# Rayat Shikshan Sanstha's
# Dr. Patangrao Kadam Mahavidyalaya , Ramanandnagar (Burli),
# Tal.-Palus, Dist. - Sangli.
## Department of Chemistry
## Add On Course
## Student List
## 2021-2022

| Sr.No | Roll No | Name of the students |
|---|---|---|
| 1 | 1851 | *Chougule Namrata Sunil |
| 2 | 1852 | *Deshmukh Sanjivani Bhaskar |
| 3 | 1853 | *Ghadage Shivani Nitesh |
| 4 | 1854 | *Gurav Vaishnavi Dadaso |
| 5 | 1855 | *Jadhav Kajal Sunil |
| 6 | 1856 | *Kamble Kiran Devanand |
| 7 | 1857 | *Khilare Rutuja Prakash |
| 8 | 1858 | *Koli Maheshvari Madhukar |
| 9 | 1859 | *Nalawade Akanksha Anil |
| 10 | 1860 | *Patil Snehal Vikas |
| 11 | 1861 | *Pawar Omkar Prakash |
| 12 | 1862 | *Pawar Tejaswini Madhukar |
| 13 | 1863 | *Phalle Swarupa Sanjay |
| 14 | 1864 | *Rade Sushama Dinkar |
| 15 | 1865 | *Rankhambe Priyanka Shivaji |
| 16 | 1866 | *Rutuja Pandurang Salunkhe |
| 17 | 1867 | *Sathe Mangal Malhari |
| 18 | 1868 | *Sathe Snehal Suresh |
| 19 | 1869 | *Sawant Shweta Vasudev |
| 20 | 1870 | *Shinde Shweta Dilip |
| 21 | 1871 | *Yadav Tupe Amruta Santosh |

| | | |
|---|---|---|
| 22 | 1872 | Arbune Tejas Ravindra |
| 23 | 1873 | Barbole Tejas Santosh |
| 24 | 1874 | Chavan Kabir Maruti |
| 25 | 1875 | Chovgule Sourabh Subhash |
| 26 | 1876 | Damame Suhas Suresh |
| 27 | 1877 | Deshkukh Sourabh Jalindar |
| 28 | 1878 | Deshmuh Sujit Ramchandra |
| 29 | 1879 | Dupate Chinmay Sukhadev |
| 30 | 1880 | Hande Swapnil Subhash |
| 31 | 1881 | Havaldar Shubham Sanjay |
| 32 | 1882 | Jadhav Akash Bhagavan |
| 33 | 1883 | Jadhav Maithili |
| 34 | 1884 | Jadhav Pranav Dilip |
| 35 | 1885 | Jadhav Rushikesh Rangrao |
| 36 | 1886 | Kshirsagar Prathmesh Prashant |
| 37 | 1887 | Kumbhar Abhishek Arjun |
| 38 | 1888 | Lad Pratik Rajendra |
| 39 | 1889 | Lad Satyajeet Hanmant |
| 40 | 1890 | Lad Sourabh Hanmant |
| 41 | 1891 | Manugade Prathmesh Pratap |
| 42 | 1892 | Marale Ritesh Sanjay |
| 43 | 1893 | More Sanket Dilip |
| 44 | 1894 | Mulani Soheb Dastagir |
| 45 | 1895 | Mulla Parwej Anis |
| 46 | 1896 | Mulla Reshma Rahiman |
| 47 | 1897 | Nalawade Vinay Popat |
| 48 | 1898 | Pathan Mujib Jamil |

| | | |
|---|---|---|
| 49 | 1899 | Patil Dnyaneshwar Dattary |
| 50 | 1900 | Patil Mayur Manohar |
| 51 | 1901 | Patil Rutuja Krushnrao |
| 52 | 1902 | Patil Saurabh Dhairyasheel |
| 53 | 1903 | Patil Sujit Ramesh |
| 54 | 1904 | Patil Vishal Ashok |
| 55 | 1905 | Pawar Somnath Baban |
| 56 | 1906 | Pawar Suraj Ravindra |
| 57 | 1907 | Pawar Swapnil Pramod |
| 58 | 1908 | Rade Harshad Jayvant |
| 59 | 1909 | Rajmane Akshay Vitthal |
| 60 | 1910 | Salunkhe Nilesh Bhanudas |
| 61 | 1911 | Sawant Nilesh Sukhdev |
| 62 | 1912 | Shekh Sahil Majanu |
| 63 | 1913 | Shinde Rushikesh Vitthal |
| 64 | 1914 | Shirtekar Rushikesh Vishnu |
| 65 | 1915 | Suryawanshi Prasad Laxman |
| 66 | 1916 | Varane Shreeraj Santosh |
| 67 | 1917 | Varude Guruprasad Vikas |
| 68 | 1918 | Vibhute Pratik Balu |
| 69 | 1919 | Yadav Prafull Sanjay |
| 70 | 1920 | Yadav Tupe Amarsinh Santosh |

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# Syllabus

**Chromatography:**

a) Separation of mixtures

i) Paper chromatographic of $Co^{2+}$ and $Ni^{2+}$

ii) Separation and identification of the amino acids present in the given mixture by paper chromatography. Reporting the $R_f$ values.

**II). Solvent Extractions.**

i) To separate a mixture of $Ni^{2+}$ & $Fe^{2+}$ by complexation with DMG and extracting the $Ni^{2+}$ DMG complex in chloroform, and determine its concentration by spectrophotometry.

**Analysis of soil:**

i) Determination of pH of soil.

ii) Total soluble salt.

iii) Estimation of calcium, magnesium

iv)Qualitative detection of nitrate, phosphate

**Ion exchange:**

i) Determination of exchange capacity of cation exchange resins and anion exchange resins.

ii) Separation of amino acids from organic acids by ion exchange chromatography.

**III Spectrophotometry**

Verification of Lambert-Beer's law and determination of concentration of a coloured species ($CuSO_4$, $KMnO_4$)

**Reference Books:**

1) Vogel, Arthur 1: A Text book of Qualitative Inorganic Analysis (Rev, by G.H. Jeffery and other) 5th Ed. The English language Book Society of Longman.

2) Willard,Hobart H, et al: Instrumental Methods of Analysis, 7th Ed. Wardsworth Publishing Company, Belmont, California. USA. 1988.

3) Christian, Gary D: Analytical Chemistry, 6th Ed, John Wiley & Sons, New York, 2004.

**Qualitative and quantitative Aspects of analysis:**

Sampling , evaluation of analytical data, errors, accuracy and precision methods of their expressing , normal low of distribution of indeterminate errors, statistical test of data: F. Q and test rejection of data , and confidence intervals.

**Optical methods of analysis: (5 lectures)**

Origin of spectra, interaction of radiation with matter, fundamental laws of spectroscopy and selection rules, validity of Beer-Lambert's law,

**UV- visible spectrometry:** Basic principle of instrumentation (choice of source.monochromator and detector) for single and double bream instrument;

**Basic principle of quantitative analysis;** extermination of metal ion form aqueous solution, geometrical isomers, keto-enoltautomers.

