Bhairavnath Shikshan Mandal's
Popatrao Kisanrao Thorat College
Khutbav Tal-Daund Dist –Pune, 412203

2.2.1.

The institution Assesses the learning levels of the students and organizes the special programs for the advanced and slow learners.

Index

Sr.No	Content
1.	Advanced and Slow learners Policy documents
2.	Remedial Coaching 1)Analytical Chemistry
3.	2)Zoology
4.	Advanced and slow learners of English department
5.	Advanced and slow learners of Business communication
6.	Advanced and slow learners of Economices Department
7.	Chartes made by advanced learners
8.	Notes written by advanced learners ,kept in library
9.	Seminars in the class

Popatrao Kisanrao Thorat College College Code 0923 Khutbav

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhargavnath Shikshan Mandal's
POPATRAO KISANRAO THORAT COLLEGE
Khutbav,Tal.-Daund,Dist.-Pune-412203,Ph.No.02119-284012
NAAC Accreditation 'B' Grade
(Affiliated to Savitribai Phule Pune University)
IDNo:PU/PN/S/391/2009
College Code 0923
Founder
Hon.Ex.M.L.A.Rameshappa Thorat
Chairman,P.D.C.C.BankPune
Principal
Dr.Rekha Salunke
M.Sc.,B.Ed.,Ph.D.

Ref.No.:

Date: 09/01/2025

Activities for slow learners:

One or more of the following options shall be used;

1. Be humble and patient with slow learners
2. Encourage parent-teacher association of such students
3. Motivate them with practical reasons to learn material
4. Pair them with brighter students in group activities
5. Create a healthy and conducive environment for slow learners to improve their pace
6. Arrange extra remedial Classes
7. Arrange extra Lectures
8. Mentoring Such students
9. Soft skill training

Activities for Advanced Learners:

One or more of the following options shall be used;

1. Encourage them to work with slow learners in practical hours
2. Splitting of class for group activities
3. Mapping of students for internship projects
4. Mapping of students for extra-curricular and co-curricular activities
5. Think-Pair-Share
6. Quiz competitions
7. Promoting students to take part at various places viz. Inter college / University/State level /National Level competitions
8. Insisting to complete SWAYAM, MOOC courses any free Ware certification
9. Group activity leader for assignment/Project task
10. Soft skill training Outcome: Records based on student progress and observation.

Popatrao Kisanrao Thorat College Code 0923 Khutbav

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bharatnath Shikshan Mandal's
POPATRAO KISANRAO THORAT COLLEGE
Khutbav,Tal.-Daund,Dist.-Pune-412203,Ph.No.02119-284012
NAAC Accreditation:B Grade
(Affiliated to Savitribai Phule Pune University)
IDNo:PU/PN/S/391/2009
College Code:0923
Founder
Hon.Ex.M.L.A.Rameshappa Thorat
Chairman,P.D.C.C.BankPune
Principal
Dr.Rekha Salunke
M.Sc.,B.Ed.,Ph.D.

Ref.No.:

Date: 09/01/2025

SoP: Slow Learners and Advanced Learners (Process and Outcome)
Academic Year: 2024-25
Scope of this document: This SoP is to identify the slow learners and advanced learners to help them out for improvement in the academics.
Uses of SoP: IQAC cell in consultation of Principal is to prepare this SoP and refereed to HoD.
Who should control the document of SoP: Principal and IQAC Coordinator
Definitions and Procedures to be followed for implementation of SoP:

Within the classrooms faculty have to deal with different types of students; some are very intelligent who learn very fast and some are quite weak who learn very slowly. Therefore it is required to determine the abilities of the students in the class. Based on the ability determined, some students need only guidance and some students need a hard work and regular attention.

Generally on the basis of their learning speed students can be classified in two groups; advanced learners and slow learners. Each type of students has different learning attitudes and learning habits. A faculty has to adapt a teaching methodology such that he/she may not lose the attention of the slow learners and bore the advanced learners.

The advanced learners

The student who learn fast are called advanced learners. Obviously their learning speed is more than the peers.

The slow learners

Slow learners are the students who have slow speed then other students. They need patience and a regular monitoring.

Identification of ability of students tolearn:

It shall be done based on one or more of the following;

a) Analysis of HSC or First Year score
b) Communication and soft skills
c) Their behavioral traits
d) Theory and Practical attendance
e) Performance in Unit test/mid-term test/Online test/practice session etc.

Popatrao Kisanrao Thorat College Code 0923 Khutbav

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of science

Slow learner Activity

Remedial Coaching

Table of Contains

Popatrao Kisanrao Thorat College Head of Department Chemistry Khutbav

Head of Department

Popatrao Kisanrao Thorat College College Code 0923 Khutbav

Principal

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of science

Slow learner Activity

Remedial Coaching

Sub-Analytical I

Class-T.Y.B.Sc

Notice

26 | Dec. 2024

All the students studying in T.Y.B.Sc are advised that the students whose first semester result is less or fail in the Analytical Chemistry they should attain the extra lectures in the same classroom but after the time of regular lecture. That is daily at 01:00Pm to 02:00 Pm.

Popatrao Kisanrao Thorat College Code 0923 Khutbav

Head of Department Chemistry Popatrao Kisanrao Thorat College Khutbav

Principal

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of science

Sub-Analytical Chemistry

Class-T.Y.B.Sc

Slow learner Activity

Syllabus of Remedial Coaching

1. **Gravimetry** - Precipitation methods; The colloidal state; Supersaturation and precipitate formation; The purity of the precipitate: Co-precipitation; ; Conditions of precipitation; Precipitation from homogeneous solution; Washing the precipitate; Ignition of the precipitate: Gravimetric Calculations,Numericals,

2. **Inorganic Qualitative Analysis** - Basic principle, common ion effect, solubility, solubility product, preparation of original solution, classification of basic radicals in groups, Differential Thermal Analysis: Introduction, instrumentation for DTA and DSC.

3. **Parameters of instrumental analysis** - Techniques, Methods, Procedures, and Protocols, Selecting an Analytical Method, Accuracy, Precision, Sensitivity, Selectivity, Robustness and Ruggedness, Scale of Operation, equipment, Time, and Cost, Making the Final Choice, Developing the Procedure, Calibration and Standardization, Sampling,

4.**Spectroscopy**- Theory of spectrophotometry and colorimetry-Beer's law, Application of Beer's Law, Spectrophotometry: Wavelength selection by prism and diffraction grating, Radiation source, cells, data presentation, single-beam spectrophotometer, Double-beam spectrophotometers, , Applications: Numericals

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav.

Tal. Daund, Dist- Pune, 412215

Subject : Analytical chemistry

Class : T.Y. B.Sc.

Sem. : I

Sub. Code : - 35132

Remedial coaching

	Name of Student	09/1/24	10/01/24	11/01/24	12/01/24	13/01/24
1	Jagtap Sanket Dnyandev					
2	Lonkar Prathamesh Raju	P.R. Lonkar	P.R. Lonkar	P.R. Lonkar		P.R. Lonkar
3	Shelar Dhanashree Rajendra	Shelar		Shelar	Shelar	
4	Honmane Prashant Laximan	P.L. Honmane		P.L. Honmane		P.L. Honmane
5	Khaladkar Shubham Ankush					
6	Badhe amit Chagan					
7	Borkar Abhijit Sunil					
8	Avchat Heramb Satish					
9	Takale pradeep Prakash					

Popatrao Kisanrao Thorat College Head of Department Chemistry

Popatrao Kisanrao Thorat College College Code 0923 Khutbav

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav.

Tal. Daund, Dist. Pune, 412215

Subject : Analytical chemistry

Class : T.Y. B.Sc.

Sem. : I

Sub. Code :- 35132

Remedial coaching

Name of Student	04/01/24	05/01/24	06/01/24	8/01/24	09/01/24
Jagtap Sanket Dnyandev		Sjagtap	Sjagtap		Sjagtap
Lonkar Prathamesh Raju	P.R.Lonkar		P.R.Lonkar		P.R.Lonkar
Shelar Dhanashree Rajendra	Shelar	Shelar	Shelar	Shelar	
Honmane Prashant Laximan		P.L.Honmane		P.L.Honmane	P.L.Honmane
Khaladkar Shubham Ankush	Khaladkar	Khaladkar	Khaladkar	Khaladkar	
Badhe amit Chagan	ABadhe	ABadhe		ABadhe	ABadhe
Borkar Abhijit Sunil	ABorkar		ABorkar	ABorkar	ABorkar
Avchat Hemant Satish	HAvchat	HAvchat		HAvchat	HAvchat
Takale pradeep Prakash	P.P. Takale	P.P. Takale	P.P. Takale	P.P. Takale	P.P. Takale.

Head of Department Chemistry
Popatrao Kisanrao Thorat College Khutbav

Popatrao Kisanrao Thorat College Code 0923 Khutbav

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav.

Tal. Daund, Dist. Pune, 412215

Subject : Analytical chemistry

Class : T.Y.B.Sc.

Sem. : I

Sub. Code : - 35132

Remedial coaching

Name of Student	16/02/24	20/02/24	21/2/24	28/02/24	01/03/24
Jagtap Sanket Dnyandev					
Lonkar Prathamesh Raju					
Shelar Dhanashree Rajendra					
Honmane Prashant Laximan					
Khaladkar Shubham Ankush					
Badhe amit Chagan					
Borkar Abhijita Sunil					
Avchat Heramb Satish					
Takale pradeep Prakash					

Head of Department Chemistry
Popatrao Kisanrao Thorat College Khutbav

College Code 0923
Popatrao Kisanrao Thorat College Khutbav

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav.

Tal. Daund, Dist. Pune, 412215

Subject : Analytical chemistry

Class : T.Y.B.Sc.

