

# **STUDY VISIT TO VARIABLE ENERGY CYCLOTRON CENTRE (VECC), BIDHAN NAGAR, KOLKATA**

On

26 MAY 2022

Organized In Association With

**DEPT. OF PHYSICS, RAJA PEARY MOHAN COLLEGE, UTTARPARA, HOOGHLY, W.B**

NAAC Accredited with **B** grade

E-mail: [rpmcphysics2020@gmail.com](mailto:rpmcphysics2020@gmail.com)

AND

**VARIABLE ENERGY CYCLOTRON CENTRE (VECC), BIDHAN NAGAR, KOLKATA**

Website address: <https://www.vecc.gov.in/>

## **ABOUT STUDY VISIT**

The study visit aims to provide the participants with hands-on experience in several parameters of an experimental physics research facility. It also helps the participants to grow deeper understandings of the working principle and application of Cyclotrons as well as to gain some important knowledge of Nuclear, Particle & Solid-state Physics which are also some important topics in the B.Sc Physics curriculum under the CBCS system. To make this visit a full success, the whole visiting time has been divided into several small sessions starting with a warm welcome by the host institute followed by a film show and visits to different facilities within VECC, Bidhannagar *viz.* Super Conducting Cyclotron (SCC). Room Temperature Cyclotron (RTC) & Photon Multiplicity Detector (PMD)- Lab along with a break for refreshment.

## **OBJECTIVES OF THE STUDY VISIT WERE**

- To have hands-on experiences in an experimental physics research facility
- Growing deeper understandings of the working principle and application of particle accelerators such as Cyclotrons.
- To gain some important knowledge of Nuclear, Particle & Solid-state Physics.
- To explore the research opportunity in the field of particle accelerators.
- To explore the career opportunity for the student in VECC, Kolkata.

**HOST INSTITUTION:**

Variable Energy Cyclotron Centre (VECC) is a premier R & D unit of the Department of Atomic Energy, Government of India and one of the constituent institutions of Homi Bhabha National Institute (HBNI). This Centre is dedicated to carry out frontier research and development in the fields of Accelerator Science & Technology, Nuclear Science (Theoretical and Experimental), Material Science, Computer Science & Technology, and in other relevant areas.

At present, VECC has 3 Cyclotrons – K130 Cyclotron operating since 1977, K500 Superconducting Cyclotron which accelerated internal beam in 2009 but diagnosed to have 1st harmonic magnetic field error which is now being corrected so that beams can be made available for experiments, and a 30 MeV H- medical cyclotron which is at the installation stage. To carry out nuclear physics in the domain of exotic nucleus a Radioactive Ion Beam facility has been built which would act as a part of the more complex accelerator facility under the major upcoming project named Advance National facility for Unstable and Rare Ion Beam (ANURIB). The RIB facility is presently being utilized for the study of defect propagation and surface physics of materials.

The Centre is equipped with a state-of-art High-Performance Computing facility and extensive network infrastructure. At present the centre operates in three campuses: at Bidhannagar – the main campus, at New Town, Rajarhat – the site for the upcoming project and Chakgaria – the site for Medical Cyclotron along with the Regional Radiation Medicine Centre which operates in the campus of Saroj Gupta Cancer Centre & Research Institute at Thakurpukur.

**ASSOCIATED INSTITUTION:**

Raja Peary Mohan College, situated very near to the famous Grand Trunk Road and just on the bank of the Hooghly river opposite the famous temple of Goddess Kali at Dakshineswar, is an undergraduate college affiliated with the University of Calcutta (CU) and has been a torchbearer of higher education in the district of Hooghly since its onset. The college has been accredited with “B” grade by NAAC and presently follows the CBCS system, introduced by CU to offer several undergraduate programs under Arts, Commerce and Science streams.

## **VISIT SCHEDULE ON 26.05.2022**

<b>Sl.</b>	<b>Time</b>	<b>Itinerary</b>
1.	13:50-14:10	Reporting at VECC Gate and security entry
2.	14:15-14:25	Welcome at Ajay Divatia Lecture Hall
3.	14:30-14:45	Film Show on VECC Activities
4.	14:45-15:00	Refreshment Break
5.	15:00-17:00	Cyclotrons and Laboratory Visits
8.	17:00-17:30	Exit through VECC Gate

### **VISITING FACULTY TEAM (RPMC)**

1. Dr Sukanta Barman (HOD & Assistant Professor, Dept of Physics, Raja Peary Mohan College)
2. Dr Jaya Maji (Assistant Professor, Dept of Physics, Raja Peary Mohan College)
3. Mr Avik Kr Basu (Assistant Professor, Dept of Physics, Raja Peary Mohan College)
4. Dr Pankaj Kumar Shaw (Assistant Professor, Dept of Physics, Raja Peary Mohan College)

### **ORGANISING COMMITTEE (VECC)**

**Visit Coordinator:** Mr Arindam Kumar Sikdar

**Group Coordinator(s)/Guide(s):** Mr Joy Mukherjee and Ms Payel Karmakar

#### **Demonstrators:**

*SCC:* Shri Jayanta Debnath

*RTC:* Shri P S Chakraborty

*PMD-Lab:* Shri Anand Dubey

Raja Peary Mohan College  
Department of Physics  
List of Participants

SL. No.	Students Name	Aadhaar No.	Voter No.
1	Barnali Pal	361360077026	
2	Tapabrata Pramanik	228125247440	AYC2262285
3	Priyam Dutta	872268663104	THQ2049419
4	Tanima Patra	6180 6213 6585	
5	Tuhin Das	826809804303	
6	Tamal Datta	738099072470	UHM2589463
7	Pritam Kumar Patra	542091649559	
8	Shyam Sundar Poriah	402281232627	NCS2268035
9	Hritick Bangal	5868 3183 6493	UYB2319705
10	Arnab Sengupta	626660250250	NCS2027001
11	Subhankar Ghosh	270841010045	SVG2767861
12	Subhajit Sadhukhan	540885330724	SVG2766863
13	Rajarsi Adak	417163243174	
14	Sumanta Santra	601476534841	UYB2309334
15	Dona Sinha	7505 6319 5905	SVG2766657
16	Subhrajit Mukherjee	2863 6340 5289	ZSG2289486
17	Amlan Chakraborty	985081815097	College ID: B.Sc/20/0182
18	Soham Ganguly	3863 1882 5963	College Id: B.Sc/20/0245)
19	Arpan Mullick	697172621812	College Id: B.Sc/20/0262
20	Pryanshu Biswas	693389826791	College ID: B.Sc/20/0203
21	Sneha Mal	674235919373	College ID: BSc/20/0103
22	Anirban Dey		College ID: BSc/19/0291
23	Mayukh Chatterjee		College ID: BSc/19/0102

**Photos of STUDY VISIT TO VARIABLE ENERGY CYCLOTRON CENTRE (VECC), BIDHAN NAGAR, KOLKATA**

