# K. J. Somaiya College of Engineering, Mumbai-77

(A Constituent College of Somaiya Vidyavihar University)

Department of Information Technology

# Course : Data Structures

**Term: ODD(2022-23) Class / Sem: S.Y. BTech (IT)III Course Outcomes (COs)**

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| **Course Outcome** | **After successful completion of the course students should be able to** |
| **CO1** | Explain the different data structures used in problem solving. |
| **CO2** | Apply linear and non-linear data structure in application development. |
| **CO3** | Describe concepts of advance data structures like set, map & dictionary. |
| **CO4** | Demonstrate different sorting and searching methods. |

**List of Experiments**

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| **Sr. No.** | **Experiment Title** | **Outcomes to be achieved** |
| 1. | Demonstrate the use of arrays, pointers, array of structure and pointer to structure in C. | **CO1** |
| 2. | Demonstrate the use of structures and pointer/class and objects to implement Singly Linked List (SLL). | **CO2** |
| 3. | Demonstrate the use of dynamic STACK in the implementation of Expression Conversion. | **CO2** |
| 4. | Demonstrate the use of static PRIORITY QUEUE in the implementation of job scheduling. | **CO2** |
| 5. | Demonstrate the use of DLL in implementation of BST. | **CO2** |
| 6. | Demonstrate Graph Representation and Traversal using appropriate data structure. | **CO2** |
| 7. | Demonstrate the use hash table in implementation of Dictionary | **CO3** |
| 8. | Demonstrate use of sorting in binary search algorithms. | **CO4** |

**Recommended Books:**

1. Data Structures A Psedocode Approach with C, Richard F. Gilberg & Behrouz A. Forouzan, second edition, CENGAGE Learning.
2. Y. Langsam, M. Augenstin and A. Tenenbaum, “Data Structures using C”, Pearson Education Asia, First Edition, 2002.
3. Michael T Goodrich, Roberto Tamassia, David Mount Data Structure and Algorithm in C++, Wiley, First Edition.

**Course In-Charge**

Prof.Khushi K

**(17/08/2022)**