



NAAC ACCREDITED 'A++' GRADE COLLEGE

2022-2023

Name of the Department/Society: Department of Physics and Electronics, MHRFDC

Name of the Event: Skill Enhancement Program for Laboratory Staff

Date of the Event: 19th June 2023- 20th June 2023

Lab staff working in the fields of Physics and Electronics should possess some essential skills such as Instrument handling, Measurement skills, Safety awareness, Troubleshooting and maintenance, and Documentation record-keeping, etc. to ensure efficient and accurate laboratory operations. These skills are critical for lab staff in Physics and Electronics as they contribute to accurate experimental outcomes, efficient equipment usage, and a safe working environment. Moreover, possessing these skills enhances productivity, promotes effective collaboration, and supports the overall success of research and educational activities in the field. To provide these essential skills to our laboratory staff, a two days workshop on skill enhancement was organized by the Department of Physics and Electronics, Hansraj College, University of Delhi, under the aegis of Mahatma Hansraj Faculty Development Centre, a center of MOE, Govt. of India under PMMMNMT, Hansraj College, University of Delhi from 19 June to 20 June 2023, at 9:30 A.M. To 12:30 P.M.

The workshop began with a welcome address by Dr. Aman Phogat workshop convener followed by lamp lighting. Dr. Rajender Tiwari workshop coordinator motivated the participants towards the usefulness of this program and introduced the speakers of the first session Dr. Maya, Associate Professor in Physics, HRC, and Prof. Chetana Jain, Professor in Physics, HRC. The first session was dedicated to the topic, 'Measurements in the Physical World'. Dr. Verma talked about various experimental equipment such as Vernier Caliper, Screw gauge, traveling microscope, stopwatch, pendulum, etc. She talked about measurement techniques, associated errors, and the identification of faulty equipment and their possible repair solution. Prof. Chetana Jain started her talk with an overview on acceleration due to gravity and ways to measure it. She talked in detail about the experiments done using various types of pendulums before and after the implementation of NEP 2020. She demonstrated how to use a bar pendulum and Kater's pendulum to take measurements and an excellent explanation of the spring-mass system under damped and un-damped conditions. The session ended with hands-on activities and a vote of thanks.

The second session of the workshop started in PEL6 with an introduction of the speaker Prof. Amit Sehgal, Professor in Electronics, HRC, by Dr. Rajender Tiwari. Prof. Sehgal held a presentation cum demonstration session on computer architecture and microprocessor kits. Prof. Sehgal also highlighted differences between electrical and electronic systems and the importance of microprocessors and microcontrollers. The session witnessed the active



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involvement of all the participants with lots of questions and enthusiasm. The session ended with a vote of thanks from Dr. Tiwari.

The next session took place in PEL5. Dr. Aman Phogat introduced the speakers and resource persons of the session Dr. Rajender Tiwari, Dr. Nishant Shankhwar, and Dr. Ravi Verma, Assistant Professors in Electronics, HRC. Dr. Shankhwar presented a talk on Basic Electronic Components Identification and the session had a full hands-on session assisted by Dr. Rajender Tiwari and Dr. Ravi Verma. This session was very lively and informative. Identification of various types of resistances, and capacitors available

in the labs, their value determination, introduction to various diodes, identification of p and n terminals, introduction to transistors, and identification of E, B, and C terminals, and testing the various electronics components using a multimeter were practiced during the hands-on session. All the participants actively participated and the session ended with a vote thanks from Dr. Aman Phogat.

Day 2 started with the introduction of speaker Dr. Neelakshi N.K. Borah and Ms. Chanchal Yadav, Assistant Professors in Physics, HRC College by Dr. Aman Phogat. They discussed data entry and storage, calculations, data analysis, and interpretation in MS Excel. Participants were exposed to practical demonstrations to strengthen their understanding of MS Excel. The session ended with queries from participants and a vote of thanks.

Session II of the workshop started with the introduction of speaker Dr. Hema Chutani and Ms. Bhavna Vidhani, Associate Professors in Physics, HRC, by Dr. Ravi Kumar Verma. They gave a presentation in the Optics Laboratory on several instruments. They demonstrated the operation of a spectrometer, how to determine the spectrometer's least count, how to focus a collimator and a telescope for parallel beams, and how to use prisms. The participants were divided into smaller groups to participate in hands-on sessions, giving them the opportunity to learn firsthand and participate in practical exercises.

Session III of the Second day, of the workshop started with the introduction of speakers Dr. Yogesh Kumar and Dr. Neelam Singh, Assistant Professors in Physics, HRC. Their session was dedicated to addressing safety protocols and precautions in the thermal physics lab. The session covered emergency response procedures and the importance of maintaining a safe working environment. Participants also learned about thermal physics experiments like Lee's disc experiment, the Callender and Barnes experiment, and the Searles experiment through this session.

The Physics Laboratory Staff Workshop proved to be a valuable platform for enhancing the skills and knowledge of laboratory staff. The hands-on training, expert presentations, and safety workshops provided participants with practical insights, new perspectives, and effective strategies for managing physics laboratories. The workshop successfully fostered collaboration and networking among participants, promoting future collaborations and advancement in the field of physics.

