatil	Pepatil	Pepatil	Pepatil	Pepatil
4	6005	Deshmukh Pooja Surendra	Deshmukh	Deshmukh	Deshmukh	Deshmukh	Deshmukh	Deshmukh	Deshmukh	Deshmukh	Deshmukh	Deshmukh
5	6043	patil Sneha Vilas	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
6	6042	Patil Shweta Popat	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
7	6019	Mahajan Bhagyashri K.	Bahajan	Bahajan	Bahajan	Bahajan	Bahajan	Bahajan	Bahajan	Bahajan	Bahajan	Bahajan
8	6210	Patil Yashashri Dilip	Ab	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Ab	Patil
9	6049	patil Vaibhavi sachin	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
10	6055	Salunkhe Amruta Bajirao	ABS	ABS	Ab	ABS	ABS	ABS	ABS	ABS	ABS	ABS
11	6057	Sankpal Tejashree Nandkumar	Tsankpal	Tsankpal	Tsankpal	Tsankpal	Tsankpal	Tsankpal	Tsankpal	Ab	Tsankpal	Tsankpal
12	6051	Pirjade Mahin S	Pirjade	Pirjade	Pirjade	Pirjade	Pirjade	Pirjade	Pirjade	Pirjade	Pirjade	Pirjade
13	6034	Patil Bhagyashri Hanmant	Patil	Patil	Patil	Patil	Ab	Patil	Patil	Patil	Patil	Patil
14	6144	Disale Pallavi J	PD	PD	PD	PD	PD	PD	PD	PD	PD	Ab
15	6012	Karade Sonali Dadaso	K	K	K	K	K	K	K	K	K	K
16	6179	Patil Abhishek Shivkant	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
17	6175	Nalawade Shubham B.	Patil	Patil	Ab	Patil	Patil	Ab	Patil	Patil	Patil	Patil
18	6151	Rathod Jaidev Rahul P.	Rathod	Rathod	Rathod	Rathod	Rathod	Rathod	Rathod	Rathod	Rathod	Rathod
19	6048	Patil Vaishali Vitthal	Patil	Patil	Patil	Ab	Patil	Patil	Patil	Patil	Patil	Patil
20	6066	shinde Rushikesh Bhajan	Patil	Ab	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
21	6052	Rajmane Vijaya Sanjay	Rajmane	Rajmane	Rajmane	Rajmane	Rajmane	Rajmane	Rajmane	Ab	Rajmane	Rajmane
22	6218	shinde Aishwarya M.	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
23	6056	Salunkhe Sarika prakash	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Ab
24	6069	Tasgaonkar Pranita	Tasgaon	Tasgaon	Tasgaon	Tasgaon	Tasgaon	Tasgaon	Tasgaon	Tasgaon	Tasgaon	Tasgaon
25	6017	Lokhande P. J	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
			VVPCH Smali	SSM Smali	VVPCH Smali	Sol-T	SSM Smali	VVPCH Smali	SSM Smali	VVPCH Smali	Sol-T	Sol-T

P. D. V. P. Mahavidyalaya, Tasgaon
Department of Chemistry
B. Sc. III
Certificate course in Analytical Techniques (Batch I) (P)
2019-20

Sr. No.	Roll No.	Name of the student	08/08/19 01:30	09/08/19 01:30	16/08/19 01:30	22/08/19 01:30	23/08/19 01:30	29/08/19 01:30	30/8/19 01:30	12/09/19 01:30	13/09/19	19/09/19 01:30
1	6044	Patil Sheeta Balaso.										
2	6044	Patil Supriya Vasant										
3	6203	Patil Rutuja Rajendra										
4	6005	Deshmukh Purva S.										
5	6043	patil Snehal J.										
6	6042	Patil Shweta P.										
7	6019	Mahajan Bhagyashri K.								Ab		
8	6210	Patil Yashashri Dilip			Ab							Ab
9	6209	patil vaibhavi sachin	Ab					Ab				
10	6055	Salunkhe Anmola Bajarang										
11	6057	Sankpal Tejashree Nanded										
12	6056	salunkhe sarika prakash										
13	6034	Patil Bhagyashri Hanmant										Ab
14	6179	Patil Abhishek Shivshankar										
15	6175	Nalawade Shubham B.		Ab								
16	6151	Jadhav Rahul P.										
17	6144	Disale Pallavi. J				Ab			Ab			
18	6012	karade Sonali Dadaso										
19	6048	Patil Vaishali Vitthal										
20	6066	Shinde Rushikesh Bhanu										
21	6052	Rajmane Vijaya Sanjay	Ab									
22	6218	Shinde Akshay Pandit					Ab					
23	6056	Salunkhe Sarika Prakash										
24	6069	Pranita Tasgaonkar									Ab	
25	6017	Bokhade P. J.				Ab						
			VVP(T)	SSTG	SSTG	VVP(T)	SSTG	VVP(T)	SSTG	VVP(T)	Sd.	VVP(T)