**Flame Atomic Absorption and Emission Spectrometry:** Basic principle of instrumentation (choice of source, monochromator , detector ,choice of flame and Burner desing. Techniques of atomization and sample introduction, Method of background correction. Source of chemical interferences and their method of removal. Techniques for the quantitative estimation of trace level of metal ions form water sample.

**Thermal methods of analysis:**

Theory of thermogravimetry (TG) , basic principle of instrumentation. Techniques for quantitative estimation of Ca and Mg from their mixture.

**Electroanalytical methods:**

Classification of electroanalytical methods, basic principle of pH metric, potentiometric and condactometric titration .Techniques used for the determination of equivalence point. Techniques used for the , of pKa values.

**Separation Techniques:**

***Solvent extraction:*** Classification, principle and efficiency of the technique. Mechanism extraction: extraction by salvation and chelation.

Techniques of extraction batch,continuous and counter current extractions.

***Qualitative and quantitative aspects of solvent extraction:*** extraction of metal ions from aqueous solution, extraction of organic species from the aqueous media.

***Chromatography:*** Classification principle and efficiency of the technique, Mechanism of separation: adsorption partition & ion exchange. Development of chromatograms: frontal, elution and displacement method.

***Reference Books:***


1) Vogel, Arthur 1: A Text book of Qualitative Inorganic Analysis ( Rev, by G.H. Jeffery and other ) 5th Ed. The English language Book Society of Longman.

2) Willard,Hobart H, et al: Instrumental Methods of Analysis, 7th Ed. Wards worth Publishing Company, Belmont, California. USA. 1988.

3) Christian, Gary D: Analytical Chemistry, 6th Ed, John Wiley & Sons New York, 200

4) Harris, Daniel C: Esploring Chemical Analysis,Ed New York< W,H. Freeman, 2001.

5) Khopkar, S,M. Basic Concept of Analytical Chemistry New Age International Publisher,2009 .

6) Skoog .D.A. Holler FJ. And Nieman, T.A. Principle of instrumental Analysis, Thoms


Course Duration -3 Months

After successful completion of course certificate will be issued.

Theory Periods-30

Practical Periods-30

Total number of periods -60

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*Rayat Shikshan Sanstha's*

**Dr. Patangrao Kadam Mahavidyalaya Ramanandnagar (Burli),**

**ANALYTICAL METHODS IN CHEMISTRY**

**ADD ON COURSE**

**Time Table (2021-22)**

**B.Sc. III Chemistry**

**Time- 01:40 to 02:40 pm**

| Sr. No. | Day& Date | Name of the Lecturer | Sr. No. | Day& Date | Name of the Lecturer | Sr. No | Day& Date | Name of the Lecturer |
|---|---|---|---|---|---|---|---|---|
| 1 | 01.12.2021 Wednesday | Mr. Y. R. Sable | 14 | 03.01.2022 Monday | Mr. V. R. Bhosale | 27 | 01.03.2022 Tuesday | Mr. U. S. Shelke |
| 2 | 04.12.2021 Saturday | Mr. V. R. Bhosale | 15 | 04.01.2022 Tuesday | Mr. U. S. Shelke | 28 | 05.03.2022 Saturday | Prof. Dr. P.B. Piste |
| 3 | 06.12.2021 Monday | Mr. U. S. Shelke | 16 | 08.01.2022 Saturday | Prof. Dr. P.B. Piste | 29 | 07.03.2022 Monday | Mr. D. P. Gawari |
| 4 | 07.12.2021 Tuesday | Prof. Dr. P.B. Piste | 17 | 10.01.2022 Monday | Mr. D. P. Gawari | 30 | 08.03.2022 Tuesday | Mr. D.A. Sasane |
| 5 | 11.12.2021 Saturday | Mr. D. P. Gawari | 18 | 11.01.2022 Tuesday | Mr. D.A. Sasane | 31 | 12.03.2022 Saturday | Mr. Y. R. Sable |
| 6 | 13.12.2021 Monday | Mr. D.A. Sasane | 19 | 15.01.2022 Saturday | Mr. Y. R. Sable | 32 | 14.03.2022 Monday | Mr. V. R. Bhosale |
| 7 | 14.12.2021 Tuesday | Mr. Y. R. Sable | 20 | 17.01.2022 Monday | Mr. V. R. Bhosale | 33 | 15.03.2022 Tuesday | Mr. U. S. Shelke |
| 8 | 18.12.2021 Saturday | Mr. V. R. Bhosale | 21 | 18.01.2022 Tuesday | Mr. U. S. Shelke | 34 | 19.03.2022 Saturday | Prof. Dr. P.B. Piste |
| 9 | 20.12.2021 Monday | Mr. U. S. Shelke | 22 | 22.01.2022 Saturday | Prof. Dr. P. B. Piste | 35 | 21.03.2022 Monday | Mr. D. P. Gawari |
| 10 | 21.12.2021 Tuesday | Prof. Dr. P. B. Piste | 23 | 24.01.2022 Monday | Mr. D. P. Gawari | 36 | 22.03.2022 Tuesday | Mr. D.A. Sasane |
| 11 | 27.12.2021 Monday | Mr. D. P. Gawari | 24 | 25.01.2022 Tuesday | Mr. D.A. Sasane | 37 | 26.03.2022 Saturday | Mr. Y. R. Sable |
| 12 | 28.01.2021 Tuesday | Mr. D.A. Sasane | 25 | 29.01.2022 Saturday | Mr. Y. R. Sable | 38 | 28.03.2022 Monday | Mr. V. R. Bhosale |
| 13 | 01.01.2022 Saturday | Mr. Y. R. Sable | 26 | 31.01.2022 Monday | Mr. V. R. Bhosale | - | - | - |

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Dr. Patangrao Kadam Mahavidyalaya Ramanandnagar (Burli)

