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| **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27** | | | | | |
| **BSc- II SEMESTER** | | | | | |
| **SUPPLEMENTARY EXAMINATION: APRIL 2022**  (Examination conducted in July 2022) | | | | | |
| **CS 216 - Computer Science** | | | | | |
|  |  |  |  |
| **Time- 2 1/2 Hrs** | |  | **Max Marks-70** | |

**This question paper contains three parts**

**Part A**

**Answer all the following questions (10\*2=20)**

1.What is a Data Structure? List any two common data structures.

2. What is a STACK? Mention any two applications of a stack.

3. What are asymptotic notations? List the different types of Asymptotic Notations.

4. Write any two benefits of circular queues over linear queue?

5. Mention the operations which are possible on singly linked lists.

6. Define operating system. What are the problems encountered in using a computer without an operating system?

7.What is Paging in Operating System?

8. What is PCB?

9. What are multiprocessor systems? Give advantages.

10. Discuss any two responsibilities of OS file management activities.

**PART B**

**Answer any five of the following questions. (5\*6=30)**

11. Write algorithm for performing PUSH operation in a STACK.

12. Explain dynamic partition with respect to its storage allocation strategies.

13. Write an algorithm to evaluate a postfix expression.

14.Give three points to differentiate between a program and a process.

15. Convert the following infix expression to postfix expression  
 (a-(b + c)\*d) + (e + f)

16. Explain FCFS scheduling with a suitable example.

17. What are the four major activities of an operating system in regard to process management?

**PART C**

**Answer any two of the following questions. (2\*10=20)**

18.a. What is a Linked List?

b. Write an algorithm to delete the last numberfrom a LINKED LIST.

c. Mention any four types of Linked List. [2+4+4]

19. a. What is a stack?

b. Write an algorithm to perform the deque operation of a queue.

c. Explain Short Term Schedulers. [2+4+4]

20. a. Explain the concept of virtual memory management with demand paging technique.

b. Explain in detail the different file operations. [5+5]

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