

**2018**  
**CBCS**  
**3rd Semester**  
**COMPUTER SCIENCE**

**PAPER—C5P**

**(Set-1)**

**(Honours)**

**(Practical)**

*Full Marks : 20*

*Time : 2 Hours*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**Data Structures Lab.**

**Answer any one question (Lottery basis) : 1×15**

1. Write a program to search an element from a list using binary search. Use template function to write the search function.

2. Write a program to sort a list of elements using selection sort.
3. Write a program to sort a list of elements using bubble sort.
4. Implement a singly linked list. Include functions for insertion, deletion and display.
5. Implement a doubly linked list. Include functions for insertion, deletion and display the linked list.
6. Perform stack operation using linked list implementation.
7. Perform queue operation using circular array implementation.
8. Write a program to scan two polynomial using a function and then add two polynomials.
9. Write a program to calculate GCD of two numbers using recursion.
10. Write a program without recursion to calculate the factorial of a number.

**[PNB - 02; Viva Voce - 03]**

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**2018**

**CBCS**

**3rd Semester**

**COMPUTER SCIENCE**

**PAPER—C5P**

**(Set-2)**

**(Honours)**

**(Practical)**

*Full Marks : 20*

*Time : 2 Hours*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**Data Structures Lab.**

**Answer any one question (Lottery basis) : 1×15**

1. Write a program to search an element from a list using linear search. Use template function to write the search function.

*(Turn Over)*

2. Write a program to sort a list of elements using insertion sort.
3. Write a program to sort a list of elements using selection sort.
4. Implement a doubly linked list. Include functions for insertion, deletion and display.
5. Implement a circular linked list. Include functions for insertion, deletion and display the linked list.
6. Write a program to create a stack using linked list implement push and pop operation.
7. Write a program to create a queue using circular array implement insert and delete operation.
8. Write a program using recursion to print Fibonacci series up to given limit.
9. Write a program using recursion to calculate the factorial of an integer number.
10. Write a program without recursion to calculate GCD of two numbers.

**[PNB - 02; Viva Voce - 03]**

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