Department Of Chemistry

Year 2021-2022

Value Added Course on

Analytical Methods In Chemistry

Dec-2021 Attendance

| Sr. No | Roll No. | Name of the Student | 1 | 4 | 6 | 7 | 11 | 13 | 14 | 18 | 20 | 21 | 27 | 28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1851 | CHOUGULE NAMRATA SUNIL | P | P | P | P | P | P | P | P | P | P | P | P |
| 2 | 1852 | DESHMUKH SANJIVANI BHASKAR | P | P | P | P | P | P | P | P | P | P | P | P |
| 3 | 1853 | GHADAGE SHIVANI NITESH | P | P | A | A | P | P | P | P | A | P | P | P |
| 4 | 1854 | GURAV VAISHNAVI DADASO | P | P | P | P | P | P | P | P | P | P | P | P |
| 5 | 1855 | ADHAV KAJAL SUNIL | P | P | P | P | P | P | P | P | P | P | P | P |
| 6 | 1856 | KAMBLE KIRAN DEVANAND | P | P | P | P | P | A | P | P | P | P | P | P |
| 7 | 1857 | KHILARE RUTUJA PRAKASH | P | P | P | P | P | A | A | P | A | P | A | P |
| 8 | 1858 | KOLI MAHESHVARI MADHUKAR | P | P | P | A | P | A | P | P | P | A | P | P |
| 9 | 1859 | NALAWADE AKANKSHA ANIL | P | P | P | P | A | P | P | A | P | P | P | P |
| 10 | 1860 | PATIL SNEHAL VIKAS | P | P | P | P | P | P | A | P | P | P | P | P |
| 11 | 1861 | PAWAR OMKAR PRAKASH | P | P | P | A | P | P | P | P | P | P | P | P |
| 12 | 1862 | PAWAR TEJASWINI MADHUKAR | P | P | P | P | P | P | P | P | P | P | P | P |
| 13 | 1863 | PHALLE SWARUPA SANJAY | P | A | P | P | P | P | P | P | P | P | P | P |
| 14 | 1864 | RADE SUSHAMA DINKAR | A | P | P | P | P | P | P | P | P | P | P | P |
| 15 | 1865 | RANKHAMBE PRIYANKA SHIVAJI | P | P | P | P | P | P | P | P | P | P | P | P |
| 16 | 1866 | RUTUJA PANDURANG SALUNKHE | P | P | P | P | P | P | P | P | P | P | P | P |
| 17 | 1867 | SATHE MANGAL MALHARI | P | P | P | P | P | P | P | P | P | P | P | P |
| 18 | 1868 | SATHE SNEHAL SURESH | P | A | P | P | P | P | P | P | P | P | P | P |
| 19 | 1869 | SAWANT SHWETA VASUDEV | P | P | P | P | P | P | P | P | P | P | P | P |
| 20 | 1870 | SHINDE SHWETA DILIP | P | P | P | P | P | P | P | P | P | P | P | P |
| 21 | 1871 | YADAV TUPE AMRUTA SANTOSH | P | P | P | P | P | P | P | P | P | P | P | P |
| 22 | 1872 | ARBUNE TEJAS RAVINDRA | P | P | P | P | P | A | P | P | P | P | P | P |
| 23 | 1873 | BARBOLE TEJAS SANTOSH | P | P | P | P | P | P | P | P | P | A | P | P |
| 24 | 1874 | CHAVAN KABIR MARUTI | P | A | P | P | P | P | P | P | P | P | P | P |
| 25 | 1875 | CHOVGULE SOURABH SUBHASH | P | P | P | P | P | P | P | P | P | P | P | P |
| 26 | 1876 | DAMAME SUHAS SURESH | P | P | P | P | P | P | P | P | P | P | P | P |
| 27 | 1877 | DESHKUKH SOURABH JALINDAR | P | P | P | P | P | P | P | P | P | P | P | P |
| 28 | 1878 | DESHMUH SUJIT RAMCHANDRA | P | P | P | P | P | P | P | P | P | P | P | P |
| 29 | 1879 | DUPATE CHINMAY SUKHADEV | P | P | P | P | P | P | P | P | P | P | P | P |
| 30 | 1880 | HANDE SWAPNIL SUBHASH | P | P | P | P | P | P | P | P | P | P | P | P |
| 31 | 1881 | HAVALDAR SHUBHAM SANJAY | P | P | P | P | P | P | A | P | P | A | P | P |
| 32 | 1882 | JADHAV AKASH BHAGAVAN | P | P | P | A | P | P | P | P | A | P | P | P |
| 33 | 1883 | JADHAV MAITHILI | P | P | P | P | P | P | P | P | P | P | P | P |
| 34 | 1884 | JADHAV PRANAV DILIP | P | P | P | P | P | P | P | P | A | P | P | P |
| 35 | 1885 | JADHAV RUSHIKESH RANGRAO | P | P | P | P | P | P | P | P | A | P | P | P |
| 36 | 1886 | KSHIRSAGAR PRATHMESH PRASHANT | P | P | A | P | A | P | P | A | P | P | P | P |
| 37 | 1887 | KUMBHAR ABHISHEK ARJUN | P | P | P | P | P | P | P | P | P | P | P | P |
| 38 | 1888 | LAD PRATIK RAJENDRA | P | P | P | P | P | P | P | P | P | P | P | P |
| 39 | 1889 | LAD SATYAJEET HANMANT | P | P | P | P | P | P | P | P | P | P | P | P |
| 40 | 1890 | LAD SOURABH HANMANT | P | A | P | P | P | P | P | A | P | P | P | P |
| 41 | 1891 | MANUGADE PRATHMESH PRATAP | P | A | P | A | P | P | P | P | P | P | P | P |
| 42 | 1892 | MARALE RITESH SANJAY | P | P | A | P | A | A | A | P | P | P | P | P |
| 43 | 1893 | MORE SANKET DILIP | P | P | P | A | P | P | P | P | P | P | P | P |
| 44 | 1894 | MULANI SOHEB DASTAGIR | P | A | A | P | P | P | P | A | P | P | P | P |
| 45 | 1895 | MULLA PARWEJ ANIS | P | A | P | P | P | P | P | P | P | P | P | P |
| 46 | 1896 | MULLA RESHMA RAHIMAN | P | P | P | P | P | P | P | P | P | P | P | P |
| 47 | 1897 | NALAWADE VINAY POPAT | P | P | P | P | P | P | P | P | P | P | P | P |
| 48 | 1898 | PATHAN MUJIB JAMIL | P | A | P | P | P | P | P | P | P | P | P | P |
| 49 | 1899 | PATIL DNYANESHWAR DATTARY | P | P | A | P | P | P | P | P | P | P | P | P |
| 50 | 1900 | PATIL MAYUR MANOHAR | A | P | P | A | A | P | P | P | P | P | A | P |
| 51 | 1901 | PATIL RUTUJA KRUSHNRAO | P | P | P | P | P | P | P | P | P | P | P | P |
| 52 | 1902 | PATIL SAURABH DHAIRYASHEEL | P | P | P | P | P | P | P | P | P | P | P | P |
| 53 | 1903 | PATIL SUJIT RAMESH | P | P | P | P | P | P | P | P | P | P | P | P |
| 54 | 1904 | PATIL VISHAL ASHOK | P | P | P | P | P | P | P | P | P | P | P | P |
| 55 | 1905 | PAWAR SOMNATH BABAN | P | P | P | P | P | P | P | P | P | P | P | P |
| 56 | 1906 | PAWAR SURAJ RAVINDRA | P | P | P | P | P | P | P | P | P | P | P | P |
| 57 | 1907 | PAWAR SWAPNIL PRAMOD | P | P | P | P | P | P | P | P | P | P | P | P |
| 58 | 1908 | RADE HARSHAD JAYVANT | P | P | P | P | P | P | P | P | P | P | P | P |
| 59 | 1909 | RAJMANE AKSHAY VITTHAL | P | P | P | P | P | P | P | P | P | P | P | P |
| 60 | 1910 | SALUNKHE NILESH BHANUDAS | P | P | P | P | P | P | P | P | P | P | P | P |
| 61 | 1911 | SAWANT NILESH SUKHDEV | P | P | P | P | P | P | P | P | P | P | P | P |