Sem. : I

Sub. Code : - 35132

Remedial coaching

	Name of Student	30/01/24	6/02/24	8/02/24	10/02/24	13/2/24
1]	Jagtap Sanket Sryandev	Jagtap		Jagtap		Jagtap
2]	Lonkar Prathamesh Raju	P.R.Lonkar	P.R.Lonkar	P.R.Lonkar	P.R.Lonkar	P.R.Lonkar
3]	Shelar Dhanashree Rajendra	Shelar	Shelar	Shelar	Shelar	
4]	Honmane Prashant Laximan	P.L.Honmane	P.L.Honmane			P.L.Honmane
5]	Khaladkar Shubham Ankush	Khaladkar	Khaladkar	Khaladkar		Khaladkar
6]	Badhe amit Chagan		Badhe	Badhe		Badhe
7]	Borkar Abhijit Sunil	Borkar	Borkar		Borkar	
8]	Avchat Heramb Satish	Avchat	Avchat	Avchat		Avchat
9]	Takale Pradeep Prakash	P.P.Takale	P.P.Takale	P.P.Takale	P.P. Takale	P.P. Takale

Popatrao Kisanrao Thorat College Head of Department Chemistry Khutbav

Popatrao Kisanrao Thorat College College Code 0923

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

the heating coils into the gas.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav.

Tal-Daund, Dist- Pune, 412215

Subject : Analytical chemistry

Class : T.Y.B.Sc.

Sem. : I

Sub. Code:- 35132

Remedial coaching

No.	Name of Student	17/01/24	18/01/24	19/01/24	23/01/24	25/01/24
1]	Jagtap Sanket Dnyandev					
2]	Lonkar Prathamesh Raju	P.R.Lonkar		P.R.Lonkar		P.R.Lonkar
3]	Shelar Dhanashree Rajendra					
4]	Honmane Prashant Laximan	P.L.Honmane	P.L.Honmane			P.L.Honmane
5]	Khaladkar Shubham Ankush					
6]	Badhe amit Chagan		Badhe		Badhe	Badhe
7]	Borkar Abhijit Sunil					
8]	Avchat Heramb Satish					
9]	Takale Pradeep Prakash	P.P.Takale	P.P.Takale	P.P.Takale	P.P.Takale	P.P.Takale.

Head of Department Chemistry

Popatrao Kisanrao Thorat College College Code 0923

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's
Popatrao Kisanrao Thorat College, Khutbav
Tal- Daund, Dist-Pune 412203
Department of science
Sub-Analytical Chemistry I
Remedial Coaching
Slow learner Activity
Class-T.Y.B.Sc
Test Paper I

Name of student- Avchat Hemamb Sachhish
Date- 05/03/2024

5/20

Answer the following.(Any 10)

1) Define the term Solubility.
2) Define Co-Precipitation
3) What is residual current?
4) Define Lambert Low.
5) What is chemical interference in AAS?
6) Give solubility product equation for BaCo3.
7) Drew the topical TG Curve.
8) List any two names of Fuel which are used in FES.
9) Calculate the absorbance of the solution if its transmittance is 0.5 .
10) Define post precipitation.
11) Define Beers Law.

2 ✓ 11) -> the concentration of a chemical solution is directly proportional to its absorption of light.

2 ✓ 3) -> an electric current that continues to flow in a device etc when there is no voltage supply due to electrons. emitted by heat etc

0 ✗ 10) -> lamberts low the absorption states that equal parts in the same absorbing medium absorb equal fractions of the light that enters them.

1 ✓ 1) -> The maximum amount of solute that can dissolve in a given amount of solvent.

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

0 ✗ 9) -> Analogously, in medicine coprecipitation referred to as Immunoprecipitation.

Bhairavnath Shikshan Mandal's
Popatrao Kisanrao Thorat College, Khutbav
Tal- Daund, Dist-Pune 412203
Department of science
Sub-Analytical Chemistry I
Remedial Coaching
Slow learner Activity
Class-T.Y.B.Sc
Test Paper I

Name of student- Khaladkar Shubham Ankush
Date- 05/01/2024

7/20

Answer the following.(Any 10)

1) Define the term Solubility.
2) Define Co-Precipitation
3) What is residual current?
4) Define Lambert Low.
5) What is chemical interference in AAS?
6) Give solubility product equation for BaCo3.
7) Drew the topical TG Curve.
8) List any two names of Fuel which are used in FES.
9) Calculate the absorbance of the solution if its transmittance is 0.5 .
10) Define post precipitation.
11) Define Beers Law.

Q 3) a electric current that continues to flow ina device device etc when there is no voltage supply due to electron emitted by heat

Q. 1) the concentration of a chemical solution is directly proportional to its absorption of light

Q 11) the maximum amount of solute that can dissolve in a give amount of solvent

Q5) formation of nonvolatile compounds that contain the analyte and ionization of the analyte

Q 6) Lambert low and the concentration of and the mean of the Lambert low

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's
Popatrao Kisanrao Thorat College, Khutbav
Tal- Daund, Dist-Pune 412203
Department of science
Sub-Analytical Chemistry I
Remedial Coaching
Slow learner Activity
Class-T.Y.B.Sc
Test Paper I

Name of student- Honmane Prashant Laximan
Date- 05/03/24

7/20

Answer the following.(Any 10)
1) Define the term Solubility.
2) Define Co-Precipitation
3) What is residual current?
4) Define Lambert Low.
5) What is chemical interference in AAS?
6) Give solubility product equation for BaCo3.
7) Drew the topical TG Curve.
8) List any two names of Fuel which are used in FES.
9) Calculate the absorbance of the solution if its transmittance is 0.5 .
10) Define post precipitation.
11) Define Beers Law.

2 → The maximum amount of solute that can dissolve in a given amount of Solvent.

4 → The linear relationship bet^n the Concentration & the absorbance of the Solution.

2 → The process of two or more Solutes precipitating together from a solution.

11 → The Concentration of a di chemical solution is directly proportional to its absorption of light

Popatrao Kisanrao Thorat College Code 0923

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune

Bhairavnath Shikshan Mandal's
Popatrao Kisanrao Thorat College, Khutbav
Tal- Daund, Dist-Pune 412203
Department of science
Sub-Analytical Chemistry I
Remedial Coaching
Slow learner Activity
Class-T.Y.B.Sc
Test Paper I

Name of student- Shelar Shamashree Rajendra
Date- 05/04/2024

7/20

Answer the following.(Any 10)

1) Define the term Solubility.
2) Define Co-Precipitation
3) What is residual current?
4) Define Lambert Low.
5) What is chemical interference in AAS?
6) Give solubility product equation for BaCo3.
7) Drew the topical TG Curve.
8) List any two names of Fuel which are used in FES.
9) Calculate the absorbance of the solution if its transmittance is 0.5 .
10) Define post precipitation.
11) Define Beers Law.

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

10 :- a kind of precipitation where the precipitation of the undesirable compound occurs after the formation of the precipitate of the desired compound

3 → The maximum amount of solute that can dissolve in a given amount of solvent

2 → the process of two or more solutes precipitating together from a solution

4 → there a linear relationship between the concentration and the absorbance of the solution

11 → the concentration of a chemical solution is directly proportional to its absorbition of light

Bhairavnath Shikshan Mandal's
Popatrao Kisanrao Thorat College, Khutbav
Tal- Daund, Dist-Pune 412203
Department of science
Sub-Analytical Chemistry I
Remedial Coaching
Slow learner Activity
Class-T.Y.B.Sc
Test Paper I

Name of student- Badhe Amit Chagan
Date- 5 March 2024

6/20

Answer the following.(Any 10)

1) Define the term Solubility.
2) Define Co-Precipitation
3) What is residual current?
4) Define Lambert Low.
5) What is chemical interference in AAS?
6) Give solubility product equation for $BaCo_3$.
7) Drew the topical TG Curve.
8) List any two names of Fuel which are used in FES.
9) Calculate the absorbance of the solution if its transmittance is 0.5 .
10) Define post precipitation.
11) Define Beers Law.

Popatrao Kisanrao Thorat College Code 0923 Khutbav

2)→ The process of two or more solutes precipitating together from a solution. 1

4)→ there is a linear relationship betn the concentration and the absorbance of the solution. 1

5)→ The maximum amount of solute that can dissolve in a given amount of solvent. 2

11)→ The concentration of a chemical solution is directly proportional to its absorption of light 2

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of Chemistry

Slow learner Activity

Remedial Coaching

Sub.- Analytical I

Class-T.Y.B.Sc

Test Paper- II

Popatrao Khanrao Thorat College College Code 0923 Autonomous

Date-26 March 2024

Name of Student- Avachat heramb **Total Marks-20**

Q. Write the answer following questions. (Solve any 4 Question)

1) Define Gravimetric Anaysis.
2) Write a note on "Thermogravimetric Analysis"
3) Thermal Conductivity detector
4)Applications of "Flame emission spectroscopy".
5)Define combination of Beers and Lamberts law.

13/20

Q1 Define Gravimetric Anaysis

Introduction to gravimetric analysis ppt^n methods the colloidal state super saturation washing the ppt^n tignition of the ppt^n quantitative separation based upon ppt^n method fractional precipitation organic Preciptaints Application of Gravimetry Ditermination of Al(III) b 8-hydroxyl qualine Decter mination of Calcium as oxalate Determination of potassium as potassium tetrophenyl borate.

3½

Q.5 Combination Beers law.

Beer's law sometimes called the Beer-Lambert law state that the absorbance is proportional to the path length b through the sample and Concentration of the absorbing species c

$A \propto b \cdot c$

the proportionality constant is sometime given the symbol a giving Beer's law alphabetic look

3½

$A = \varepsilon \cdot b \cdot c$

If ε has molar units is called the molar extinction coefficient or the molar absorptivity.

Q 3 → Carrier gas a passed over one pair (reference) while a mixture of carrier gas and Column effluent is passed over the other pair (sample) of thermistors
When pure carrier gas passes over both the pairs of thermistors the bridge is balance. a general detector that can be used for both organic and inorganic Compound used to measure the Conductivity of a solution. which is a measure of its ability to conduct electricity the Conductivity of a solution is directly.