P. D. V. P. Mahavidyalaya, Tasgaon
Department of Chemistry
B. Sc. III
Certificate course in Analytical Techniques (Batch I) (P)
2019-20

Sr. No.	Roll No.	Name of the student	20/09/19 01:30	26/09/19 01:30	27/09/19	03/10/19 01:30	04/10/19 01:30					
1	6041	Patil Shweta Balaso	Patil	Patil	Patil	Ab	Patil					
2	6044	Patil Supriya Vasant	Patil	Patil	Patil	Patil	Patil					
3	6203	Patil Rutuja Rajendra	Rapatil	Rapatil	Rapatil	Rapatil	Rapatil					
4	6005	Deshmukh Purva S.	Deshmukh	Deshmukh	Deshmukh	Deshmukh	Ab					
5	6043	Patil Sneha Vilas	Patil	Ab	Patil	Patil	Patil					
6	6042	Patel Shaela Popat	Patel	Patel	Ab	Patel	Patel					
7	6019	Mahajan Bhagyashri K.	Mahajan	Mahajan	Mahajan	Mahajan	Mahajan					
8	6210	Patil Yashashri Dilip	Patil	Patil	Patil	Patil	Patil					
9	6209	Patil Vaibhavi Sachin	Patil	Patil	Patil	Ab	Patil					
10	6057	Tejashree Nandev Sankpal	Tsankpal	Tsankpal	Tsankpal	Tsankpal	Tsankpal					
11	6051	Pingale Mahin S.	Mpingale	Mpingale	Mpingale	Mpingale	Mpingale					
12	6055	Salunkhe Amruta B.	Ab	ABS	ABS	ABS	ABS					
13	6034	Patil Bhagyashri Hanmant	Patil	Patil	Patil	Patil	Patil					
14	6179	Patil Abhishek S.	Apatil	Apatil	Ab	Apatil	Ab					
15	6175	Nalawade Shubham B.	Nalawade	Nalawade	Nalawade	Nalawade	Nalawade					
16	6151	Jadhav Rahul Pandurang	Rjadhav	Rjadhav	Rjadhav	Rjadhav	Rjadhav					
17	6144	Disale Pallavi J	Pdisale	Pdisale	Pdisale	Pdisale	Pdisale					
18	6012	Karade Sonali Dadaso	Karade	Karade	Karade	Karade	Karade					
19	6048	Patil Vaishali Vitthal	Vpatil	Vpatil	Vpatil	Vpatil	Vpatil					
20	6066	Shinde Rushikesh Bhaiu	Rshinde	Rshinde	Rshinde	Rshinde	Rshinde					
21	6052	Rajmane Vijaya Sanjay	Vrajmane	Vrajmane	Vrajmane	Ab	Vrajmane					
22	6218	Shinde Aishwarya M.	Ashinde	Ashinde	Ashinde	Ashinde	Ashinde					
23	6056	Salunkhe Sanika Prakash	Salunkhe	Ab	Salunkhe	Salunkhe	Salunkhe					
24	6069	Prachita Tasgaonkar	Pgaonkar	Pgaonkar	Pgaonkar	Pgaonkar	Pgaonkar					
25	6017	Lakhande P.J	Plakhade	Plakhade	Plakhade	Plakhade	Plakhade					
			Asd. Fe	VVP(T) Patil	Asd. Fe	VVP(T) Patil	Asd. Fe					

P. D. V. P. Mahavidyalaya, Tasgaon
Department of Chemistry
B. Sc. III
Certificate course in Analytical Techniques (Batch II) (T)
2019-20

