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**Prof. (Dr.) R. K. Swain**  
Principal, PMEC, Berhampur

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**Mr. K. D. Naik**

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**Course Coordinators**

**Mr. Debasis Mohapatra**

**Mrs. Ranumayee Sing**

**TEQIP Coordinator:**

**Dr. Trilochan Rout**

**Organizing Committee:**

**Mrs. Sasmita Rani Behara**

**Mr. Rashmi Ranjan Sahoo**

**Dr. Niranjana Panigrahi**

**Mrs. Mitali Sinha**

**Dr. Sourav Kumar Bhoi**

**Mr. Kalyan Kumar Jena**

**Mr. S Gopal Krishna Patro**

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## About the College

Parala Maharaja Engineering College (P.M.E.C), Berhampur came into existence in the year 2009 as a constituent college of Biju Pattnaik University of Technology (BPUT), Odisha. This college is one of the premier technical institutes in the state and is funded by the government of Odisha. The main objective of the institution is to produce quality technocrats in various streams. Government of Odisha has recognized this institution as a leading institution of repute and has a plan to develop it as a centre of excellence under plan funding.



## About the Department

The Department of Computer Science & Engineering since its inception in 2009 has taken several steps towards development and come a long way in establishing itself as a department which commands both respect and importance. It is equipped with sophisticated laboratories and well qualified faculties who are not only technically skilled but also professionally competent. Faculty members have obtained recognition through publication at the national and international level.

## TEQIP-III SPONSORED Short Term Course on Data Structures Using C

25<sup>th</sup> - 29<sup>th</sup> September 2018

**Organized by**

Department of Computer Science &  
Engineering,  
Parala Maharaja Engineering College,  
Berhampur, India  
website: [www.pmec.ac.in](http://www.pmec.ac.in)



### Course Coordinators

**Mr. Debasis Mohapatra**  
**Mrs. Ranumayee Sing**  
Department of CSE



# TEQIP-III Sponsored Short Term Course on Data Structures Using C

## 25<sup>th</sup> - 29<sup>th</sup> September 2018

### About the Course

Data structure is a core subject of computer science and engineering. Data structure is a logical or mathematical model for data storage and organization that facilitates efficient access and modifications of data. Data structure plays an important role in designing efficient algorithms. This course will enable the participants to understand different types of data structures like linear data structures and non-linear data structures. The whole course is comprised of both theory and program practice. Study materials will be provided to the students for both theory and practical.

### Invited Speakers

Prof.(Dr.) Manas Ranjan Patra (Berhampur University)

Dr. Joy Chandra Mukherjee (IIT, Bhubaneswar)

Dr. Srinivas Sethi (IGIT Sarang)

### Course coverage

1. Introduction to Data structure, ADT, Time complexity, Space complexity, General operations on Data Structure.
2. Array, Operations on array, Linear Search, Binary Search
3. Insertion, Selection, Bubble sort
4. Sparse Matrix, Address calculation
5. Pointer, Structure
6. Linked List, Types of linked list, operations in Single LL, Applications
7. Double LL, Circular LL, Applications
8. Stack, Stack operations, Recursion
9. Infix, Prefix, Postfix, Conversion, Post fix expression evaluation
10. Queue, Operations in Queue, Different types of queue.
11. Tree terminologies, Binary Tree
12. Binary Search Tree
13. Heap, Heap sort
14. Different types of Graph, BFS, DFS, Spanning tree
15. Merge sort, Quick sort, Radix sort



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(Schedule)

DATE	10.00AM to 11.30AM	11.30AM to 11.45AM	11.45AM to 1.00PM	1.00PM to 2.00PM	2.00PM to 3.00PM	3.00PM to 3.15PM	3.15PM to 5.00PM
Day 1 25/09/2018 (Tuesday)	Registration & Inauguration 9.30AM to 10.00AM	Introduction (Prof. M.R. Patra)	Break	Array (Prof. M.R. Patra)	Lunch Break	Sparse Matrix, Address Calculation (Mr. D. Mohapatra)	High Tea Practical (Mr. R.Subudhi)
Day 2 26/09/2018 (Wednesday)	Pointer, Structure (Dr. S. Sethi)	Break	Linked List (Dr. S. Sethi)	Lunch Break	Double and Circular LL (Mrs. M.Sinha)	High Tea	Practical (Mr. R. Subudhi)
Day 3 27/09/2018 (Thursday)	Stack (Dr. S. Sethi)	Break	Infix, Prefix, Postfix (Dr. S. Sethi)	Lunch Break	Queue (Mrs. R. Sing)	High Tea	Practical (Mr. R. Subudhi)
Day 4 28/09/2018 (Friday)	Tree Basics , Binary Tree (Prof. M.R. Patra)	Break	BST (Prof. M.R. Patra)	Lunch Break	Heap and Heap Sort (Mrs. S.R. Behera)	High Tea	Practical (Mr. R. Subudhi)
Day 5 29/09/2018 (Saturday)	Graph Basics, BFS (Dr. J.C. Mukherjee)	Break	DFS,Spanning Tree (Dr. J.C. Mukherjee)	Lunch Break	Merge sort, Quick sort and Radix sort (Dr. N.Panigrahi)	High Tea	Valedictory