Q4 Flame emission Spectroscopy.
1) To estimate Sodium, potassium, Calcium, lithium etc.
2) level in sample of serum, Urine, CSF and other body fluids
3) Flame photometery is used for the determination of alkali and alkaline earth metals
4) which operate based on different Principles of light matter interaction FES because on sample typically in solution from these sumples are nebulized.

Q2 thermogravimetric Analysis
the classical gravimetric analysis.
the substance under study is either heated or cooled at a Controlled rate and the weight of the substance is recorded as a function of time or temperature. If the temperature is varied during the study then the weight is plotted as a function of temperature.

Popatrao Kisanrao Thorat College Head of Department Chemistry Khutbav

Popatrao Kisanrao Thorat College College Code 0923 Khutbav

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of Chemistry

Slow learner Activity

Remedial Coaching

Sub.- Analytical 1

Class-T.Y.B.Sc

Test Paper- II

Popatrao Kisanrao Thorat College Khutbav College Code 0923

Date-26 March 2024

Name of Student- Shzlar ~~dansheri~~ dhansheri **Total Marks-20**

Q. Write the answer following questions. (Solve any 4 Question)

1) Define Gravimetric Anaysis. 2) Write a note on "Thermogravimetric Analysis"

3) Thermal Conductivity detector 4)Applications of "Flame emission spectroscopy".

5)Define combination of Beers and Lamberts law.

14/20

1) Define Gravimetric Anaysis.
→ titrimetric analysis involves a measurment of the volume of a solution of known concentration which is required to react with the analyte Intrumental analysis involves the use of some instrument for the determination of the concentration of a substance Gravimetric analysis is a process of isolating and weighing an element or a definite compound of the element in as pure form as possible. 2½

2) ~~write~~ write a note on "thermogravimetric Analysis.
→ the thermogravimetric Analysis (TGA) is a remarkable technique used to characterize materials used in various pharmaceutical, food environmental, and petrochmiccel application. 2½

TGA mesures the composition, purity decomposition reaction, decomposition temperature and absorbed moisture content of your product

3½

4) Application of flame emission spectroscopy
→ wavelength emitted (flame colour) is used for qualitative analysis, while intensity of emission is related to the concentration.
This technique is mainly used in hospitals to measure the level of Na and K in body fluid and tissues. common application of atomic emission spectroscopy are in the analysis of trace elements in soils, water, metals, biological specimens, clinical specimens, food physical evidence such as glass and other solids

3) Thermal conductivity detector.
→ The thermal conductivity detector (TCD) is a general detector that can be used for both organic and inorganic compounds. It produces a singnal by measuring the thermal conductivity of the carrier gas/analyte mixture leaving the GC column.
thermal conductivity. the ability of a substance to conduct heat or move heat from one location to another without the movement of the material conducting the heat

Head of Department Chemistry
Popatrao Kisanrao Thorat College Khutbav

College Code 0323
Popatrao Kisanrao Thorat College Khutbav

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of Chemistry

Slow learner Activity

Remedial Coaching

Sub.- Analytical I

Class-T.Y.B.Sc

Test Paper- II

Popatrao Kisanrao Thorat College Code 0923 Khutbav

Date-26 March 2024

Total Marks-20

Name of Student- Khaldkar Shubham

13/20

Q. Write the answer following questions. (Solve any 4 Question)

1) Define Gravimetric Anaysis. 2) Write a note on "Thermogravimetric Analysis

3) Thermal Conductivity detector 4)Applications of "Flame emission spectroscopy".

5)Define combination of Beers and Lamberts law.

Q.2) write a note on thermogravimetric analysis

→ Thermogravimetric analysis (TGA) is a method of thermal analysis in which changes in Physical and Chemical Properties of materials are measured as a function of increasing temperature (with constant heating rate) or a function of time (with constant temperature and constant mass loss).

Q.1) Define Gravimetric Anaysis.

→ Titrimetric analysis involves a measurment of the volume of a solution of know concentration which required to react with the an analyte. Introduction to gravimetric analysis ppt method the colloidal state super saturation and Precipitate from homogenous solution washing the ppt finition of the ppt quantitative separa base upon ppt method, fractional precipitate organic precipitants application of gravimetry :- Determination of ACID by-8-hydroxyquoline, Determinition of calcium as oxalate Determine of Potassium of tetraphenyl borate Determination of phosphate as ammonium molybdophosphate Numberical.

Q3 Thermal conductivity detector

→ 3½ The thermal conductivity detector (TCD) is a general detector that can be used for both organic and inorganic compound it produce as signal by measuring the thermal conductivity of the carrier gas/ analyte mixture leaving the GC column The TCD can detect many compounds, including air hydrogen carbon monoxide, nitrogen, and sulfur oxide, it's a non destructive detector, but it's not as sensitives for organic molecules as a flame ionization detector (FID)

Q5 Define combination of Beers

Q.4 Applications of Flame emission Spectroscopy

→ Flame Emission Spectroscopy (FES) is a technique for analyzing the composition of an element in a simple by heating it in a flame and examining the emitted light at specific wavelengths. This emitted light provides valuable information about the element present in the simple, unlike techniques such as UV-visible spectroscopy or infared spectroscopy which operate based on different principles of light matter interaction. FES focuses on simples primarily in solution form. These samples are aerosolized, which is the process of converting a liquid sample into a fine mist or aerosol. Then, they are introduced into the flame for analysis. Its sensitivity to trace amount of element and its capability for elemental analysis. make it particularly suited for sample with low concentration of specific elements.

Head of Department Chemistry
Popatrao Kisanrao Thorat College Khutbav

College Code 0923
Popatrao Kisanrao Thorat College Khutbav

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of Chemistry

Slow learner Activity

Remedial Coaching

Sub.- Analytical I

Class-T.Y.B.Sc

Test Paper- II

Popatrao Kisanrao Thorat College College Code 0823

Date-26 March 2024

Name of Student- Bhade Amit **Total Marks-20**

Q. Write the answer following questions. (Solve any 4 Question)

1) Define Gravimetric Anaysis. 2) Write a note on "Thermogravimetric Analysis"

3) Thermal Conductivity detector 4)Applications of "Flame emission spectroscopy".

5)Define combination of Beers and Lamberts law.

14/20

Q.1) Define Gravimetric Analysis ?

Ans⇒ Titriment analysis involves a measurement of the volume of a solution of known concentration which is required to react with the analyte. Introduction to gravimetric analysis ppt^n method, the colloidal state super saturation and precipitate from homogeneous solution washing the ppt^n tignition of the ppt^n quantitative separation based upon ppt^n methods, fractional precipitate organic precipitons Application of Gravimetry Determination of A (III) by 8-hydroxyquoline, Determination of calcium as oxalate Determination of potassium as potassium tetraphenyl borate phosphate as ammonium molybdophosphate numbericals.

Q.2) Thermal conductivity detector ?

Ans⇒ Thermal Conductivity detector (TCD) is a detector used in gas chromatography (GC) to analysis inorganic gases (such as argon, nitrogen, hydrogen, carbon dioxide) and small hydrocarbon molecule. The TCD compare the thermal conductivity of two gas flows, the pure carrier reference gas and the sample. TCD works by having two parallel tubes both containing gas and heating coils. The gases are examined by comparing the heat loss rate from the heating coils into the gas.

Q.2) Write a note on 'Thermogravimetric Analysis'?

Ans→ Quantitative analysis can be further divided into titrimetric (volumetric), gravimetric and instrumental analysis. Titrimetric analysis involves measurment of the volume of a solution of known concentration which is required to react with the analyte. Instrument analysis.

Thermogravimetric Analysis closely resembles classical gravimetric analysis. The substance under study is either heated or cooled at a controlled rate and the weight of the substance is recorded as a function of time or temp. If temp is varied during the study, then the weight is plotted as a function of temperature. If the temp is kept constant the weight is plotted as a function of Time. Any process in which a change in weight occurs can be studied by TGA. Generally change in weight take place by the loss of volatile components like water from the sample. The change in weight can be used for quantitative analysis and the temperature at which the change in weight takes place can be used for qualitative analysis.

Q. Application of flame emission spectroscopy?

Ans.→ • Technique for Analyzing the composition of an element in a sample by heating it in a flame and examining the emitted light at specific wavelength. This emitted light of specific provides valuable information about the elements present in the sample. unlike technique such as UV-visible spectroscopy or infrared spectroscopy, which operate based on different principles of light-matter interaction, FES focuses on samples typically in solution. From these samples are aerosolized • which is the process of converting a liquid sample into a fine mist or aerosol.

- Determination of trace metals in soil, water, and plant sample, trace elements in pharmaceutical formulation.
- Food and Beverage industry Analysis of mineral content in food and beverages for quality control purpose.

Bhairavnath Shikshan Mandal's
Popatrao Kisanrao Thorat College, Khutbav
Tal- Daund, Dist-Pune 412203

Department of science

Slow learner Activity

Remedial Coaching

Feedback Form

Date =29/03/2024

Name of the Student - Kand Viraj Ramdas

1) Syllabus compilation -

Excellent [✓] Good [ ] Average [ ] Poor [ ]

2) Effective teaching.

Excellent [ ] Good [✓] Average [ ] Poor [ ]

3) How overall paining and implementation -

Excellent [✓] Good [ ] Average [ ] Poor [ ]

4) How much you think this remedial coaching is beneficiary for your final exam

Excellent [ ] Good [✓] Average [ ] Poor [ ]

5) Was the e enjoyable to you ?

Excellent [✓] Good [ ] Average [ ] Poor [ ]

6) Any suggestion for future lecture time is too late.

