

SAVITIBAI PHULE UNIVERSITY OF PUNE  
S. Y. B.Sc. (Computer Science) Semester III  
Practical Examination  
SUBJECT: CS-233 Practical course based on CS231  
Time: 3 hours Max. Marks: 35

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- Q1. Sort a random array of n integers (accept the value of n from user) in ascending order by using insertion sort algorithm. [10]
- Q2. Write a C program to evaluate postfix expression. [20]
- Q3. Viva [5]

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Q1. Read the 'n' numbers from user and sort using bubble sort. [10]

Q2. Write a program to reverse the elements of a queue using queue library.  
Implement basic queue operations init, enqueue, dequeue. [20]

Q3. Viva [5]

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- Q1. Sort a random array of n integers (accept the value of n from user) in ascending order by using selection sort algorithm. [10]
- Q2. Implement a queue library (dyqueue.h) of integers using a dynamic (linked list) implementation of the queue and implement init, enqueue, dequeue, isempty, peek operations. [20]
- Q3. Viva [5]

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- Q1. Sort a random array of n integers (accept the value of n from user) in ascending order by using quick sort algorithm. [10]
- Q2. Write a program that checks whether a string of characters is palindrome or not. The function should use a stack library (cstack.h) of stack of characters using a static implementation of the stack. [20]
- Q3. Viva [5]

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- Q1. Sort a random array of n integers (accept the value of n from user) in ascending order by using selection sort algorithm. [10]
- Q2. Implement a linear queue library (dyqueue.h) of integers using a dynamic (circular linked list) implementation of the queue and implementing the queue operations as (init(Q), AddQueue(Q, x), X=peek(Q)) [20]
- Q3. Viva [5]

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Q1. Sort a random array of n integers (accept the value of n from user) in ascending order by using Counting sort algorithm. [10]

Q2. A postfix expression of the form  $ab+cd-*ab/$  is to be evaluated after accepting the values of a, b, c and d. The value should be accepted only once and the same value is to be used for repeated occurrence of same symbol in the expression. Formulate the problem and write a C program to solve the problem by using stack [20]

Q3. Viva [5]

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Q1. Sort a random array of n integers (accept the value of n from user) in ascending order by using Selection sort algorithm [10]

Q2. Write a program that multiply two single variable polynomials. Each polynomial should be represented as a list with linked list implementation

[20]

Q3. Viva [5]

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Q1. Sort a random array of n integers (accept the value of n from user) in ascending order by using selection sort algorithm [10]

Q2. There are lists where insertion should ensure the ordering of data elements. Since the elements are in ascending order the search can terminate once equal or greater element is found. Implement a doubly linked list of ordered integers (ascending/descending) with insert, search and display operations. [20]

Q3. Viva [5]