Sr. No.	Roll No.	Name of the student	02/12/19 01:30	3/12/019 1:30	04/12/19 1:30	09/12/19 01:30	10/12/019 1:30	11/12/19 1:30	16/12/19 01:30	17/12/019 1:30	18/12/19 1:30	23/12/19 1:30
1	6174	Nalawade Rutuja Ravso	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN
2	6212	Pawar Pooja Pandurang	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
3	6036	Patil Manisha Sanjay	Mpatil	Mpatil	Mpatil	Mpatil	Mpatil	Mpatil	Mpatil	Mpatil	Mpatil	Mpatil
4	6221	Shinde. Smita Sambhaji	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Ab	Shinde	Shinde
5	6016	Kumbhar Kaveri Popat	Ab	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar
6	6217	Salunkhe Prajakta Shamkumar	Salunkhe	Salunkhe	Salunkhe	Ab	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe
7	6001	Ameruksagar tejaswini B.	Ranalit	Ranalit	Ranalit	Ranalit	Ranalit	Ranalit	Ab	Ranalit	Ranalit	Ranalit
8	6213	Pawar Snehal Prakash	Pawar	Pawar	Pawar	Pawar	Ab	Pawar	Pawar	Pawar	Ab	Pawar.
9	6220	Shinde Shital Shivaji	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
10	6193	Patil minal Popat	MPatil	MPatil	MPatil	MPatil	MPatil	MPatil	MPatil	MPatil	MPatil	MPatil
11	6222	Swyavalki Kunal K.	BK	Ab	BK	BK	BK	BK	BK	BK	BK	BK
12	6194	Patil Nilesh T	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
13	6197	Patil Prasad Pandurang	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
14	6152	Jadhar Ranjeet Rajaram	Jadhar	Jadhar	Jadhar	Jadhar	Jadhar	Jadhar	Ab	Jadhar	Jadhar	Jadhar
15	6004	Chavan Vaibhav Ramesh	VRC	VRC	Ab	VRC	VRC	VRC	VRC	VRC	VRC	VRC
16	6204	Patil Saurav Vilas	S.V.Patil	S.V.Patil	S.V.Patil	S.V.Patil	S.V.Patil	S.V.Patil	S.V.Patil	S.V.Patil	S.V.Patil	S.V.Patil
17	6157	Kadam Satish M.	Skadam	Skadam	Skadam	Skadam	Skadam	Skadam	Skadam	Skadam	Skadam	Skadam
18	6042	Patil Vaibhav Vijay	V.V.Patil	V.V.Patil	V.V.Patil	V.V.Patil	V.V.Patil	V.V.Patil	V.V.Patil	V.V.Patil	V.V.Patil	V.V.Patil
19	6018	Madane Vikas S	VSM	VSM	VSM	VSM	Ab	VSM	VSM	VSM	VSM	VSM
20	6023	Mohashi Rahul B.	Bmohashi	Bmohashi	Bmohashi	Bmohashi	Bmohashi	Bmohashi	Bmohashi	Bmohashi	Ab	Bmohashi
21	6205	Shubham. Pati,	SV	SV	SV	SV	SV	SV	SV	SV	SV	SV
22	6211	Pawar Akash P	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
23	6049	Pawar Gauri B.	Ab	Gpawar	Gpawar	Gpawar	Gpawar	Gpawar	Gpawar	Gpawar	Gpawar	Gpawar
24	6148	Jadhav Amit Anil	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Ab
25	6154	Jadhav Sushant Sharad.	Jsjadhav	Ab	Jsjadhav	Jsjadhav	Jsjadhav	Jsjadhav	Jsjadhav	Jsjadhav	Jsjadhav	Jsjadhav
			VVP(T) Patil	SDG Sathokage	PAK Pathashid	VVP(T) Patil	SDG Sathokage	PAK Pathashid	VVP(T) Patil	SDG Sathokage	PAK Pathashid	VVP(T) Patil

P. D. V. P. Mahavidyalaya, Tasgaon
Department of Chemistry
B. Sc. III
Certificate course in Analytical Techniques (Batch II) (T)
2019-20