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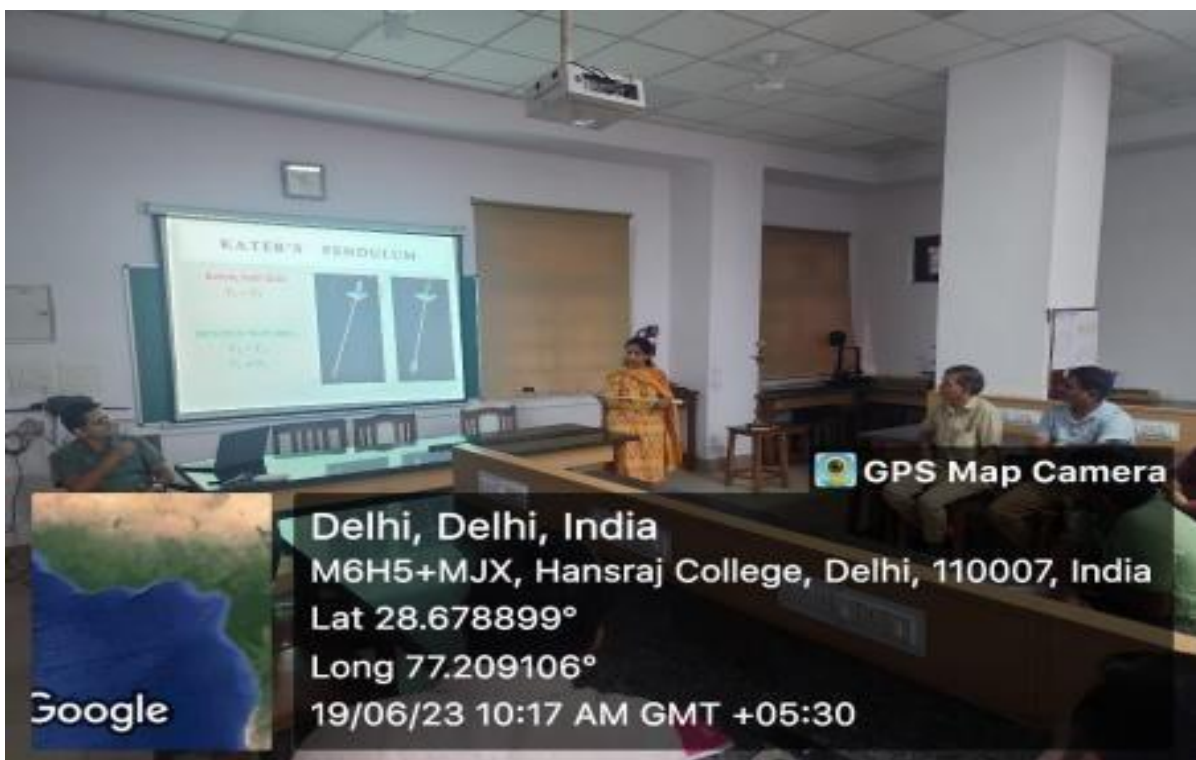


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GLIMPSES:



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| Attendance Sheet | | |
|------------------|-------------------------|---|
| SNO. | Name | Name of Department |
| 1 | Mr. Anil Singh Bhanwal | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 2 | Mr. Anand Singh Bisht | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 3 | Mr. Sushil Kumar Luthra | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 4 | Mr. Satbir Rathi | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 5 | Mr. Pawan Kr Yadav | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 6 | Mr. Meetu Khanna | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 7 | Mr. Ravinder Kumar | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 8 | Mr. Gyanendra Singh | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 9 | Mr. Karamveer Bhati | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 10 | Mr. Teeka Ram | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 11 | Mr. Ramswoop | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 12 | Mr. Vipin Kumar | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 13 | Mr. Dinesh Kandpal | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 14 | Mr. Raj Kumar | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 15 | Mr. Gautam Hazra | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 16 | Mr. Sunil Kumar | Department of Physics & Electronics, Hansraj College, University of Delhi |



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|----|--------------------------|---|
| 17 | Mr. Sanjay | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 18 | Mr. Hemant Kumar | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 19 | Mr. Nazeer Mohammed | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 20 | Mr. Tarun | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 21 | Mr. Himanshu Yadav | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 22 | Mr. Love Rajput | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 23 | Mr. Awadhesh Kumar | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 24 | Mr. Chander Sekhar | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 25 | Ms. Poonam Rani | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 26 | Mr. Gaurav | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 27 | Mr. Sheel Kumar Parashar | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 28 | Mr. Chandan | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 29 | Mr. Padma Madkani | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 30 | Ms. Sonakshi Bhageshwar | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 31 | Mr. Ashish Gupta | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 32 | Mr. Ankit Pawar | Department of Physics & Electronics, Hansraj College, University of Delhi |
| 33 | Mr. Mohit Kumar | Department of Physics & Electronics, Hansraj College, University of Delhi |

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BROCHURE:

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Department of Physics and
Electronics,
Hansraj College
is organising

Two Day Skill Enhancement Program for Laboratory
Staff
(19th-20th JUNE 2023)

under the aegis of
Mahatma Hansraj Faculty Development Centre
(A Centre of MoE, Govt. of India under PMMMNMTT Scheme)

Sessions
9:30 A.M. to 12:30 P.M.
19th -20th June 2023

Ministry of Education
Government of India

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