VKand
Student Signature

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune,

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of science

Slow learner Activity

Remedial Coaching

Feedback Form

Date =29/03/2024

Name of the Student - Samir vijay ladkat

1) Syllabus compilation -

Excellent	Good	Average	Poor
☐	☑	☐	☐

2) Effective teaching.

Excellent	Good	Average	Poor
☑	☐	☐	☐

3) How overall paining and implementation -

Excellent	Good	Average	Poor
☐	☑	☐	☐

4) How much you think this remedial coaching is beneficiary for your final exam

Excellent	Good	Average	Poor
☑	☐	☑	☐

5) Was the e enjoyable to you ?

Excellent	Good	Average	Poor
☐	☑	☐	☐

6) Any suggestion for future

Popatrao Kisanrao Thorat College Code 0923 Khutbav

Head of Department Chemistry Popatrao Kisanrao Thorat College Khutbav

Student Signature

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of science

Slow learner Activity

Remedial Coaching

Sub-Analytical I

Class-T.Y.B.Sc

Report Card

Sr.No.	Name of Student	Test paper I (Out of 20)	Test Paper II (Out of 20)	Final exam Marks (Out of 50)
1	Badhe Amit Chagan	06	14	17
2	Borkar Abhijit Sunil	08	14	22
3	Avchat Heramb Satish	05	13	19
4	Jagtap Sanket Dnyandev	06	17	30
5	Khaladkar Shubham Ankush	07	13	28
6	Lonkar Prathamesh Raju	Ab	16	17
7	Shelar Dhanashree Rajendra	07	14	26
8	Takale Pradeep Prakash	04	18	18
9	Honmane Prashant Laximan	07	Ab	30

Head of Department

Popatrao Kisanrao Thorat College Khutbav Head of Department Chemistry

Popatrao Kisanrao Thorat College Khutbav College Code 0923

Principal

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of science

Sub-Analytical and physical Chemistry I

Class-S.Y.B.Sc

Slow learner Activity

Remedial coaching

Notice

All the students studying in S.Y.B.Sc are advised that the students whose first semester result is less they should attain the extra lectures in the same classroom but after the time of regular lecture.These extra lectures will started from the date 12 Feb.2024. daily at 12:00Pm to 01:00 Pm.(Exceptional college holidays)

Subject teacher

Popatrao Kisanrao Thorat College Head of Department Chemistry Khutbav

Popatrao Kisanrao Thorat College College Code 0923 Khutbav

Principal

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of science

Sub-Analytical and physical Chemistry I

Class-S.Y.B.Sc

Slow learner Activity

Syllabus of Remedial Coaching

1. **Chemical Kinetics:** Introduction to kinetics, the rates of chemical reactions – definition of rates, rate laws and rate constants, reaction order and molecularity, determination of rate law, factors affecting reaction rates, first-order reactions, second-order reactions (with equal and unequal initial concentration of reactants), half-life period, methods for determination order of a reactions, Arrhenius equation- temperature dependence of reaction rates, interpretation of Arrhenius parameters, Problems.

2. **Surface Chemistry** -Introduction to surface chemistry - some basic terms related to surface chemistry adsorption, adsorption materials, factors affecting adsorption, characteristics of adsorption, types of adsorption, classification of adsorption isotherms, Langmuir adsorption isotherm, Freundlich's adsorption isotherm, BET theory (only introduction), application of adsorption, problems.

3. **Errors in Quantitative Analysis** -Introduction to errors, limitations of analytical methods, classifications of errors, accuracy, precision, minimization of errors, significant figures and computation

4. Volumetric Analysis - Introduction to volumetric analysis, classification of reactions in volumetric analysis, standard solutions, equivalents, normalities, and oxidation numbers, preparation of standard solutions, primary and secondary standards. Types of Volumetric Analysis methods: 1. Neutralization titrations, 2. Complexometric Titrations, 3. Redox Titrations, 4. Precipitation titrations, Problems based on analysis.

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's
Popatrao Kisanrao Thorat College,
Khutbav, Tal.Daund, Dist.Pune 412203

Slow Learner Activity
Test Paper I

Name of Student: Waghachoure Rushikesh Rajendra Class: S.Y.B.Sc
Roll no.: 7
Date: 20

Subject: Physical & Analytical Chemistry
Marks:20 7/20 Seven

Q.Write the answer following questions. (5 marks each question) Any 4

1)Factors affecting on rate of reaction.

→ i) Temperature :- The increases in temperature usually increases the rate of the reaction.

ii) Concentration of Reactants :- It is observed that the rate of the reaction is directly proportional to the concentrations of reactants.

iii) presence of catalyst :- The presence of third substance, other than reactant may affect the rate of the reaction.

2

2) Transition State theory of biomolecular Reaction.

→ i) The theory also called the transition state theory is based on statistical thermodynamics.

2

ii) An activated complex, a configuration possessing higher energy than reactants & product.

iii) The activated complex is unstable & it decompose at a definite rate, which is also the rate of reaction to form the reaction produds.

Popatrao Kisanrao Thorat College College Code 0923

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

3) Note on "Complexometric Titrations:"

→ i) The process of complex ion formation can be described by a general term complexation.

ii) The group bound to central metal ion are ligands termed as complexing agent.

iii) The reaction between the metal ion & the ligands in aqueous solution can be represented by the equation.

$$M(H_2O)_n + L \longleftrightarrow M(H_2O)_{n-1}L + H_2O$$

iv) The ligand L can be a neutral molecule or charged ion and successive replacement of water molecules by other ligan groups can occur until the complex ML_n is formed which is stable.

v) Such complexations reactions when used in volumetric analysis especially for determining the concentration of individual cation in mixture are termed as complexometric titrations.

4) Explain the classifications of errors.

5) Write Definition of rates, rate laws and rate constants, reaction order and molecularity.

Popatrao Kisanrao Thorat College Code 0823 Khutbav

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's
Popatrao Kisanrao Thorat College,
Khutbav, Tal.Daund, Dist.Pune 412203

Slow Learner Activity
Test Paper II

Name of Student: Waghachoure Rutushikesh Rajendra Class: S.Y.B.Sc
Roll no.:
Subject: Physical & Analytical Chemistry
Marks:20 15/20

Date-

Q.Write the answer following questions. (5 marks each question) Any 4

1)Note on Arrhenius equation.

→ i) The reacting molecules have to acquire a definite amount of energy, before they could react.
ii) This definite amount of energy is the energy of activation.
iii) The energy of activation is the minimum amount of energy the reactant molecules must acquire before they could react.
iv) The Arrhenious equation in differential form, is written as. $\frac{d\ln k}{dT} = \frac{Ea}{RT^2}$.
v) 'k' is the rate constant, R is the gas constant & T is temperature in k. Ea is the quantity characteristics of the reaction.

2) Explain Freundlich's adsorption isotherm.

→ i) The relation at constant temperature, between the amount of substance absorbed by an adsorbent and the pressure or concentration at equilibrium is called an adsorption isotherm.
ii) An empirical equation for the variation of the extent of adsorption with pressure, at constant temperature over a limited range of pressure was put forward by freundlich (1907) known as freundlich adsorption isotherm.
iii) It is expressed as,

$$\frac{x}{m} = k p^{1/n}$$

Where x = the mass of gas adsorbed.
m = the mass of adsorbent.
x/m = The mass of gas adsorbed per unit mass of adsorbent.

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

3) Note on "Langmuir adsorption isotherm"

→ The basic theory of adsorption of gases on solids is due to Irving Langumuir (1916) he derived the adsorption isotherm called Langumuir adsorption isotherm.

4)Explain the expressing accuracy and precision.

→ Accuracy :- The degree of agreement between the measured value and true value of the measurement.

precision :- degree of agreement between replicate measurements of the same quantity or reproducibility of number of similar measurements under identical conditions.

5)Explain primary and secondary standards solutions.

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of science

Slow learner Activity

Remedial Coaching

Class-S.Y.B.Sc

Feedback Form

Name of the Student - Waghchaure Rushikesh Rajendra

1) Syllabus compilation -

Excellent	Good	Average	Poor
✓			

2) Effective teaching.

Excellent	Good	Average	Poor
	✓		

3) How overall paining and implementation -

Excellent	Good	Average	Poor
✓			

4) How much you think this remedial coaching is beneficiary for your final exam

Excellent	Good	Average	Poor
	✓		

5) Was the e enjoyable to you ?

Excellent	Good	Average	Poor
✓			

6) Any suggestion for future

No.

Popatrao Kisanrao Thorat College Head of Department Chemistry Khutbav

Popatrao Kisanrao Thorat College College Code 0923 Khutbav

Student Signature

Principal

Popatrao Kisanrao Thorat College

Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College, Khutbav

Tal- Daund, Dist-Pune 412203

Department of science

Slow learner Activity

Remedial Coaching

Sub-Physical and Analytical Chemistry

Class-S.Y.B.Sc

Report Card

Sr.No.	Name of Student	Test paper I (Out of 20)	Test Paper II (Out of 20)	Final exam Marks (Out of 50)
1	Waghchoure Rushikesh Rajendra	07	15	27

Head of Department

Popatrao Kisanrao Thorat College Head of Department Chemistry Khutbav

Popatrao Kisanrao Thorat College College Code 0923 Khutbav

Principal

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College

Tal.Daund, Dist.Pune-412203

Department of English

Class – F.Y.B.Com.