Sr. No.	Roll No.	Name of the student	24/12/2019 1:30	30/12/19 01:30	31/12/2019 1:30	9/01/20 1:30	6/01/20 01:30	7/1/20 01:30	8/1/20 01:30	20/01/20 01:30	21/1/20 01:30	22/01/20 01:30
1	6174	Nalavade Rutuja Ravaso	RV	RV	RV	RV	RV	RV	RV	RV	RV	RV
2	6212	Pawar Pooja Pandurang	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
3	6096	Patil manisha sanjay	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Ab
4	6221	Shinde Amita sambhaji	Shinde	Shinde	Shinde	Ab	Shinde	Shinde	Shinde	Shinde	Shinde	
5	6016	Kumbhar Karan Popat	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar
6	6217	Salunkhe Prajakta Shamkuwar	Ab	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe
7	6001	Ameetsagar Pranali Balaso	Sanali	Sanali	Sanali	Sanali	Sanali	Sanali	Ab	Sanali	Sanali	Sanali
8	6213	Pawar snehal Pradeesh	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
9	6220	Shinde Shital Shivaji	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
10	6193	Patil minal Popat	Patil	Ab	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
11	6222	Suryavanshi kunal K	TSK	TSK	TSK	TSK	TSK	TSK	TSK	Ab	TSK	TSK
12	6194	Patil Nilesh T	NPatil	NPatil	NPatil	Ab	NPatil	NPatil	NPatil	NPatil	NPatil	NPatil
13	6202	Chavan V. R.										
14	6152	Jadhav Ranjeet R						Ab				
15	6197	Patil Prasad P.	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
16	6204	Saurav Vilas Patil.	S.V.Patil	SVPatil	SVPatil	SV.Patil	SV.Patil	SV.Patil	SV.Patil	SV.Patil	Ab	SV.Patil
17	6151	Kadam Satish M.	Kadam	Kadam	Kadam	Kadam	Kadam	Kadam	Kadam	Kadam	Kadam	Kadam
18	6217	Patil Vaibhav Vijay	V.V.Paty	V.V.Paty	V.V.Paty	V.V.Paty	V.V.Paty	V.V.Paty	V.V.Paty	V.V.Paty	V.V.Paty	V.V.Paty
19	6018	Madane Vikas S.										
20	6023	Moradi Rahul B.	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
21	6205	Shubham Patil										
22	6211	Pawar Akash P	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Ab
23	6049	Pawar Gouri R.	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
24	6168	Jadhav Amit A.	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav
25	6154	Jadhav Sushant Sunil	Ab	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Ab	Jadhav	Jadhav	Jadhav
			SDG	VVP(CT)	SDG	PAK	SSM	VVP(CT)	Sol.	SSM	VVP(CT)	Sol.

P. D. V. P. Mahavidyalaya, Tasgaon
Department of Chemistry
B. Sc. III
Certificate course in Analytical Techniques (Batch II) (T)
2019-20

Sr. No.	Roll No.	Name of the student	27/01/20 01:30	28/1/20 01:30	29/01/20 01:30	3/02/20 01:30	4/2/20 01:30	05/2/20 01:30	06/02/20 1:30	10/02/20 01:30	11/2/20 01:30	12/2/20 01:30
1	6174	Nalawade Rutuja Ravso										
2	6212	Pawar Pooja Pandurang	Ab									Ab
3	6036	Patil Manisha Sanjay							Ab			
4	6221	Shinde Amita Sambhaji										
5	6016	Kumbhar Kavita P.						Ab				
6	6217	Salunkhe Prajakta Shankumar										
7	6001	Amrutsagar Pournali Babasa		Ab		Ab						
8	6213	Pawar Snehal Prakash										
9	6220	Shinde Shital Shivaji										Ab
10	6193	Patil Minal Popat										
11	6211	Suryavanshi Kunal R.					Ab					
12	6194	Nilesh T. Patil										
13	6004	Chavan Vaibhav Ramesh								Ab		
14	6182	Jadhav Pankaj P.										
15	6197	Patil Prasad P.										
16	6206	Patil Saurav Vilas	SV Patil	SV Patil	SV Patil	SV Patil	SV Patil	SV Patil	SV Patil	SV Patil	SV Patil	SV Patil
17	6152	Kadam Satish M.										
18	6042	Patil Vaibhav Vijay	V.V. Patil	V.V. Patil	V.V. Patil	V.V. Patil	V.V. Patil	V.V. Patil	V.V. Patil	V.V. Patil	V.V. Patil	V.V. Patil
19	6018	Madane Vikas S.										
20	6023	Mokashi Rahul B.	Ab								Ab	
21	6205	Shubham Patil										
22	6211	Pawar Akash			Ab			Ab				
23	6049	Pawar Gauri R.										
24	6148	Jadhav Amit A.								Ab		
25	6154	Jadhav Sakshi Shamrao										
			SSM	VVPCMV	Sd.	SSM	VVPCMV	Sd.	PAK Pakhshid	SSM	VVPCMV	Sd.

