Logo

Description automatically generated**Madhuben & Bhanubhai Patel Institute of Technology**

**(A Constituent College of CVM University)**

**Department of Information Technology**

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| **VISION** |
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| To achieve academic excellence in Information Technology by providing quality education, training in latest technologies to yield innovative, technically competent, and socially responsible professional to meet global challenges. |

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| **MISSION** |
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| To impart knowledge in a way that caters the needs of the ever changing technologies. |
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| To exhibit trained competent professionals in design and development of software products to fulfil industry needs. |
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| To infuse sense of ethics and social responsibilities among the students. |

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| **PROGRAM EDUCATIONAL OBJECTIVES (PEO)** |

1. To educate students efficiently in core areas of Information Technology.
2. The graduates of the programme will acquire technical and research in fields of Information Technology.
3. Aim is to have Graduates who achieves life-long learning through successful completion of higher education.
4. Produce graduates who will perform their duty ethically and responsibly in their profession.

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| **PROGRAM SPECIFIC OBJECTIVES (PSO)** |

1. To understand, analyse and develop computer programs in the areas related to algorithms, system software, multimedia, web design, DBMS, and networking for efficient design of computer-based systems.
2. To provide solutions for real world problems with a wide range of programming languages and open-source platforms in various computing domains.
3. To develop an ability to be an entrepreneur.

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| **COURSE OUTCOMES (CO)** |

* 1. Understand the importance of data structures for data processing
  2. Understand the concepts and applicability of linear data structures
  3. Understand the concepts and applicability of Non-linear data structures
  4. Understand the sorting and searching techniques with real time applications

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**Name: Enrolment No: Semester:**

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| **01** | Write a C program to perform following operations on array.   1. To create, display and reverse the array. 2. To insert and delete a particular element from given position in the array. 3. To search a particular element from the list and print its position in the array. 4. To merge two arrays. |  |  |  |  |
| **02** | Write a C program to implement the stack which should include following functions:   1. Push() : insert an element into the stack 2. Pop() : return and then delete an element from the stack 3. Display(): display the entire content of the stack 4. Peep(): display the element on the top of the stack |  |  |  |  |
| **03** | Write a C program to convert given infix expression to postfix using stack. |  |  |  |  |
| **04** | Write a C program to evaluate postfix expression using stack. |  |  |  |  |
| **05** | Write a program to implement QUEUE using arrays that performs following operations   1. INSERT : to insert element in the queue 2. DELETE: to delete an element from the   queue   1. DISPLAY: to display the queue content |  |  |  |  |
| **06** | Write a program to implement Circular Queue using  arrays that performs following operations. (a) INSERT (b) DELETE (c) DISPLAY |  |  |  |  |
| **07** | Write a menu driven program to implement following operations on the singly linked list.   1. Insert a node at the front of the linked list. 2. Insert a node at the end of the linked list. 3. Insert a node such that linked list is in ascending order.(according to info. Field) 4. Delete a first node of the linked list. 5. Delete a node before specified position. 6. Delete a node after specified position. |  |  |  |  |
| **08** | Write a program to implement following operations on the doubly linked list.   1. Insert a node at the front of the linked list. 2. Insert a node at the end of the linked list. 3. Delete a last node of the linked list. |  |  |  |  |
|  | d. Delete a node before specified position. |  |  |  |  |
| **09** | Write a program to implement linear search and the binary search. |  |  |  |  |
| **10** | Write a program to implement the Bubble Sort and selection sort. |  |  |  |  |

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| 1 | Assignment 1 |  |  |  |  |
| 2 | Assignment 2 |  |  |  |  |
| 3 | Assignment 3 |  |  |  |  |