List of Fast Learners

Sr. No.	Name Of Student
1	Bhill Mahesh Ankush
2	Chavan Divya Navnath
3	Kamble Amol Santosh
4	Kul Yogesh Bapu
5	Nawale Shreyas Vikas
6	Pawar Pratik Dnyaneshwar
7	Tambe Saurabh Jayavant
8	Kharat Shekhar Anil
9	Khenat Sanika Arun
10	Natu Abhijeet Sampat
11	Tule Adesh Dhondiba
12	Wankhede Aditya Shashikant
13	Shinde Sahil Manik
14	Khorkar Nikhil Appa
15	Borkar Sakshi Anil
16	Dube Ankita Bhau
17	Nawale Shivam Ganesh
18	Hake Sameer Janardhan
19	Thorat Viraj Baban
20	Bhandvalkar Akanksha Kailas
21	Khalade Chaitanya Ganesh
22	Chaure Jitendra Datta
23	Chaudhari Akash Baliram
24	Shinde Swati Balu
25	Jojare Om Santosh
26	Jadhav Nikhilesh Santosh
27	Kolape Kiran Baburao
28	Kolape Snehal Namdev
29	Tikhole Bhakti Dnyandev
30	Karande Ajay Balu

Head of Department

I.Q.A.C. Coordinator

IQAC Co ordinator
Popatrao Kisanrao Thorat College
Khutbav, Tal. Daund, Dist. Pune.

Principal

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College

Tal.Daund, Dist.Pune-412203

Department of English

Class – F.Y.B.Com.

Attendance Sheet of Remedial Teaching for Slow Learners

Name of Student	02-08-2024	03-08-2024	09-08-2024	10-08-2024	16-08-2024	17-08-2024	23-08-2024	24-08-2024	30-08-2024	31-08-2024	06-09-2024	13-09-2024	14-09-2024	20-09-2024	27-09-2024
Tule Rushikesh Niteen	P	P	P	AB	P	P	P	P	P	P	P	P	P	P	P
Tekawade Sanket Ashok	P	AB	P	P	P	P	AB	P	P	P	P	P	P	P	P
Kapare Saloni Narayan	P	P	P	P	AB	P	P	P	P	P	P	P	P	P	P
Barve Vaibhav Mahadev	P	P	P	P	P	P	P	AB	P	P	P	P	P	P	P
Shinde Omkar Khandu	P	P	P	P	P	AB	P	P	P	P	P	AB	P	P	P
Abane Atharva Manojkumar	P	P	AB	P	P	P	P	P	P	P	P	P	P	P	P
Lakade Swapnil Ramdas	P	P	P	P	P	P	P	AB	P	AB	P	P	P	P	P
Shinde Rohan Ganesh	AB	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Tule Vaibhavi Dipak	P	P	P	P	P	P	AB	P	P	P	P	P	P	AB	P
Awale Vishal Sanjay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Bhandwalkar Abhijeet Shivaji	P	AB	P	P	P	P	P	P	P	P	AB	P	P	P	P
Kopnar Mayur Ashok	P	P	P	P	P	P	AB	P	P	P	P	P	P	P	P

IQAC Co ordinator
Popatrao Kisanrao Thorat College
Khutbav, Tal. Daund, Dist. Pune.

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

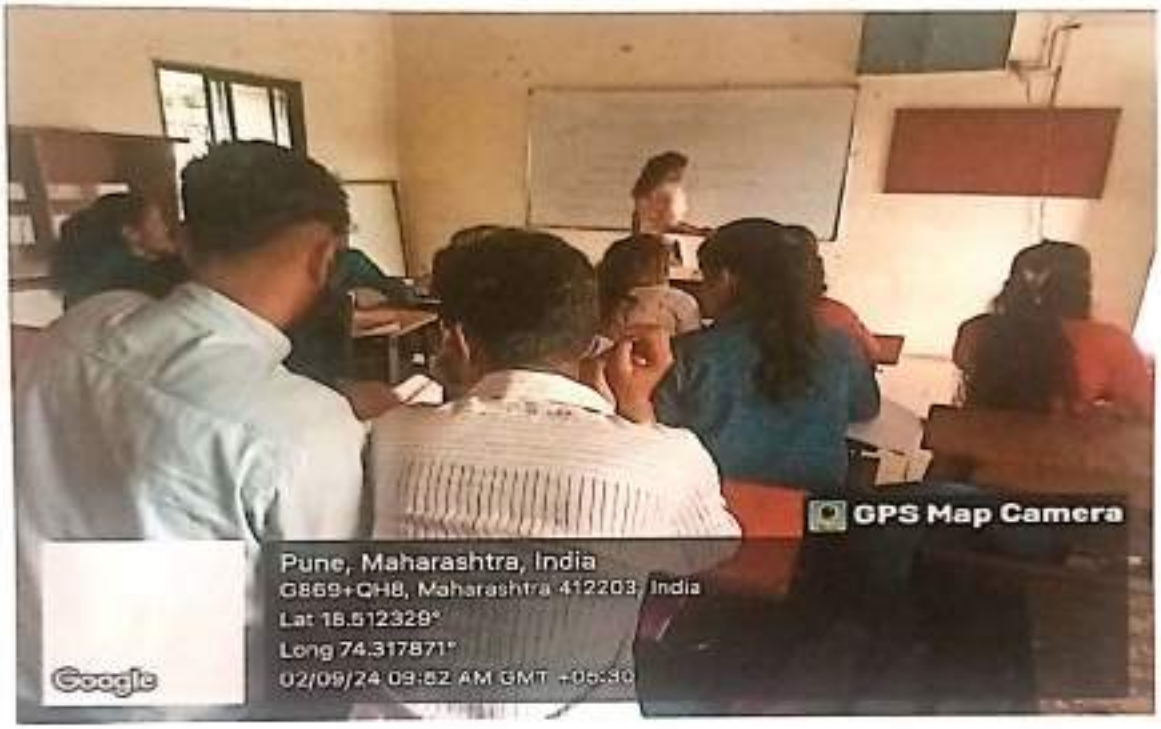
Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College

Tal.Daund, Dist.Pune-412203

Department of English

Peer Teaching-Learning Activity



Date: 2nd September 2024

Description:

Student explaining the topic of Presentation Skills.

Teacher: Prof. Dhumal V.D.

Student: Snehal Kolape

Outcomes:

Student seminar, Peer Learning, Peer Teaching, Experiential learning, Participative learning, Communication skills.

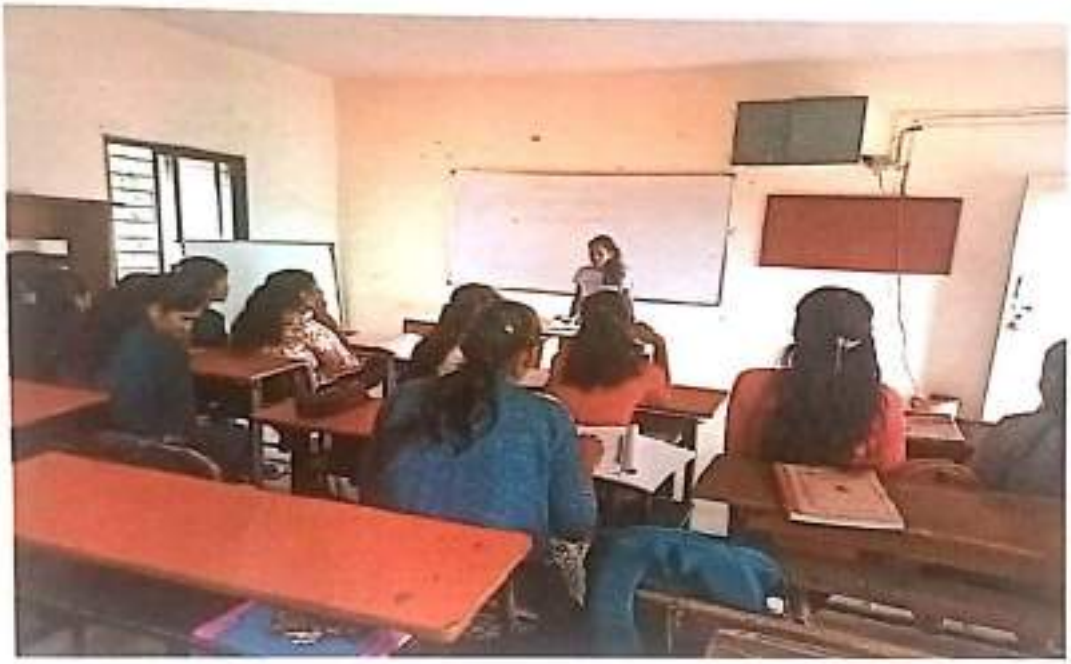
Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College

Tal.Daund, Dist.Pune-412203

Department of English

Peer Teaching-Learning Activity



Date: 31st August 2024

Description:

Student explaining the topic of Interviewing Skills.

Teacher: Prof. Dhumal V.D.

Student: Bhakti Tikhole

Outcomes:

Student seminar, Peer Learning, Peer Teaching, Experiential learning, Participative learning, Communication skills, Teamwork, Group activity.

Head of Department **I.Q.A.C. Coordinator** **Principal**

IQAC Co ordinator
Popatrao Kisanrao Thorat College
Khutbav, Tal. Daund, Dist. Pune.

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Soft Skills lecture for Advance Learners

Popatrao Kisanrao Thorat College
College Code 0923
Khutbav

Projects Made by Advance Learners

Head of Department

I.Q.A.C. Coordinator

Principal

IQAC Co ordinator
Popatrao Kisanrao Thorat College
Khutbav, Tal. Daund, Dist. Pune.

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College

Tal.Daund, Dist.Pune-412203

Department of English

Report of Slow and Advance Learner Activity

As per the instructions given by Principal and Internal Quality Assurance Cell, the Slow and Advance learners activity is being conducted by the Department of English each year. Firstly we conducted the departmental meeting in which the Peer learning activity is finalized unanimously. Then dentification of ability of students done on the basis of Analysis of First Year score of 1st semester, Communication and soft skills, Their behavioral traits, Practical attendance and Performance in Practical test.

Generally on the basis of their learning speed, students can be classified in two groups; advanced learners and slow learners. Each type of students has different learning attitudes and learning habits. A faculty has to adapt a teaching methodology such that he/she may not lose the attention of the slow learners and bore the advanced learners.