P. D. V. P. Mahavidyalaya, Tasgaon
Department of Chemistry
B. Sc. III
Certificate course in Analytical Techniques (Batch II) (P)
2019-20

Sr. No.	Roll No.	Name of the student	05/12/19 01:30	06/12/19	12/12/19 01:30	13/12/19	19/12/19 01:30	20/12/19	26/12/19 01:30	27/12/19	02/01/20 01:30	03/01/20 01:30
1	6174	Nalawade Rutuja Ravaso	RN	RN	RN	RN	RN	RN	RN	RN	RN	RN
2	6212	Pawar Pooja Pandurang	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Ab
3	6036	Patil Manisha Sanjay	Mpatil	Mpatil	Mpatil	Mpatil	Ab	Mpatil	Mpatil	Mpatil	Mpatil	Mpatil
4	6221	Shinde Smita Sambhaji	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Ab	Shinde
5	6016	Kumbhar Kalpana P	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Ab	Kumbhar	Kumbhar	Kumbhar
6	6217	Salunkhe Prajakta Shantaram	Ab	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe	Salunkhe
7	6001	Amrutsagar Pranali Baban	Panalin	Panalin	Panalin	Panalin	Panalin	Panalin	Panalin	Panalin	Panalin	Panalin
8	6213	Pawar Snehal Prakash	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
9	6220	Shinde Shital Shivaji	Shinde	Shinde	Ab	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
10	6193	Patil minal Popat	MPatil	MPatil	MPatil	MPatil	MPatil	MPatil	MPatil	MPatil	MPatil	MPatil
11	6222	Suryavanshi Sunal R	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
12	6194	Patil Nilesh T	NPatil	NPatil	NPatil	NPatil	NPatil	NPatil	NPatil	NPatil	NPatil	NPatil
13	6197	Patil Prasad Pandurang	PatilP	Ab	PatilP	PatilP	PatilP	PatilP	PatilP	PatilP	PatilP	Ab
14	6152	Jadhav Ranjeet P	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Ab	Jadhav	Jadhav	Jadhav	Jadhav
15	6004	Chavan Vaibhav R	CVR	CVR	CVR	CVR	CVR	CVR	CVR	CVR	CVR	CVR
16	6204	Patil Gaurav Vilas	SVPatil	SVPatil	SVPatil	SVPatil	SVPatil	SVPatil	SVPatil	SVPatil	SVPatil	SVPatil
17	6157	Kadam Satish M.	Kadam	Kadam	Kadam	Ab	Kadam	Kadam	Kadam	Kadam	Kadam	Kadam
18	6217	Patil Vaibhav V.	VVPatil	VVPatil	VVPatil	VVPatil	VVPatil	VVPatil	VVPatil	Ab	VVPatil	VVPatil
19	6018	Madane Vikas S.	VSM	VSM	VSM	VSM	VSM	VSM	VSM	VSM	VSM	VSM
20	6023	Mohashi Rahul B.	Mohashi	Mohashi	Mohashi	Mohashi	Mohashi	Mohashi	Mohashi	Mohashi	Mohashi	Mohashi
21	6205	Shubham Patil	SP	SP	SP	SP	SP	SP	SP	SP	Ab	SP
22	6211	Pawar Arjun P	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
23	6049	Pawar Gauri R	GPawar	GPawar	GPawar	GPawar	GPawar	GPawar	GPawar	GPawar	GPawar	GPawar
24	6152	Jadhav Amit. A.	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav
25	6154	Jadhav Kishor Sunil	KSJadhav	KSJadhav	KSJadhav	Ab	KSJadhav	KSJadhav	KSJadhav	KSJadhav	KSJadhav	KSJadhav
			VVP(CT) Padi	Sd/-	VVP(CT) Padi	Sd/-	VVP(CT) Padi	Sd/-	VVP(CT) Padi	Sd/-	VVP(CT) Padi	SSM Incharge

P. D. V. P. Mahavidyalaya, Tasgaon
Department of Chemistry
B. Sc. III
Certificate course in Analytical Techniques (Batch II) (P)
2019-20