| 62 | 1912 | SHEKH SAHIL MAJANU | P | A | P | P | P | P | P | P | P | P | P | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 1913 | SHINDE RUSHIKESH VITTHAL | A | A | P | P | P | P | P | P | P | P | P | P |
| 64 | 1914 | SHIRTEKAR RUSHIKESH VISHNU | P | P | P | P | P | P | P | P | P | P | P | P |
| 65 | 1915 | SURYAWANSHI PRASAD LAXMAN | P | P | P | P | P | P | P | P | P | P | P | P |
| 66 | 1916 | VARANE SHREERAJ SANTOSH | P | P | P | P | P | P | P | P | P | P | P | P |
| 67 | 1917 | VARUDE GURUPRASAD VIKAS | P | P | P | P | P | P | P | P | P | P | P | P |
| 68 | 1918 | VIBHUTE PRATIK BALU | P | P | P | P | A | A | A | A | A | A | A | P |
| 69 | 1919 | YADAV PRAFULL SANJAY | P | P | P | A | P | P | P | P | P | P | P | P |
| 70 | 1920 | YADAV TUPE AMARSINH SANTOSH | P | P | P | P | P | P | P | P | P | P | P | P |

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Department Of Chemistry

Year 2021-2022

Value Added Course on

Analytical Methods in Chemistry

March -2022 Attendance

| Sr. No | Roll No. | Name of the Student | 1 | 5 | 7 | 8 | 12 | 14 | 15 | 19 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1851 | *CHOUGULE NAMRATA SUNIL | P | P | P | P | P | P | P | P | P | P |
| 2 | 1852 | *DESHMUKH SANJIVANI | P | P | P | A | P | P | P | P | P | P |
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| 6 | 1856 | *KAMBLE KIRAN DEVANAND | A | P | A | P | A | P | A | P | P | P |
| 7 | 1857 | *KHILARE RUTUJA PRAKASH | P | P | P | P | P | P | P | P | P | P |
| 8 | 1858 | *KOLI MAHESHVARI MADHUKAR | P | P | P | P | P | P | P | P | P | P |
| 9 | 1859 | *NALAWADE AKANKSHA ANIL | P | P | P | P | P | P | P | P | P | P |
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| 16 | 1866 | *RUTUJA PANDURANG | P | P | P | P | P | P | A | P | P | P |
| 17 | 1867 | *SATHE MANGAL MALHARI | P | P | A | P | P | P | P | P | P | P |
| 18 | 1868 | *SATHE SNEHAL SURESH | A | P | P | P | P | P | P | P | P | P |
| 19 | 1869 | *SAWANT SHWETA VASUDEV | A | P | P | P | P | P | P | P | P | P |
| 20 | 1870 | *SHINDE SHWETA DILIP | P | P | A | P | P | P | P | P | P | P |
| 21 | 1871 | *YADAV TUPE AMRUTA SANTOSH | P | A | P | P | A | P | P | P | P | P |
| 22 | 1872 | ARBUNE TEJAS RAVINDRA | P | P | P | P | P | P | P | P | P | P |
| 23 | 1873 | BARBOLE TEJAS SANTOSH | P | P | P | P | P | P | P | P | P | P |
| 24 | 1874 | CHAVAN KABIR MARUTI | P | P | A | P | P | P | P | P | P | P |
| 25 | 1875 | CHOVGULE SOURABH SUBHASH | P | P | P | P | P | P | P | P | P | P |
| 26 | 1876 | DAMAME SUHAS SURESH | P | P | P | P | P | A | P | A | P | P |
| 27 | 1877 | DESHKUKH SOURABH JALINDAR | A | P | P | P | P | P | P | P | P | P |
| 28 | 1878 | DESHMUH SUJIT RAMCHANDRA | P | P | P | P | P | P | P | P | P | P |
| 29 | 1879 | DUPATE CHINMAY SUKHADEV | P | P | P | P | P | P | P | P | P | P |
| 30 | 1880 | HANDE SWAPNIL SUBHASH | P | P | P | A | A | P | P | P | P | P |
| 31 | 1881 | HAVALDAR SHUBHAM SANJAY | P | P | A | P | P | P | P | A | P | P |
| 32 | 1882 | JADHAV AKASH BHAGAVAN | P | P | P | P | P | P | P | P | P | P |
| 33 | 1883 | JADHAV MAITHILI | P | P | P | P | P | P | P | P | P | P |
| 34 | 1884 | JADHAV PRANAV DILIP | P | P | P | P | P | P | P | P | P | P |
| 35 | 1885 | JADHAV RUSHIKESH RANGRAO | P | P | P | P | P | P | P | P | P | P |

