

## **Knowing the Unknown!**

### **One Day Orientation Program for School Students of Parikarma Humanity Foundation**

#### **Introduction**

Unless students locate their individual stand points in relation to the concepts represented in textbooks and relate their knowledge to their environment, knowledge is reduced to the level of mere information. To bridge this gap, there is a need for children to understand and appreciate our country's natural resources and learn how to conserve those resources for future generations through activities with scope for hands on experience, observation, experiments and outdoor learning is needed.

On request from Parikrma School, TDU developed one day interactive program Knowing the Unknown!, which offers students an opportunity to learn the applications of biotechnology, demonstration on DNA isolation and PCR amplification and visit to plant tissue culture lab.

The Parikrma Humanity Foundation aspires to provide quality education on par with privileged children. Parikrma prove that underserved children have the ability to do as well, if not better, when given an opportunity. It has the highest attendance in the country at 96% and the lowest drop-out rate at less than 1%. We acknowledge iSambhav, through its CSR initiatives has come forward to reimburse their expenditure incurred towards this orientation program. This one day orientation was organized on 3<sup>rd</sup> September 2018 at TDU, Bangalore. Around 28 students participated in the program which was held in TDU campus and GKVK campus.

#### **Session Details:**

Ms. Amrita G., Research scholar gave an overview of the activities of TDU and briefed the students on the schedule of the program.

#### **Session 1: Biotechnology Application**

Dr. Reshma, Associate Professor, PES College, Bangalore gave an overview on Biotechnology and its application. She guided students through the definition,



principle and procedure involved in the field of biotechnology. She also explained the applications of recombinant DNA technology which can be applied in various field to obtain products for human services such as in the field of agriculture, medicine (gene therapy) and in Pharmaceutical Industry (Humulin).

### **Session 2 and 3: Talk on DNA isolation and PCR amplification and Demonstration**

Students had an opportunity to attend talk and demonstration on DNA isolation and PCR amplification. Prof. Malali Gowda, Dr. Pavithra N, and Dr. Lavanya from Centre for Functional Genomics & Bio-informatics at TDU gave an overview about the activities carried out in center and various genomic tools. The Centre works on genomics of medicinal plants, microbes and human. The students were trained on genomic DNA extraction techniques from medicinal plants and DNA fingerprinting techniques. Demonstration on Oxford Nanopore Sequencing technology was delivered by Mr.Vinay, Bengaluru Genomics Centre. They also demonstrated how to analyze the sequence obtained from sequencer and Dr. Pavithra gave an overview of NCBI database and validation of sequence using BLAST search tool.



### **Demonstration on DNA isolation and PCR amplification**



### **Session 4: Visit to Tissue Culture lab and Propagation techniques**

Dr. B.N. Sathyanarayana, Professor of Horticulture and In-charge of plant tissue culture lab at GKVK, explained the students the process of plant tissue culture. He stated from the basics, which part to be used, how to prepare media, how to maintain hygiene while performing culture.

He also showed few tissue culture bottles of Banana and orchids and callus growth. He explained the advantages of tissue culture and how fast large number of saplings can be obtained through tissue culture.



### **Feedback:**

Students enjoyed the program thoroughly and have enquired about next training program, which indicates their willingness to visit TDU for the next training program. Hopefully their wishes would come true in near future. They also suggested that the field visit and lab visit was an outstanding experience and they would like to have more out of the class experience than a presentation in seminar hall.

### **List of Faculties:**

1. Dr. M. Abdul Kareem, Associate Professor, TDU
2. Dr. Reshma, Associate Professor, PES college
3. Dr. B.N. Sathyanarayana, Professor of Horticulture and In charge of plant tissue culture lab, GKVK, Bangalore.
4. Dr. Pavithra , Post Doctorate fellow , TDU
5. Dr. Lavanya, Research Associate, TDU
6. Mr. Vinay, Manager, Bangalore Genomics Center
7. Ms. Amrita G., Research scholar, TDU
8. Ms. Anu, Senior Research Fellow, TDU

**List of Students:**

Sl. No.	Students Name
1.	JaiKumar
2.	Karthik
3.	Sneha T.
4.	Chaithra
5.	Vijay Kumar
6.	Ganesh
7.	Bhanu Prakash
8.	Shivakumar G.
9.	Satish M.
10.	Sureshkumar
11.	Sangeetha B.
12.	Tasmiya A.
13.	Tanushri K.
14.	Harshini K.
15.	Gowthami E.
16.	Aishwarya A.
17.	Ramzan W.
18.	Soujanya S.
19.	Karnika V.
20.	Pavithra B.
21.	Manujakshini
22.	Deepashree R.
23.	Gangothri E.
24.	Anusha G.
25.	Vijay R.
26.	Srikanth A.
27.	Vijaya M.
28.	Deepa M.
29.	Deepa M. Hosamani (Teacher)