Sr. No.	Roll No.	Name of the student	09/01/20 01:30	10/01/20 01:30	23/01/20 01:30	24/01/20 01:30	30/01/20 01:30	31/01/20 01:30				
1	6174	Nalawade Rutuja Ravasa	RN	RN	Ab	RN	RN					
2	6212	Pawar Pooja Pandurang	Pawar	Pawar	Pawar	Pawar	Pawar					
3	6036	Patil Manisha Sanjay	Ab	Mpatil	Mpatil	Mpatil	Mpatil					
4	6221	Shinde Smita Sambhaji	Shinde	Shinde	Shinde	Shinde	Shinde					
5	6016	Kumbhar Kavita P.	Kumbhar	Kumbhar	Kumbhar	Kumbhar	Kumbhar					
6	6217	Salunkhe Prajakta Shrikumar	Ab	Salunkhe	Salunkhe	Salunkhe	Ab					
7	6001	Amrutsagar Pranali Balu	Panalia	Panalia	Panalia	Panalia	Panalia					
8	6213	Pawar Snehal Prakash	Pawar	Pawar	Pawar	Pawar	Pawar					
9	6220	Shinde Shital Shivaji	Shinde	Ab	Shinde	Shinde	Shinde					
10	6193	Patil minal Kunal Popat	Patil	Patil	Patil	Ab	Patil					
11	6222	Jayavantrao Kunal K.	RJ	RJ	RJ	RJ	RJ					
12	6184	Patil Nilesh T.	Patil	Patil	Patil	Patil	Patil					
13	6197	Patil Pooja P.	Patil	Patil	Patil	Patil	Patil					
14	6152	Jadhav Ranjeet	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav					
15	6004	Charan Vaibhav e	Charan	Charan	Ab	Charan	Charan	Charan				
16	6204	Patil Saurav Vilas	SV Patil	SV Patil	SV Patil	SV Patil	SV Patil	SV Patil				
17	6157	Kadam Satish M.	Kadam	Kadam	Kadam	Kadam	Kadam					
18	6042	Patil Vaibhav V.	Ab	VV Patil	VV Patil	VV Patil	VV Patil	VV Patil				
19	6018	Madane Vikas S.	Madane	Madane	Madane	Madane	Madane					
20	6023	Mokashi Rahul B.	Mokashi	Mokashi	Mokashi	Ab	Mokashi	Mokashi				
21	5205	Shubham Patil	SP	SP	SP	SP	SP	SP				
22	6211	Pawar Akash T.	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar				
23	6049	Pawar Gayatri R.	Pawar	Ab	Pawar	Pawar	Pawar	Pawar				
24	6148	Jadhav Amit A.	Jadhav	Jadhav	Jadhav	Jadhav	AL	Jadhav				
25	6154	Jadhav Sushant Sunil	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav				
			WP(T) Patil	SSM Amrute	WP(T) Patil	SSM Amrute	SSM Amrute	SSM Amrute				

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Swami Vivekanand Shikshan Sanshtha, Kolhapur

Padmabhushan Dr. Vasantraodada Patil Mahavidhyalaya, Tasgaon

PG DEPARTMENT OF CHEMISTRY

CERTIFICATE COURSE IN ANALYTICAL TECHNIQUES

Academic year 2019-20

Date : 05 March 2020

Notice

All the students are hereby informed that the examination in Certificate Course in **Analytical Techniques** will be held as per following schedule. Students should present on time.

Date	Time	Paper No.
11 March 2020	11.00 am to 12.30 pm	I
12 March 2020	11.00 am to 12.30 pm	II
13 March 2020	11.00 am to 5.00 pm	Practical

Jadhav

Dr. S. D. Jadhav
Course Coordinator

Patil

Dr. S. S. Patil
Head

Head
Dept. of Chemistry
P.D.V.P. College, Tasgaon

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Shri Swami Vivekanand Shikshan Sanstha Kolhapur

Padmabhushan Dr. Vasantraodada Patil Mahavidyalaya, Tasgaon

Department of Chemistry

Certificate Course in Analytical Techniques 2019-20

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Paper I

Fundamentals in Analytical Chemistry and Separation Techniques

Marks - 50

Time : **Date :**

Q1. Answer the following question in one sentence. **10M**

i) What is the basic principle of gravimetric analysis?

ii) What is Accuracy?

iii) What is the basic units of weights?

iv) Define normal solution.

v) What is precipitation?

vi) When you heat the substance in the test tube ,where should it point

vii) What is the principle of pH?

viii) Why digestion important in gravimetric analysis?

ix) What is the equivalent weight?

x) What is the significant figure?