| 36 | 1886 | KSHIRSAGAR PRATHMESH | P | P | P | P | P | P | P | P | P | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | 1887 | KUMBHAR ABHISHEK ARJUN | P | P | P | P | P | P | P | P | P | P |
| 38 | 1888 | LAD PRATIK RAJENDRA | P | P | P | P | P | P | P | P | P | P |
| 39 | 1889 | LAD SATYAJEET HANMANT | P | P | P | P | P | P | P | P | P | P |
| 40 | 1890 | LAD SOURABH HANMANT | P | P | P | P | P | P | P | P | A | P |
| 41 | 1891 | MANUGADE PRATHMESH PRATAP | P | P | P | P | P | P | P | P | A | P |
| 42 | 1892 | MARALE RITESH SANJAY | P | P | P | P | P | P | P | P | P | P |
| 43 | 1893 | MORE SANKET DILIP | P | P | P | P | P | P | P | P | P | P |
| 44 | 1894 | MULANI SOHEB DASTAGIR | P | P | P | A | P | P | P | P | P | P |
| 45 | 1895 | MULLA PARWEJ ANIS | P | P | P | P | P | P | P | P | P | P |
| 46 | 1896 | MULLA RESHMA RAHIMAN | P | P | P | P | P | P | P | P | P | P |
| 47 | 1897 | NALAWADE VINAY POPAT | P | P | A | P | A | A | A | P | P | P |
| 48 | 1898 | PATHAN MUJIB JAMIL | P | P | P | P | P | P | P | A | P | P |
| 49 | 1899 | PATIL DNYANESHWAR DATTARY | P | P | P | P | P | P | P | A | P | P |
| 50 | 1900 | PATIL MAYUR MANOHAR | P | P | P | P | P | P | P | P | P | P |
| 51 | 1901 | PATIL RUTUJA KRUSHNRAO | P | P | P | P | P | P | P | P | P | P |
| 52 | 1902 | PATIL SAURABH DHAIRYASHEEL | P | P | P | P | P | P | P | P | P | P |
| 53 | 1903 | PATIL SUJIT RAMESH | P | P | P | P | P | P | P | P | P | P |
| 54 | 1904 | PATIL VISHAL ASHOK | P | P | P | P | P | P | P | P | P | P |
| 55 | 1905 | PAWAR SOMNATH BABAN | P | P | P | P | P | P | P | P | P | P |
| 56 | 1906 | PAWAR SURAJ RAVINDRA | P | P | P | P | P | A | P | P | P | P |
| 57 | 1907 | PAWAR SWAPNIL PRAMOD | P | P | P | P | P | P | P | P | P | P |
| 58 | 1908 | RADE HARSHAD JAYVANT | P | A | P | P | P | P | P | P | P | P |
| 59 | 1909 | RAJMANE AKSHAY VITTHAL | P | A | P | P | P | P | P | P | P | P |
| 60 | 1910 | SALUNKHE NILESH BHANUDAS | P | A | P | P | P | P | P | P | P | P |
| 61 | 1911 | SAWANT NILESH SUKHDEV | P | A | P | P | P | P | P | P | P | P |
| 62 | 1912 | SHEKH SAHIL MAJANU | A | P | P | P | P | P | P | P | P | P |
| 63 | 1913 | SHINDE RUSHIKESH VITTHAL | P | P | P | P | P | A | P | P | P | P |
| 64 | 1914 | SHIRTEKAR RUSHIKESH VISHNU | P | P | A | P | P | P | P | P | P | P |
| 65 | 1915 | SURYAWANSHI PRASAD LAXMAN | P | P | A | P | P | P | P | P | P | P |
| 66 | 1916 | VARANE SHREERAJ SANTOSH | A | P | P | P | P | P | P | P | P | P |
| 67 | 1917 | VARUDE GURUPRASAD VIKAS | P | P | P | P | A | P | P | P | P | P |
| 68 | 1918 | VIBHUTE PRATIK BALU | P | P | P | P | P | A | P | P | P | P |
| 69 | 1919 | YADAV PRAFULL SANJAY | P | P | P | P | A | P | P | P | P | P |
| 70 | 1920 | YADAV TUPE AMARSINH SANTOSH | P | P | P | A | P | P | P | P | P | P |

Head of Dept.
Department of Chemistry
Dr. Patangrao Kadam Mahavidhyalaya,
Ramanandnagar (Burli)

Rayat Shikshan Sanstha's

Dr. Patangrao Kadam Mahavidyalaya Ramanandnagar (Burli)

Department Of Chemistry

Year 2021-2022

Value Added Course on

Analytical Methods in Chemistry

January-2022 Attendance

| Sr. No | Roll No. | Name of the Student | 1 | 3 | 4 | 8 | 10 | 11 | 15 | 17 | 18 | 22 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1851 | *CHOUGULE NAMRATA SUNIL | P | P | P | P | P | P | P | P | P | P | P |
| 2 | 1852 | *DESHMUKH SANJIVANI BHASKAR | P | P | P | P | P | P | P | P | P | P | P |
| 3 | 1853 | *GHADAGE SHIVANI NITESH | P | P | P | P | P | P | P | P | P | P | P |
| 4 | 1854 | *GURAV VAISHNAVI DADASO | P | P | P | P | P | P | P | P | P | P | P |
| 5 | 1855 | *JADHAV KAJAL SUNIL | P | P | P | P | P | P | P | P | P | P | P |
| 6 | 1856 | *KAMBLE KIRAN DEVANAND | P | P | P | P | P | P | P | P | P | P | P |
| 7 | 1857 | *KHILARE RUTUJA PRAKASH | P | P | P | P | P | P | P | P | P | P | P |
| 8 | 1858 | *KOLI MAHESHVARI MADHUKAR | P | P | P | P | P | P | P | P | P | P | P |
| 9 | 1859 | *NALAWADE AKANKSHA ANIL | P | P | P | P | P | P | P | P | P | P | P |
| 10 | 1860 | *PATIL SNEHAL VIKAS | P | P | P | P | P | P | P | P | P | P | P |
| 11 | 1861 | *PAWAR OMKAR PRAKASH | P | P | P | P | P | P | P | P | P | P | P |
| 12 | 1862 | *PAWAR TEJASWINI MADHUKAR | P | P | P | P | P | P | P | P | P | P | P |
| 13 | 1863 | *PHALLE SWARUPA SANJAY | P | P | P | P | P | P | P | P | P | P | P |
| 14 | 1864 | *RADE SUSHAMA DINKAR | P | P | P | P | P | P | P | P | P | P | P |
| 15 | 1865 | *RANKHAMBE PRIYANKA SHIVAJI | P | P | P | P | P | P | P | P | P | P | P |
| 16 | 1866 | *RUTUJA PANDURANG SALUNKHE | P | P | P | P | P | P | P | P | P | P | P |
| 17 | 1867 | *SATHE MANGAL MALHARI | P | P | P | P | P | P | P | P | P | P | P |
| 18 | 1868 | *SATHE SNEHAL SURESH | P | P | P | P | P | P | P | P | P | P | P |
| 19 | 1869 | *SAWANT SHWETA VASUDEV | P | P | P | P | P | P | P | P | P | P | P |
| 20 | 1870 | *SHINDE SHWETA DILIP | P | P | P | P | P | P | P | P | P | P | P |
| 21 | 1871 | *YADAV TUPE AMRUTA SANTOSH | P | P | P | P | P | P | P | P | P | P | P |
| 22 | 1872 | ARBUNE TEJAS RAVINDRA | P | P | P | P | P | P | P | P | P | P | P |
| 23 | 1873 | BARBOLE TEJAS SANTOSH | P | P | P | P | P | P | P | P | P | P | P |
| 24 | 1874 | CHAVAN KABIR MARUTI | P | P | P | P | P | P | P | P | P | P | P |
| 25 | 1875 | CHOVGULE SOURABH SUBHASH | P | P | P | P | P | P | P | P | P | P | P |
| 26 | 1876 | DAMAME SUHAS SURESH | P | P | P | P | P | P | P | P | P | P | P |
| 27 | 1877 | DESHKUKH SOURABH JALINDAR | P | P | P | P | P | P | P | P | P | P | P |
| 28 | 1878 | DESHMUH SUJIT RAMCHANDRA | P | P | P | P | P | P | P | P | P | P | P |
| 29 | 1879 | DUPATE CHINMAY SUKHADEV | P | P | P | P | P | P | P | P | P | P | P |
| 30 | 1880 | HANDE SWAPNIL SUBHASH | P | P | P | P | P | P | P | P | P | P | P |
| 31 | 1881 | HAVALDAR SHUBHAM SANJAY | P | P | P | P | P | P | P | P | P | P | P |
| 32 | 1882 | JADHAV AKASH BHAGAVAN | P | P | P | P | P | P | P | P | P | P | P |
| 33 | 1883 | JADHAV MAITHILI | P | P | P | P | P | P | P | P | P | P | P |
| 34 | 1884 | JADHAV PRANAV DILIP | P | P | P | P | P | P | P | P | P | P | P |
| 35 | 1885 | JADHAV RUSHIKESH RANGRAO | P | P | P | P | P | P | P | P | P | P | P |
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| 65 | 1915 | SURYAWANSHI PRASAD LAXMAN | | | | | | | | | | | |
| 66 | 1916 | VARANE SHREERAJ SANTOSH | | | | | | | | | | | |
| 67 | 1917 | VARUDE GURUPRASAD VIKAS | | | | | | | | | | | |
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Head of Dept.
Department of Chemistry
Dr. Patangrao Kadam Mahavidhyalaya
Ramanandnagar (Burli)

