

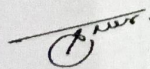
Rayat Shikshan Sanstha's  
**KARMAVEER BHAURAO PATIL COLLEGE, VASHI**

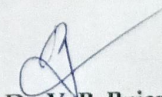
[Autonomous College]

Brief Report  
of  
Skill Based Course  
on  
"Laboratory Instruments and Measuring Techniques"

Under the aegis of RUSA

|                   |  |
|-------------------|--|
| <b>Objectives</b> | The main objective of this course is that, the students must understand about the basic principle and working of laboratory instruments viz. Vernier Calliper, Micrometer Screw gauge, Spherometer, Travelling microscope, Spectrometer and Multimeter etc and how the measurements with these instruments can be made scientifically and accurately.  |
| <b>Report</b>     | The skill based course on 'Laboratory Instruments and Measuring Techniques' especially designed for FYBSc students for keeping in mind that, once the students know the basic principle and working of each of the above stated basic laboratory instruments and how the measurement can be made scientifically and accurately which must be error (mechanical error) free E.g. Many a times, the students may rotate the screws of travelling microscope in both the directions, so that the backlash error gets introduced into their measurements. There is the possibility of the errors being get introduced while making the measurements. In view of this, it has felt necessary to introduce such a skill based course at the beginning only, so that, the students will get acquainted with these instruments and handling of them. This course was conducted from 20 <sup>th</sup> May 2021 to 31 <sup>st</sup> May 2021 by the in-house faculty members. The duration of the course was from 10.00 am to 1.00 pm on working days. In all 25 students were enrolled and benefited out of it. |
| <b>Outcome</b>    | <ul style="list-style-type: none"><li>• Identify electronics/ electrical instruments, their use, peculiar errors associated with the instruments and how to minimize such errors.</li><li>• Explain the industrial and laboratory applications of such instruments.</li><li>• Understand the basic techniques and working of electronic equipment</li><li>• The students will use above mentioned laboratory instruments by taking proper precautions, so that, they should not be misused.</li></ul>  |

  
Mr. Haral S. V.  
Convener

  
Dr. V. B. Pujari  
Head, Dept. of Physics

## Skill Based Course 2020-21 - Schedule.

Duration: 30 Lectures

Title of the Course: Laboratory Instruments &amp; Measuring Techniques.

Subject: Physics.

Class: F.Y.B.Sc.

| Sr. No. | Topic   | Name of Teacher     | Date       | Time                |
|---------|---|---------------------|------------|---------------------|
| 1       | Module -1: Vernier Calliper (Graduated)                           | Dr. V. B. Pujari    | 20.05.2021 | 10.00 am to 1.00 pm |
| 2       | Module -1: Vernier Calliper (Digital)                             | Mr. S. V. Haral     | 21.05.2021 | 10.00 am to 1.00 pm |
| 3       | Module -2: Micrometer Screw Gauge (Graduated)                     | Dr. V. B. Pujari    | 22.05.2021 | 10.00 am to 1.00 pm |
| 4       | Module -2: Micrometer Screw Gauge (Digital)                       | Mr. S. V. Haral     | 24.05.2021 | 10.00 am to 1.00 pm |
| 5       | Module -3: Spherometer (Concave Surfaces)                         | Dr. S. P. Yadav     | 25.05.2021 | 10.00 am to 1.00 pm |
| 6       | Module -3: Spherometer (Convex Surfaces)                          | Dr. S. P. Yadav     | 26.05.2021 | 10.00 am to 1.00 pm |
| 7       | Module -4: Travelling Microscope                                  | Dr. V. B. Pujari    | 27.05.2021 | 10.00 am to 1.00 pm |
| 8       | Module -5: Spectrometer (Introduction, Levelling and Adjustments) | Dr. K. V. Chandekar | 28.05.2021 | 10.00 am to 1.00 pm |
| 9       | Module -5: Spectrometer (Adjustments & Measurements)              | Dr. K. V. Chandekar | 29.05.2021 | 10.00 am to 1.00 pm |
| 10      | Module -6: Multimeter   | Dr. P. S. Gaikar    | 31.05.2021 | 10.00 am to 1.00 pm |

Mr. Haral S. V.  
In-Charge

Dr. Pujari V. B.

Head

Dept. of Physics



Rayat Shikshan Sanstha's  
Karmaveer Bhaurao Patil College, Vashi, Navi Mumbai  
(Autonomous College)

Accredited by NAAC at 'A+' Grade with CGPA-3.53

## Department of Physics

### CERTIFICATE

*This is to certify that, Gurau Nikita Sham of F.Y.B.Sc. has successfully completed skill based course "Laboratory Instruments and Measuring Techniques" of duration 24 hrs. in May 2021 and obtained B grade.*

Mr. S. V. Haral  
Co-ordinator

Dr. V. B. Pujari  
Head of Department

Dr. Shubhada Nayak  
Principal