Q2. Attempt any four. **40M**

i) Discuss the different steps involved in gravimetric analysis .Explain yhe mechanism of precipitation.

ii) What are the the filters in colorimetry? Explain its types.

iii) Discuss the classification and advantages of instrumental methods.

iv) What is digestion? How is it useful in the purification of precipitation?

v) Explain ,how particle size is amatter of impotance in sampling of solid. Describe methods to reduce the sampling size.

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Department of Chemistry

Certificate Course in Analytical Techniques 2019-20

Paper II

Instrumental Methods in Analytical Chemistry

Date and Time: **50Mark**

Q1.Answer the following question in one sentence. 10 Mark

1) What is Nephelometry test.
2) Define the term conductivity .
3) Write down the formula of cell constant .
4) What is the principle of flame emission spectroscopy.
5) What is mean by finger print region.
6) What is chemical shift.
7) Define the term electromagnetic radiation.
8) State Hooke's law.
9) What is bathochromic shift .
10) What is coupling constant.

Q2.Attempt any four question. 40 Mark

1) What is selection rule?Explain IR active & inactive transitions the suitable example.
2) What are the fragment ions?How are they formed.
3) What is conductivity cell?Why the electrodes of conductivity cell are blackened with platinum black.
4) What is spectroscopy? Name the spectroscopic techniques that use radiowave ultraviolet visible & IR radiations.
5) What is XRD & how it works.

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Swami Vivekanand Shikshan Sanshtha, Kolhapur

Padmabhushan Dr. Vasantraodada Patil Mahavidhyalaya, Tasgaon

PG DEPARTMENT OF CHEMISTRY

Certificate Course in Analytical Techniques 2019-20

Mark Sheet

Batch A (01 August 2019 to 31 October 2019)

Sr. No.	Name of Candidate	Attendance (10)	Assignment (10)	Class tests (20)	Seminar (10)	Paper I (50)	Paper II (50)	Practical (50)	Total (200)
1	Ms. Patil Sweta Balaso	9	10	16	7	46	45	47	180
2	Ms. Patil Supriya Vasant	9	10	15	9	40	41	46	170
3	Ms. Patil Rutuja Rajendra	9	10	16	7	42	40	46	170
4	Ms. Deshmukh Purva Surendra	9	9	17	6	45	42	45	173
5	Ms. Patil Sneha Vilas	9	10	19	7	44	40	42	171
6	Ms. Patil Sweta Popat	9	10	19	9	42	49	45	183
7	Ms. Mahajan Bhagyashree K.	9	9	15	7	46	42	45	173
8	Ms. Patil Yashshree Dilip	8	9	16	7	42	40	44	166
9	Ms. Patil Vaibhavi Sachin	9	10	12	6	40	44	42	163
10	Mr. Pirjade Mahin Shafik	9	9	14	9	40	42	45	168
11	Ms. Salunkhe Amruta Bajarang	9	9	15	9	41	44	42	169
12	Ms. Sankpal Tejshree Namdev	9	9	17	6	40	42	45	168
13	Ms. Patil Bhagyashree Hanamant	9	10	16	7	44	40	42	152
14	Ms. Disale Pallavi J.	9	10	12	7	40	42	41	161

15	Ms. Karade Sonali Dadaso	9	10	15	7	44	40	42	167
16	Mr. Patil Abhishekh Shashikant	8	9	14	7	40	41	41	160
17	Mr. Nalawade Shubham B.	9	10	12	9	44	42	40	166
18	Mr. Jadhav Rahul P.	9	9	11	7	40	41	41	158
19	Ms. Patil Vaishali Uttam	9	9	14	7	40	42	44	165
20	Mr. Rushikesh Bhanu	9	10	16	8	42	42	45	172
21	Ms. Rajmane Vijaya Sanjay	8	10	14	7	44	40	42	165
22	Ms. Shinde Aishwarya M.	9	10	15	7	40	42	44	167
23	Ms. Salunkhe Sarika Prakash	8	10	16	9	41	40	42	168
24	Ms. Tasgaonkar Pranita Dayanand	9	10	14	7	40	40	45	165
25	Ms. Lokhande P. J.	9	10	15	7	41	42	44	168