Rayat Shikshan Sanstha's

# Dr. PatangraoKadamMahavidyalaya Ramanandnagar (Burli)

## Department Of Chemistry

## Subject- Add On Course on Analytical Method In Chemistry

## Examination 2021-2022

**DATE:-23/04/2022** **Time:- 12.00pm to 02.00pm**

**Day:-Saturday** **Marks:-100**

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**1) All Question are Compulsory**

**2) Each Question having 2 Marks**

1.Solvent extraction is better if repeated extractions are done using

A Large Solvent B Small solvent

C Extra solvent D normal solvent

2. Which of the following is not a type of purposive sampling?

a) Probability sampling b) Deviant case sampling

c) Theoretical sampling d) Snowball sampling

3. The minimum sample size for qualitative interviewing is:

a) 30 b) 31

c) 60 d) It's hard to say

4. What is meant by the term 'accuracy'?

A The lack of bias in the data. B The overall quality of the data.

C The level of detail at which data is stored D The extent to which a value approaches its true value.

5. What is meant by the term 'precision'

A The overall quality of the data.

B The extent to which a value approaches its true value.

C The lack of bias in the data.

D The level of detail at which data is stored

6. Which of the following may be caused by error in manual digitizing?

A Fuzzyness. B Switch-backs.

C Overshoot and undershoot. D Wobble.

7. The intensity of an absorption band is always proportional to which of the following factor?

a) Atomic population
b) Molecular population of the initial state
c) Molecular population of the final state
d) Temperature

8. On which factors the vibrational stretching frequency of diatomic molecule depend?
a) Force constant b) Atomic population
c) Temperature d) Magnetic field

9. The vibrations, without a center of symmetry are active in which of the following region?
a) Infrared but inactive in Raman b) Raman but inactive in IR
c) Raman and IR d) Inactive in both Raman and IR

10. The frequency of vibration of a bond is a function of which factor?
a) Force constant of the bond
b) Masses of the atoms involved in bonding
c) Force constant of the bond and Masses of the atoms
d) Bond order

11. Lambert's law states that the intensity of light decreases with respect to
a) Concentration b) Distance
c) Composition d) Volume

12. Beer's law states that the intensity of light decreases with respect to
a) Concentration b) Distance
c) Composition d) Volume

13.Beer Lambert's law gives the relation between which of the following?
a) Reflected radiation and concentration
b) Scattered radiation and concentration
c) Energy absorption and concentration
d) Energy absorption and reflected radiation

14. In atomic absorption spectroscopy the most strongly absorbed light is called as

A) Resonance line B) Base line

C) stokes line D) anti stokes line

15. In atomic emission spectroscopy the emission due to the electronic transition of
A) state to singlet ground state.
C) Singlet ground state to triplet exited state

D) Triplet exited state to singlet ground state.
B) singlet exited Singlet ground state to singlet exited state

16.In atomic emission spectroscopy the graph drawn between
A) Emission vs. Concentration B) Absorbance Vs Concentration
C) Absorbance Vs wave length D) Emission Vs wave length

17. Which one of the following indicators would be most suitable for this titration?
A any acid/base indicator is suitable B phenolphthalein (pKa = 9.6)
C cresol red (pKa = 8.3) D methyl red (pKa = 5.1) E methyl yellow (pKa = 3.1)

18. In which of the following acid / base titrations, can we NOT determine the equivalence point in an accurate manner?
A strong acid / strong base B strong acid / weak base
C weak acid / strong base D weak acid / weak base

19. Which of the following statements regarding the solubility of Mg(OH)2 is correct?
A pH has no effect on the solubility of Mg(OH)2.
B Mg(OH)2 is less soluble at pH 4 than pH 7.
C Mg(OH)2 is less soluble in 0.1 M MgCl2 solution than in water
D all of the above

20. How many stereoisomers are possible for the complex [Ni(en)3] 2+? en = ethylenediamine = NH2CH2CH2NH2
A 1 B 2
C 3 D 4

21) A most common example of extraction is with help of
A Ether B alcohol
C benzene D chloroform

22. The ether layer is used to separate
A Fiber B inorganic impurities
C organic impurities D gases

23. When the component has a small value of K, it is supposed to have an affinity for:
a) Mobile phase b) No phase
c) Stationary phase d) Whole solution

24. Solvent extraction is more effective when the extraction is repeated with:
a) Extra solvent b) Large solvent
c) Small solvent d) No solvent

25. A mobile phase cannot be a :
a) Gas b) Solid
c) Liquid d) Solid or gas

26) The travelling distance of mobile phase in TLC is

A) 2 cm B) 1 cm

C) 2.5 cm D) 10 cm

27) In TLC, initially the sample is

A) In contact with mobile phaseB) Not in contact with mobile phase

C) Coated at the level of mobile phaseD) Coated below the level of mobile phase

28) The sample introduction in HPTLC is carried by

A) Goniometry B) platinum-iridium capillary

C) Densitometry d) Micropipette

29) Identification of spots on the tlc plate is done by all of the following except

A) Spraying with reagents B) Under microscope

C) Fluorescence D) Fluorescent adsorbent

30) The binder used in the preparation of TLC plates is

A) Monnitol B) Calcium
C) Dextrose D) PVP

31. What is the reason for the red colour of the red soil?
A. Phosphoric Acid B. Humus
C. Nitrogen D. Iron

32. Which of the following soil has air space and loosely packed?
A. Sandy Soil B. Clayey Soil
C. Loamy Soil D. All of these

33). Water holding capacity is low?

a). Clay soil. b). Loam soil.
c). Gravel. d). Sandy soil.

34). First manufactured fertilizer in India is..?
a). SSP. b). DSP.
c). Urea. d). Phosphate.

35). Recently formed soil order is..?
a). Histosol. b). Entisol.
c). Alfisol. d). Ultisols.

36) Clay soil should have..?
a). 40% clay. (b). 20% clay.
c). 35% clay. (d). 30 % clay.