Activities conducted for slow learners:

Be humble and patient with slow learners, Motivate them with practical reasons to learn, Pair them with brighter students in group activities , Create a healthy and conducive environment for slow learners to improve their pace, Arrange extra-remedial Classes, Arrange extra Lectures, Mentoring Such students, Soft skill training.

Activities conducted for Advanced Learners:

Encourage them to work with slow learners in practical hours, Splitting of class for group activities, Mapping of students for internship projects, Mapping of students for extra-curricular and co-curricular activities, Think-Pair-Share, Quiz competitions, Promoting students to take part at various places viz. Inter

college / University/State level /National Level competitions, Insisting to complete SWAYAM, MOOC courses any free Ware certification, Group activity leader for assignment/Project task, Soft skill training Outcome: Records based on student progress and observation.

2 hours remedial teaching were done on Friday and Saturday for slow learners.

Popatrao Kisanrao Thorat College Khutbav College Code 0923

Head of Department

I.Q.A.C. Coordinator

IQAC Co ordinator
Popatrao Kisanrao Thorat College
Khutbav, Tal. Daund, Dist. Pune.

Principal

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College

Tal.Daund, Dist.Pune-412203

Department of English

Class – F.Y.B.Com.

Details of Slow and Advanced Learners

Subject: Compulsory English – 111

Sr. No.	Name of Student	Percentage of Marks at Entry Level Exam (Ascending Order)
1	Tule Rushikesh Niteen	38
2	Tekawade Sanket Ashok	49
3	Kapare Saloni Narayan	51
4	Barve Vaibhav Mahadev	52
5	Shinde Omkar Khandu	52
6	Abane Atharva Manojkumar	52
7	Lakade Swapnil Ramdas	53
8	Shinde Rohan Ganesh	53
9	Tule Vaibhavi Dipak	54
10	Awale Vishal Sanjay	54
11	Bhandwalkar Abhijeet Shivaji	54
12	Kopar Mayur Ashok	54
13	Bhill Mahesh Ankush	55
14	Chavan Divya Navnath	55
15	Kamble Amol Santosh	55
16	Kul Yogesh Bapu	55
17	Nawale Shreyas Vikas	55
18	Pawar Pratik Dnyaneshwar	55
19	Tambe Saurabh Jayavant	55
20	Kharat Shekhar Anil	55
21	Khenat Sanika Arun	56
22	Natu Abhijeet Sampat	56
23	Tule Adesh Dhondiba	56
24	Wankhede Aditya Shashikant	56
25	Shinde Sahil Manik	57
26	Khorkar Nikhil Appa	57
27	Borkar Sakshi Anil	58
28	Dube Ankita Bhau	58
29	Nawale Shivam Ganesh	58

30	Hake Sameer Janardhan	59
31	Thorat Viraj Baban	60
32	Bhandvalkar Akanksha Kailas	60
33	Khalade Chaitanya Ganesh	60
34	Chaure Jitendra Datta	61
35	Chaudhari Akash Baliram	62
36	Shinde Swati Balu	63
37	Jojare Om Santosh	64
38	Jadhav Nikhilesh Santosh	65
39	Kolape Kiran Baburao	67
40	Kolape Snehal Namdev	70
41	Tikhole Bhakti Dnyandev	74
42	Karande Ajay Balu	74

Popatrao Kisanrao Thorat College Khutbav College Code 0923

Head of Department

I.Q.A.C. Coordinator

IQAC Co ordinator
Popatrao Kisanrao Thorat College
Khutbav, Tal. Daund, Dist. Pune.

Principal

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College

Tal.Daund, Dist.Pune-412203

Department of English

Class – F.Y.B.Com.

List of Slow Learners

Sr. No.	Name Of Student
1	Tule Rushikesh Niteen
2	Tekawade Sanket Ashok
3	Kapare Saloni Narayan
4	Barve Vaibhav Mahadev
5	Shinde Omkar Khandu
6	Abane Atharva Manojkumar
7	Lakade Swapnil Ramdas
8	Shinde Rohan Ganesh
9	Tule Vaibhavi Dipak
10	Awale Vishal Sanjay
11	Bhandwalkar Abhijeet Shivaji
12	Kopnar Mayur Ashok

Popatrao Kisanrao Thorat College ★ Khutbav ★ College Code 0923

Head of Department

I.Q.A.C. Coordinator

IQAC Co ordinator
Popatrao Kisanrao Thorat College
Khutbav, Tal. Daund, Dist. Pune.

Principal

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College

Tal.Daund, Dist.Pune-412203

Department of English

Class – F.Y.B.Com.

List of Fast Learners

Sr. No.	Name Of Student
1	Bhill Mahesh Ankush
2	Chavan Divya Navnath
3	Kamble Amol Santosh
4	Kul Yogesh Bapu
5	Nawale Shreyas Vikas
6	Pawar Pratik Dnyaneshwar
7	Tambe Saurabh Jayavant
8	Kharat Shekhar Anil
9	Khenat Sanika Arun
10	Natu Abhijeet Sampat
11	Tule Adesh Dhondiba
12	Wankhede Aditya Shashikant
13	Shinde Sahil Manik
14	Khorkar Nikhil Appa
15	Borkar Sakshi Anil
16	Dube Ankita Bhau
17	Nawale Shivam Ganesh
18	Hake Sameer Janardhan
19	Thorat Viraj Baban
20	Bhandvalkar Akanksha Kailas
21	Khalade Chaitanya Ganesh
22	Chaure Jitendra Datta
23	Chaudhari Akash Baliram
24	Shinde Swati Balu
25	Jojare Om Santosh
26	Jadhav Nikhilesh Santosh
27	Kolape Kiran Baburao
28	Kolape Snehal Namdev
29	Tikhole Bhakti Dnyandev
30	Karande Ajay Balu

Head of Department

I.Q.A.C. Coordinator

IQAC Co ordinator
Popatrao Kisanrao Thorat College
Khutbav, Tal. Daund, Dist. Pune.

Principal

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College

Tal.Daund, Dist.Pune-412203

Department of English

Class – F.Y.B.Com.

Attendance Sheet of Remedial Teaching for Slow Learners

Sr. No.	Name of Student	02-08-2024	03-08-2024	09-08-2024	10-08-2024	16-08-2024	17-08-2024	23-08-2024	24-08-2024	30-08-2024	31-08-2024	06-09-2024	13-09-2024	14-09-2024	20-09-2024	27-09-2024
1	Tule Rushikesh Niteen	P	P	P	AB	P	P	P	P	P	P	P	P	P	P	P
2	Tekawade Sanket Ashok	P	AB	P	P	P	P	AB	P	P	P	P	P	P	P	P
3	Kapare Saloni Narayan	P	P	P	P	AB	P	P	P	P	P	P	P	P	P	P
4	Barve Vaibhav Mahadev	P	P	P	P	P	P	P	AB	P	P	P	P	P	P	P
5	Shinde Omkar Khandu	P	P	P	P	P	AB	P	P	P	P	P	AB	P	P	P
6	Abane Atharva Manojkumar	P	P	AB	P	P	P	P	P	P	P	P	P	P	P	P
7	Lakade Swapnil Ramdas	P	P	P	P	P	P	P	AB	P	AB	P	P	P	P	P
8	Shinde Rohan Ganesh	AB	P	P	P	P	P	P	P	P	P	P	P	P	P	P
9	Tule Vaibhavi Dipak	P	P	P	P	P	P	AB	P	P	P	P	P	P	AB	P
10	Awale Vishal Sanjay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
11	Bhandwalkar Abhijeet Shivaji	P	AB	P	P	P	P	P	P	P	P	AB	P	P	P	P
12	Kopnar Mayur Ashok	P	P	P	P	P	P	AB	P	P	P	P	P	P	P	P

IQAC Co ordinator
Popatrao Kisanrao Thorat College
Khutbav, Tal. Daund, Dist. Pune.

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

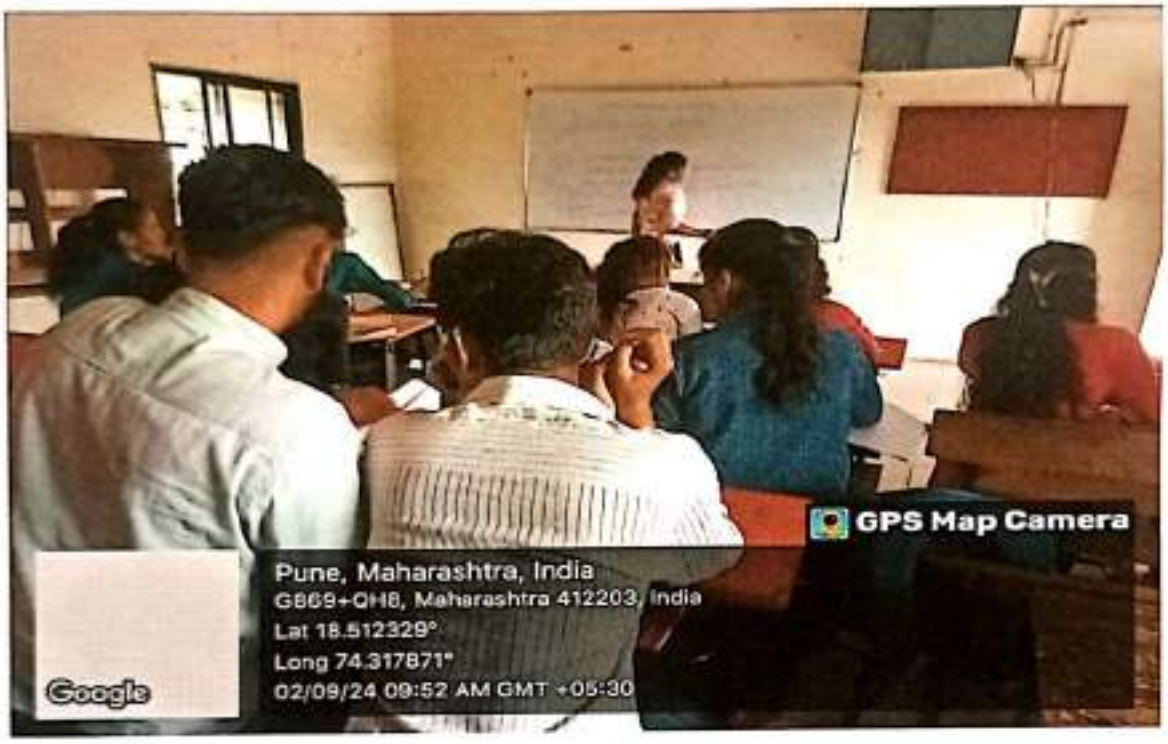
Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College

Tal.Daund, Dist.Pune-412203

Department of English

Peer Teaching-Learning Activity



Date: 2nd September 2024

Description:

Student explaining the topic of Presentation Skills.