Jadhav

Dr. S. D. Jadhav
Course Coordinator

Dr. S. S. Patil
Head

Head
Dept. of Chemistry
P.D.V.P. College, Tasgaon

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Swami Vivekanand Shikshan Sanshtha, Kolhapur

Padmabhushan Dr. Vasantraodada Patil Mahavidhyalaya, Tasgaon

PG DEPARTMENT OF CHEMISTRY

Certificate Course in Analytical Techniques 2019-20

Mark Sheet

Batch B (01 December 2019 to 29 February 2020)

Sr. No.	Name of Candidate	Attendance (10)	Assignment (10)	Class tests (20)	Seminar (10)	Paper I (50)	Paper II (50)	Practical (50)	Total (200)
1	Ms. Nalawade Rutuja Ravso	9	9	14	7	40	41	44	164
2	Ms. Pawar Pooja Pandurang	9	10	12	9	42	41	42	165
3	Ms. Patil Manisha Sanjay	9	9	14	7	43	44	40	166
4	Ms. Shinde Smita Sambhaji	9	10	15	7	41	42	45	169
5	Ms. Kumbhar Karuna Popat	9	10	16	7	44	40	42	168
6	Ms. Salunkhe Prajkta Shamkumar	8	10	17	8	40	41	44	168
7	Ms. Amrutsagar Pranali B.	9	10	15	7	42	46	42	171
8	Ms. Pawar Snehal Prakash	9	10	17	7	41	40	45	169
9	Ms. Shinde Shital Shivaji	9	9	19	9	40	42	42	170
10	Ms. Patil Minal Popat	9	9	15	7	42	42	41	165
11	Mr. Suryawanshi Kunal K.	8	9	14	9	44	40	42	166
12	Mr. Patil Nilesh T.	9	10	16	7	40	41	41	164
13	Mr. Patil Prasad Pandurang	9	10	15	7	44	40	40	165

14	Mr. Jadhav Ranjeet R.	8	10	14	7	40	44	42	165
15	Mr. Chavan Vaibhav R.	9	10	15	7	40	41	43	165
16	Mr. Patil Sourav Vilas	8	10	16	8	41	42	42	167
17	Mr. Kadam Satish M.	9	9	12	7	39	40	41	157
18	Mr. Patil Vaibhav Vijay	9	9	14	7	40	41	41	161
19	Mr. Madane Vikas S.	8	10	15	9	41	42	42	167
20	Mr. Mokashi Rahul B.	9	9	16	7	44	40	40	165
21	Mr. Patil Shubham S.	9	9	12	7	35	39	41	152
22	Mr. Pawar Akash P.	8	9	13	7	40	39	40	156
23	Ms. Pawar Gouri R.	9	10	14	8	40	37	42	160
24	Mr. Jadhav Sushant Sharad	9	10	16	9	41	42	42	169
25	Mr. Jadhav Amit Anil	8	9	15	7	40	41	41	161

Jadhav

Dr. S. D. Jadhav
Course Coordinator

Patil.

Dr. S. S. Patil
Head
Dept. of Chemistry
P.D.V.P. College, Tasgaon

"Dissemination of Education through Knowledge, Science and Culture"
-Shikshanmaharshi Dr. Bapuji Salunkhe.

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

Padmabhushan Dr. Vasantraodada Patil Mahavidyalaya,
Tasgaon, Sangli, (MS), India-416312

Department of Chemistry

Certificate Course in Analytical Techniques

This is to certify that --Ms.---Mahajan---Bhagyashree---K.------- *has completed successfully* ***'Certificate Course in Analytical Techniques'*** *conducted by Department of Chemistry, PadmabhushanDr. Vasantraodada Patil Mahavidyalaya, Tasgaonin academic year* ***2019-20.***

Dr. Swati D. Jadhav	***Prof. (Dr.) Suresh S. Patil***	***Dr. Milind S. Hujare***
Organizing Secretory	**Head of the Department**	**Principal**

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Dr. Swati D. Jadhav	***Prof. (Dr.) Suresh S. Patil***	***Dr. Milind S. Hujare***
Organizing Secretory	**Head of the Department**	**Principal**

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Dr. Swati D. Jadhav	***Prof. (Dr.) Suresh S. Patil***	***Dr. Milind S. Hujare***
Organizing Secretory	**Head of the Department**	**Principal**