36. Which sentence is true about batch method ?
A. It is multiple step process.B. It is not used for preparation of the demineralized water.
C. In this process more than two containers.
D. This is single step process

38. Which method are used for preparing of demineralized water?
A. Gas Chromatography B. Batch method ( ion exchange)
C. Mass spectroscopy D. Complexometric Titration

39). Which is not application of ion Exchange ?
A.It is used for softening of water.
B.It is used for demineralization of water.
C.It is used for separation of similar ion in one sample.
D. It is used in preformulation.

40). Which is application of demineralized water ?
A. Biological studies B. conductance experiment
C. A and B D. None of the above

41). Which is not ion exchange technique ?
A. Batch method B. Column method
C. Paper Chromatography D. A and B

42). Tungsten lamp filament has required how much temperature ?
A. 2000k B. 3000k
C. 4000k D. 5000k

**Rayat Shikshan Sanstha's**

# Dr.Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli), Tal.-Palus, Dist. - Sangli.

## Department of Chemistry

## Add On Course

## Student List 2021-2022

## Exam Presenty Report Date 23/04/2022

| Sr.No | Roll No | Name of the students | |
|---|---|---|---|
| 1 | 1851 | *Chougule Namrata Sunil | P |
| 2 | 1852 | *Deshmukh Sanjivani Bhaskar | P |
| 3 | 1853 | *Ghadage Shivani Nitesh | P |
| 4 | 1854 | *Gurav Vaishnavi Dadaso | P |
| 5 | 1855 | *Jadhav Kajal Sunil | P |
| 6 | 1856 | *Kamble Kiran Devanand | P |
| 7 | 1857 | *Khilare Rutuja Prakash | P |
| 8 | 1858 | *Koli Maheshvari Madhukar | P |
| 9 | 1859 | *Nalawade Akanksha Anil | P |
| 10 | 1860 | *Patil Snehal Vikas | P |
| 11 | 1861 | *Pawar Omkar Prakash | P |
| 12 | 1862 | *Pawar Tejaswini Madhukar | P |
| 13 | 1863 | *Phalle Swarupa Sanjay | P |
| 14 | 1864 | *Rade Sushama Dinkar | P |
| 15 | 1865 | *Rankhambe Priyanka Shivaji | P |
| 16 | 1866 | *Rutuja Pandurang Salunkhe | P |
| 17 | 1867 | *Sathe Mangal Malhari | P |

| | | | |
|---|---|---|---|
| 18 | 1868 | *Sathe Snehal Suresh | P |
| 19 | 1869 | *Sawant Shweta Vasudev | P |
| 20 | 1870 | *Shinde Shweta Dilip | P |
| 21 | 1871 | *Yadav Tupe Amruta Santosh | P |
| 22 | 1872 | Arbune Tejas Ravindra | P |
| 23 | 1873 | Barbole Tejas Santosh | P |
| 24 | 1874 | Chavan Kabir Maruti | P |
| 25 | 1875 | Chovgule Sourabh Subhash | P |
| 26 | 1876 | Damame Suhas Suresh | P |
| 27 | 1877 | Deshkukh Sourabh Jalindar | P |
| 28 | 1878 | Deshmuh Sujit Ramchandra | P |
| 29 | 1879 | Dupate Chinmay Sukhadev | P |
| 30 | 1880 | Hande Swapnil Subhash | P |
| 31 | 1881 | Havaldar Shubham Sanjay | P |
| 32 | 1882 | Jadhav Akash Bhagavan | P |
| 33 | 1883 | Jadhav Maithili | P |
| 34 | 1884 | Jadhav Pranav Dilip | P |
| 35 | 1885 | Jadhav Rushikesh Rangrao | P |
| 36 | 1886 | Kshirsagar Prathmesh Prashant | P |
| 37 | 1887 | Kumbhar Abhishek Arjun | P |
| 38 | 1888 | Lad Pratik Rajendra | P |
| 39 | 1889 | Lad Satyajeet Hanmant | P |
| 40 | 1890 | Lad Sourabh Hanmant | P |

| | | | |
|---|---|---|---|
| 41 | 1891 | Manugade Prathmesh Pratap | P |
| 42 | 1892 | Marale Ritesh Sanjay | P |
| 43 | 1893 | More Sanket Dilip | P |
| 44 | 1894 | Mulani Soheb Dastagir | P |
| 45 | 1895 | Mulla Parwej Anis | P |
| 46 | 1896 | Mulla Reshma Rahiman | P |
| 47 | 1897 | Nalawade Vinay Popat | P |
| 48 | 1898 | Pathan Mujib Jamil | P |
| 49 | 1899 | Patil Dnyaneshwar Dattary | P |
| 50 | 1900 | Patil Mayur Manohar | P |
| 51 | 1901 | Patil Rutuja Krushnrao | P |
| 52 | 1902 | Patil Saurabh Dhairyasheel | P |
| 53 | 1903 | Patil Sujit Ramesh | P |
| 54 | 1904 | Patil Vishal Ashok | P |
| 55 | 1905 | Pawar Somnath Baban | P |
| 56 | 1906 | Pawar Suraj Ravindra | P |
| 57 | 1907 | Pawar Swapnil Pramod | P |
| 58 | 1908 | Rade Harshad Jayvant | P |
| 59 | 1909 | Rajmane Akshay Vitthal | P |
| 60 | 1910 | Salunkhe Nilesh Bhanudas | P |
| 61 | 1911 | Sawant Nilesh Sukhdev | P |
| 62 | 1912 | Shekh Sahil Majanu | P |
| 63 | 1913 | Shinde Rushikesh Vitthal | P |
| 64 | 1914 | Shirtekar Rushikesh Vishnu | P |

| | | | |
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| 65 | 1915 | Suryawanshi Prasad Laxman | P |
| 66 | 1916 | Varane Shreeraj Santosh | P |
| 67 | 1917 | Varude Guruprasad Vikas | P |
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# RayatShikshanSanstha's
# Dr. Patangrao Kadam Mahavidyalaya,Ramanandnagar (Burli),
# Tal.-Palus, Dist. - Sangli.
## Department of Chemistry
## Add On Course
## Student List 2021-2022
## Exam Result