Teacher: Prof. Dhumal V.D.

Student: Snehal Kolape

Outcomes:

Student seminar, Peer Learning, Peer Teaching, Experiential learning, Participative learning, Communication skills.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College

Tal.Daund, Dist.Pune-412203

Department of English

Peer Teaching-Learning Activity

Date: 31st August 2024

Description:

Student explaining the topic of Interviewing Skills.

Teacher: Prof. Dhumal V.D.

Student: Bhakti Tikhole

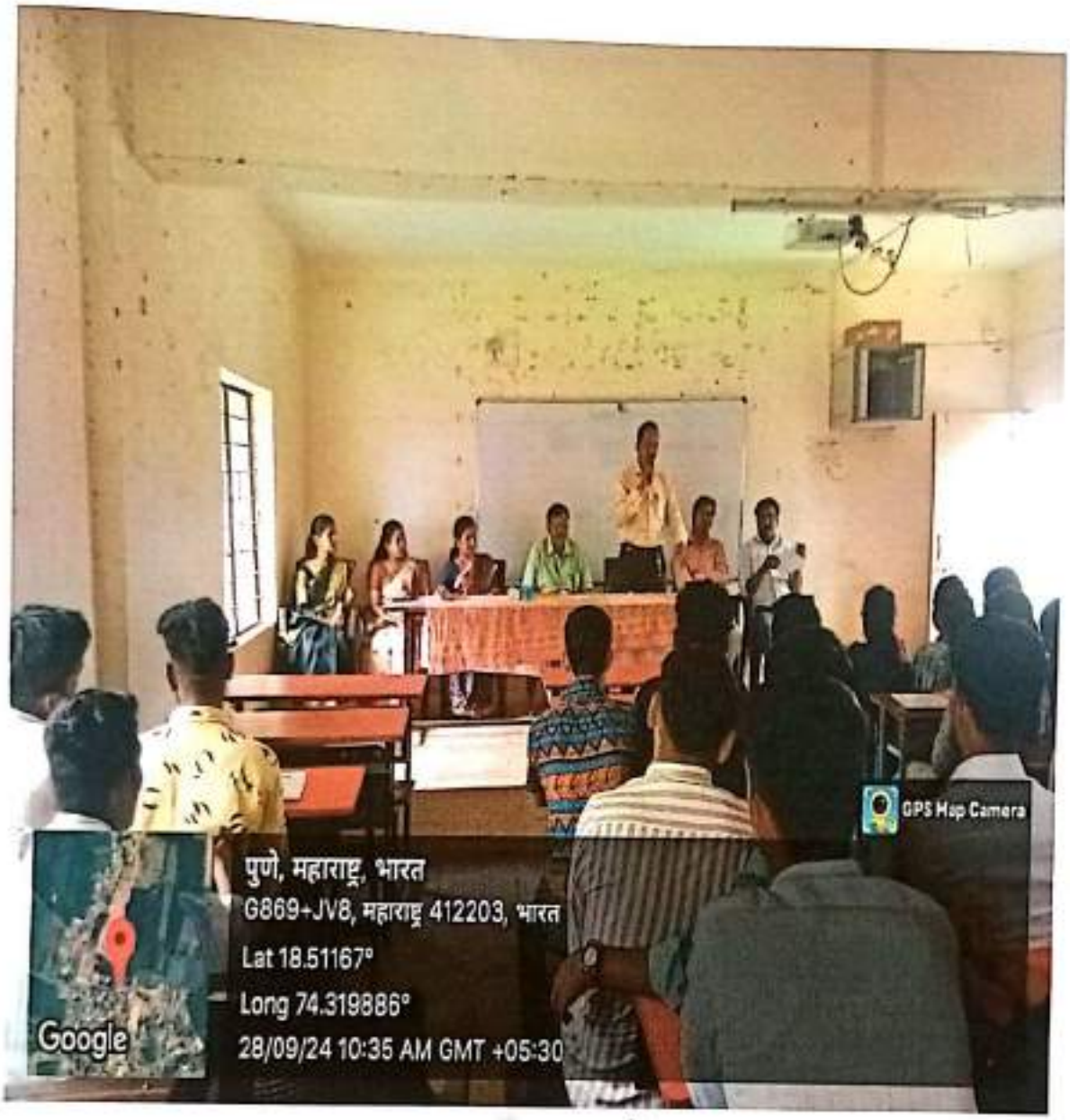
Outcomes:

Student seminar, Peer Learning, Peer Teaching, Experiential learning, Participative learning, Communication skills, Teamwork, Group activity.

Head of Department **I.Q.A.C. Coordinator** **Principal**

IQAC Co ordinator
Popatrao Kisanrao Thorat College
Khutbav, Tal. Daund, Dist. Pune.

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.



Soft Skills lecture for Advance Learners

Description: Guest explaining the topic of Soft Skills.

Teacher: Prof. Dhumal V.D.

Resource Person: Tr. Shriram Natu

Outcomes: Soft Skills, Communication skills, Participative learning

Kisanrao Thorat College • Poparrao • Khutbav • College Code 0923

Popatrao Kisanrao Thorat College
College Code 0923
Khutbav

Projects Made by Advance Learners

Head of Department

I.Q.A.C. Coordinator

Principal

IQAC Co ordinator
Popatrao Kisanrao Thorat College
Khutbav, Tal. Daund, Dist. Pune.

Principal
Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

Bhairavnath Shikshan Mandal's

Popatrao Kisanrao Thorat College

Tal.Daund, Dist.Pune-412203

Department of English

Report of Slow and Advance Learner Activity

As per the instructions given by Principal and Internal Quality Assurance Cell, the Slow and Advance learners activity is being conducted by the Department of English each year. Firstly we conducted the departmental meeting in which the Peer learning activity is finalized unanimously. Then dentification of ability of students done on the basis of Analysis of First Year score of 1st semester, Communication and soft skills, Their behavioral traits, Practical attendance and Performance in Practical test.

Generally on the basis of their learning speed, students can be classified in two groups; advanced learners and slow learners. Each type of students has different learning attitudes and learning habits. A faculty has to adapt a teaching methodology such that he/she may not lose the attention of the slow learners and bore the advanced learners.

Activities conducted for slow learners:

Be humble and patient with slow learners, Motivate them with practical reasons to learn, Pair them with brighter students in group activities , Create a healthy and conducive environment for slow learners to improve their pace, Arrange extra-remedial Classes, Arrange extra Lectures, Mentoring Such students, Soft skill training.

Activities conducted for Advanced Learners:

Encourage them to work with slow learners in practical hours, Splitting of class for group activities, Mapping of students for internship projects, Mapping of students for extra-curricular and co-curricular activities, Think-Pair-Share, Quiz competitions, Promoting students to take part at various places viz. Inter

college / University/State level /National Level competitions, Insisting to complete SWAYAM, MOOC courses any free Ware certification, Group activity leader for assignment/Project task, Soft skill training Outcome: Records based on student progress and observation.

2 hours remedial teaching were done on Friday and Saturday for slow learners.

Popatrao Kisanrao Thorat College College Code 0923 Khutbav

Head of Department

I.Q.A.C. Coordinator

IQAC Co ordinator
Popatrao Kisanrao Thorat College
Khutbav, Tal. Daund, Dist. Pune.

Principal

Popatrao Kisanrao Thorat College
Khutbav, Tal.-Daund, Dist.-Pune.

SEBI Full FORM :-

Securities and Exchange Board OF India.

स्थापना :-

१२ एप्रिल १९९२

कार्य :-

1] सिक्युरिटीज मार्केटचे नियमन :- सेबी सिक्युरिटीज मार्केटचे नियमन आणि सर्व अटी तयार करणे आणि सर्व सहभागी आणि मध्यस्थांनी या नियमांचे पालन केले आहे.

२) गुंतवणूकदारांच्या हिताचे रक्षण करणे :- सेबी हे सुनिश्चित करते की गुंतवणूकदारांना फसव्या गोष्टी पासून व inside tradin पासून संरक्षण दिले जाते.

३) सिक्युरिटीज मार्केटच्या विकासाला चालना देणे :- सेबी नवीन उत्पादने सादर करून, बाजारातील पायाभूत सुविधा सुधारून आणि निरोगी स्पर्धांना प्रोत्साहन देऊन सिक्युरिटीज मार्केटच्या वाढीस आणि विकासास चालना देते.

४) मध्यस्थांचे नियमन :- सेबी स्टॉक ब्रोकर, व्यापारी बँकर्स आणि म्युच्युअल फंड यासारखे नियमन आणि देखरेख करणे.

भारतीय प्रतिभूति और विनिमय बोर्ड
Securities and Exchange Board of India.

उपसंहार :- सेबीचे उद्दिष्टे म्हणजे भारतातील निष्पक्ष, पारदर्शक आणि कार्यक्षम सिक्युरिटिज मार्केटला प्रोत्साहन देणे. हे गुंतवणू करण्याचा प्रयत्न करणे आणि अर्थव्यवस्थेच्या वाढीस आणि विकासाला अनुकूल अशा पद्धतीने बाजारपेठ कार्यरत आहे याची खात्री करून घेण्याचा प्रयत्न करते.