**Total Marks 100**

| Sr.No | Roll No | Name of the students | Obtained Marks |
|---|---|---|---|
| 1 | 1851 | Chougule Namrata Sunil | 94 |
| 2 | 1852 | Deshmukh Sanjivani Bhaskar | 90 |
| 3 | 1853 | Ghadage Shivani Nitesh | 92 |
| 4 | 1854 | Gurav Vaishnavi Dadaso | 94 |
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| 6 | 1856 | Kamble Kiran Devanand | 92 |
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| 16 | 1866 | Rutuja Pandurang Salunkhe | 76 |
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| 23 | 1873 | Barbole Tejas Santosh | 84 |
| 24 | 1874 | Chavan Kabir Maruti | 86 |
| 25 | 1875 | Chovgule Sourabh Subhash | 80 |
| 26 | 1876 | Damame Suhas Suresh | 84 |
| 27 | 1877 | Deshkukh Sourabh Jalindar | 86 |
| 28 | 1878 | Deshmuh Sujit Ramchandra | 80 |
| 29 | 1879 | Dupate Chinmay Sukhadev | 80 |
| 30 | 1880 | Hande Swapnil Subhash | 90 |
| 31 | 1881 | Havaldar Shubham Sanjay | 94 |
| 32 | 1882 | Jadhav Akash Bhagavan | 92 |
| 33 | 1883 | Jadhav Maithili | 92 |
| 34 | 1884 | Jadhav Pranav Dilip | 94 |
| 35 | 1885 | Jadhav Rushikesh Rangrao | 90 |
| 36 | 1886 | Jadhav Tejaswini Dilip | 92 |
| 37 | 1887 | Kshirsagar Prathmesh Prashant | 94 |
| 38 | 1888 | Kumbhar Abhishek Arjun | 90 |
| 39 | 1889 | Lad Pratik Rajendra | 92 |
| 40 | 1890 | Lad Satyajeet Hanmant | 88 |
| 41 | 1891 | Lad Sourabh Hanmant | 80 |
| 42 | 1892 | Manugade Prathmesh Pratap | 70 |
| 43 | 1893 | Marale Ritesh Sanjay | 78 |
| 44 | 1894 | More Sanket Dilip | 82 |
| 45 | 1895 | Mulani Soheb Dastagir | 80 |

| | | | |
|---|---|---|---|
| 46 | 1896 | Mulla Parwej Anis | 92 |
| 47 | 1897 | Mulla Reshma Rahiman | 90 |
| 48 | 1898 | Nalawade Vinay Popat | 74 |
| 49 | 1899 | Pathan Mujib Jamil | 76 |
| 50 | 1900 | Patil Dnyaneshwar Dattary | 60 |
| 51 | 1901 | Patil Mayur Manohar | 70 |
| 52 | 1902 | Patil Rutuja Krushnrao | 62 |
| 53 | 1903 | Patil Saurabh Dhairyasheel | 88 |
| 54 | 1904 | Patil Sujit Ramesh | 70 |
| 55 | 1905 | Patil Vishal Ashok | 82 |
| 56 | 1906 | Pawar Somnath Baban | 84 |
| 57 | 1907 | Pawar Suraj Ravindra | 86 |
| 58 | 1908 | Pawar Swapnil Pramod | 80 |
| 59 | 1909 | Rade Harshad Jayvant | 84 |
| 60 | 1910 | Rajmane Akshay Vitthal | 86 |
| 61 | 1911 | Salunkhe Nilesh Bhanudas | 80 |
| 62 | 1912 | Sawant Nilesh Sukhdev | 80 |
| 63 | 1913 | Shekh Sahil Majanu | 90 |
| 64 | 1914 | Shinde Rushikesh Vitthal | 94 |
| 65 | 1915 | Shirtekar Rushikesh Vishnu | 92 |
| 66 | 1916 | Suryawanshi Prasad Laxman | 92 |
| 67 | 1917 | Varane Shreeraj Santosh | 94 |
| 68 | 1918 | Varude Guruprasad Vikas | 90 |
| 69 | 1919 | Vibhute Pratik Balu | 92 |
| 70 | 1920 | Yadav Prafull Sanjay | 94 |
| 71 | 1921 | Yadav Tupe Amarsinh Santosh | 90 |

Head of Dept.
Department of Chemistry
Dr. Patangrao Kadam Mahavidhyalaya
Ramanandnagar (Burli)

*Rayat Shikshan Sanstha's*

**Dr. Patangrao Kadam Mahavidyalaya Ramanandnagar (Burli)**

**Department Of Chemistry**

**Add On Course on "Analytical Methods in Chermistry"**

**2021-2022**

## Programme Outcome

- To acquire basic concepts, principles and techniques of modern analytical Chemistry.
- To develop an understanding of the range and uses of analytical methods in Chemistry.
- To establish and appreciation of the role of Chemistry in quantitative analysis.
- To provide experience in some scientific methods employed in analytical Chemistry.
- Students are introduced to the fundamental instrumental methods of chemical analysis commonly use in pharmaceutical laboratories.
- Students are introduced to the fundamental analytical technique that are useful for the purification and characterisation of advanced material

Head of Dept.
Department of Chemistry
Dr. Patangrao Kadam Mahavidhyalaya
Ramanandnagar (Burli)

Rayat Shikshan Sanstha's

**Dr. PATANGRAO KADAM MAHAVIDYALAYA RAMANANDNAGAR (BURLI),**
**TAL: PALUS, DIST: SANGLI - 416 308**
Reaccredited with 'A' Grade by NAAC (CGPA-3.02)
**Department of Chemistry**

## "Add On Certificate Course"
## 2021-2022

# CERTIFICATE

This is to certify that Mr. /Mrs. /Miss. _____ has actively participated in Add On certificate Course, "**Analytical Methods in Chemistry**" for B.Sc. Part- III students conducted by Department of Chemistry, Dr. Pantangrao Kadam Mahavidyalaya, Ramanandnagar (Burli) in the year 2021-2022.

| | | |
|---|---|---|
| Mr. Y. R. Sable<br>Course Incharge | Prof. Dr. P. B. Piste<br>Head of Department | Dr. L. D. Kadam<br>Principal |

Rayat Shikshan Sanstha's

# Dr. Patangrao Kadam Mahavidyalaya Ramanandnagar (Burli), Tal.- Palus, Dist. - Sangli.

Reaccredited with 'A' Grade by NAAC (CGPA-3.02)

Department of Chemistry

**Year: 2021-2022** **Date 24/04/2022**

## Add On Course on Analytical Methods in Chemistry

The Department of Chemistry conduct the Add On Course (self-finance course) "Analytical Methods in Chemistry". The duration of this course is three months. In this year 70 students admitted for this course. The course is for the 100 marks. This course Includes three paper based on analytical techniques.

1. Chromatography.
2. Spectrophotometry.
3. Qualitative and quantitative Aspects of analysis.

This course is successfully completed by the B.Sc. Part III students in the academic year 2021-2022.

Outcomes:

- To acquire basic concepts, principles and techniques of modern analytical Chemistry.
- To develop an understanding of the range and uses of analytical methods in Chemistry.
- To establish and appreciation of the role of Chemistry in quantitative analysis.
- To provide experience in some scientific methods employed in analytical Chemistry.

**The Total no of beneficiaries are 70**

## Photo Gallery

**Student doing analysis of the some Chemical Samples by Spectrophotometer**

**Demonstration of Spectrophotometer to students by Miss P.R. Ghodake and Miss V.V.Nalawade .**

**Head of Department**

**Principal**
**Dr. Patangrao Kadam Mahavidyalaya,**
**Ramanandnagar (Burli)**