NAME :- Thorat Sneha

Factors Affecting Thermogravimetric Curve.

The Factors which affect the Thermogravimetric curve can be classified into two main groups :- ① Instrumental Factors.
② characteristics of the sample.

I) Instrumental (Thermobalance) Factors.

a) Heating rate :-

If a substance is heated at a faster rate, it decomposes at a higher temperature which if it is heated at a slower rate it decomposes at a lower temperature. For example, polystyrene decomposes at 3[illegible]°C when it is heated at the rate of 1°C per minute and at 3[illegible]°C when it is heated at the rate of 1[illegible]°C per minute.

b) Furnace atmosphere :-

The atmosphere in the furnace also affect the nature of the thermogravimetric curve. For example, the decomposition of $CaCO_3$ take place at a higher temp. when the furnace atmosphere is of CO_2 gas than when it is of other gas. The furnace atmosphere is kept according to the nature of the sample.

i) Static Air :- In this case air from the atmosphere is allowed to flow through the furnace.

ii) Dynamic Air :- Here compressed air from a cylinder is allowed to pass through the furnace at a measured flow rate.

iii) Inert Atmosphere :- Nitrogen gas free from oxygen is used as inert atmosphere.

c) Sample Holder :-

The shape and size of the sample holder can change the nature [illegible] sample holder in the form of [illegible] plates and crucibles are [illegible] It is preferred to other shapes because it [illegible] to give calcium carbonate with evolution of carbon monoxide.

II) characteristics of the sample -

a) weight of the sample :-

A smaller weight of the sample gives better results than a [illegible] weight which causes deviation from the linear curve of weight loss with [illegible] temp. This observation is made when calcium oxalate is decomposed to give calcium carbonate with evolution of carbon monoxide.

[illegible] If the particle size of the [illegible] decomposition takes place at a lower temperature.

c) Heat of Reaction :-

The heat of reaction (heat evolved or absorbed) makes the temp. of the sample and the furnace different. If the reaction is exothermic the temp. of the sample is more than of the furnace. On the other hand if the reaction is endothermic the sample temp. is less than that of the furnace. This affect the nature of the TG curve.

d) Compactness of the sample :- A compacted sample will decompose at a higher temperature than a loose sample.

e) Source of the sample :-

If the sample is derived from two different sources, its decomposition temperature is different. For example, $MgCO_3$ obtained by precipitation method and from natural source decompose at different temperature.

Applications of TGA.

1) The determination of purity and thermal stability of both primary and secondary standards used in volumetric analysis.
2) Determination of correct drying temp. and the stability of various weighing forms for gravimetric analysis.
3) Determination of composition of complex mixtures.
4) Determination of suitable ignition temperature.
5) Direct application to analytical problems.

Name :- [illegible]
College :- [illegible]
Class :- [illegible]
Subject :- Analytical Chemistry.

DETECTION OF ACIDIC RADICALS

We have seen in Section 6.8 Systematic method to Separate the Cation into various group and Sub-group We have also seen how to Separate each Cation from other before it is defined However no such Methods have been developed to be Separate individually in the presence of other anion or acid radicals Each anion has to be tested individually in the presence of other anion in order to minimise the interference of the anion

Various dry tests action of dilute HCl or H_2SO_4 and action of hot Conc the H_2SO_4 Solubility of the given mixture in Water and in acids Suggest What acidic radicals may be present in the given mixture Hence acidic radical's are tested after the detection of basic radicals (cations) to avoid Side reaction It is essential to have a solution Containing almost all the anions free from heavy metals This is achieved by boiling the mixture with a concentrated of Sodium Carbonate.

$$2MA + Na_2CO_3 \longrightarrow M_2CO_3 \downarrow + 2NaA$$

A little mixture (≈ 0.500g) is boiled with about 15 ml of a Saturated Solution. Sodium Carbonate for 10 minutes Then the Solution is filtered and the residue is washed with hot water. The Filtrate and Washing Collected together. This is Sodium Carbonate. Extract: This extract is used for the detection of acidic radical.

Classification of the Anions into Groups

test for SO_4^{2-}	test for reducing agent's	tests for oxidising agent
2ml Na_2CO_3 extract + dil HCl till Soln It is distinctly acidic Then boil it to expect all CO_2 Add 1 ml $BaCl_2$ Soln A White ppt of $BaSO_4$ insoluble in acids indicates due presence of SO_4^{2-} ion	2 ml Na_2CO_3 extract + dil H_2SO_4 till acidic + 2-3 drops of extremely dill Solution of $KMnO_4$ → shakes decolourisation of $KMnO_4$ indicate the presence of reducing agents like Nitrite NO_2^- Bromide - Br^- Iodine :- Confirm each ion by Confirmatory tests.	2ml Na_2CO_3 extract + conc HNO_3 + 3-4 drop $MnCl_2$ Soln keep in hot water bath → black or brown Colouration indicator the Presence of oxidising agent i.e $-NO_3^-$ confirm each ion by Confirmatory tests.

Solved Problems.

Problem 2.1

The hydrogen ion Concentration of a 100ml Solution of 0.1M Cu^{2+} and 0.1M Mn^{2+} is 0.2M This Solution Saturated with H_2S so that the Concentration of H_2S is nearly 0.1M. Which of the two Sulphides will be precipitated ?.

Given: K_{sp} for CuS = 4×10^{-49} for MnS = 2×10^{15}

K_1 for H_2S = 1×10^{-7}; K_2 for HS^- = 1×10^{-15}

Solution: $H_2S \rightleftharpoons H^+ + HS^-$, $K_1 = \frac{[H^+][HS^-]}{[H_2S]} = 1\times10^{-7}$

$HS^- \rightleftharpoons H^+ + S^{2-}$, $K_2 = \frac{[H^+][S^{2-}]}{[HS^-]} = 1\times10^{-15}$

$$[S^{2-}] = \frac{K_2[HS^-]}{[H^+]} = \frac{K_2K_1[H_2S]}{[H^+][H^+]} = \frac{K_1K_2[H_2S]}{[H^+]}$$

$$[S^{2-}] = \frac{(1\times10^{-7})(1\times10^{-15})(0.1)}{(0.2)^2} = \frac{1\times10^{-23}}{4\times10^{-2}} = 2.5\times10^{-22}$$

Concentration of $[Cu^{2+}] = 0.1M$

$[Cu^{2+}][S^{2-}] = (0.1)\times(2.5\times10^{-22}) = 2.5\times10^{-23} >> 4\times10^{-49}$

(Ionic product >> Solubility product.

So CuS will be Precipitated

Concentration of $[Mn^{2+}] = 0.1M$

$[Mn^{2+}][S^{2-}] = (0.1)\times(2.5\times10^{-22}) = 2.5\times10^{-23} < 2\times10^{-15}$

So MnS will not be precipitated

Problem; 2.2 = To Copper ion Solution of 0.001M. H_2S Solution is added. A Solution is 0.001M in Copper. on What Should be the Concentration of Sulphide ion to just Cause the precipitation of CuS ?

Given: K_{sp} for CuS = 8.5×10^{-45}

Solution: $K_{sp} = [Cu^{2+}][S^{2-}]$

$8.5\times10^{-45} = [0.001]\times(S^{2-})$

$$[S^{2-}] = \frac{8.5\times10^{-45}}{1\times10^{-3}} = 8.5\times10^{-42}M.$$

Thus the $[S^{2-}]$ to just Cause precipitation of CuS is $8.5\times10^{-42}M$.

Name: Ashwini Sunil Adagale.
Std: T.Y.BSC.
Sub: analytical chemistry.

Notes for keep in library.

1. Introducation of Business communication

1.1 Introducation, Meaning
1.2 characteristics, Importance, of business communication
1.3 Principles of complications, proces of communication
1.4 Barries to commenkation & remedies
1.5 Methods & channels of communication.

2. Business Lettlers

2.1 Meaning & Importance
2.2 Qualities or Essential & physical Appearance
2.3 Layout of Business letters.

3. Soft skills

3.1 Meaning need & Importance
3.2 Elements of soft skills —
~~(i) speaking (ii) Interview skills~~
① manners & etiquets & grooming
② effective listining & speaking
③ Interview skills
④ presentation
⑤ Group Discusion
⑥ problem solving skills
⑦ Time management & abities.

4. Resuma writing & Job application Letters.

4.1 Introducation, essential elements of biodata Resuma writting, curriculum vitae
4.2 Meaning & Drafting of Application letters (Draft)

1. Business Communication

Page No.:
Date / /

We cannot not communication

Communication
↓
Communis ⟶ common
(latin)

* Definition of Communication –

The communication can be define as the proces through which two or more persons come to exchange ideas & understanding among

Elements –

- Message
- sender
- receive
- channel - symbol
- feedback

* characteristics / Requirements for effective communication

1. The business communication must be realistic in nature.
2. It must avoid the imaginery or useless information for aving time
3. Any business communication must have a clear purpose or target
4. There should be no doubts in communication.

Page No.:
Date: / /

5. The concerned audience must be forget
6. The language used for dargeting audience must not be attacking
7. It must being real exchange of information
8. one cannot use any metaphore poetic phrases or execetive figures of speech.
9. It must be influential.
10. It must be based on facts & figures.
11. There must not be any personal opinion.
12. It must be based on mutual understanding
13. One must use the exact information format for business writing.
14. It is for providing information, advice, instrutions, supports or conveying & suggestion.
15. It can be used to give a warning.

* Principles /pillars

1) Clearly — knowledge method & media
2) Concisness (conclusion)
3) objective
4) Consistancy
5) Completeness
6) Relavancy
7) Audience knowledge

* Barries to communication

1) physical barries
2) semantic barries / language barries
3) oragnisational barries
4) personal barries (Sender & Receivee)