

**ST. JOSEPH'S EVENING COLLEGE (AUTONOMOUS)****II SEMESTER BCA EXAMINATIONS - APRIL 2019****OPERATING SYSTEMS****Duration: 2.5 Hours****Max. Marks: 70****SECTION - A****I) Answer any SIX of the following questions. (6x3=18)**

1. What is an Operating system?
2. What is meant by Batch Systems?
3. What is process control block?
4. What is meant by context switch?
5. What is inter process communication?
6. What is critical section problem?
7. What is a resource allocation graph?
8. Give differences between internal and external fragmentation.

**SECTION - B****II) Answer any FOUR of the following questions. (4x8=32)**

9. What are the functions of operating system? Explain.
10. Define process and explain process states in detail with diagram.
11. Why mutual exclusion required? Explain any 2 methods of achieving mutual exclusion in detail.
12. Explain about the various methods to prevent deadlock.
13. Explain the concept of paging with suitable diagram.
14. Explain FCFS and C-SCAN disk scheduling algorithm.

**SECTION - C****III) Answer any TWO of the following questions. (2x10=20)**

15. Write about various cpu scheduling algorithms.
16. Consider the following page-reference string

1, 2, 3, 4, 2, 1, 5, 6, 2, 1, 2, 3, 7, 6, 3, 2, 1, 2, 3, 6

How many page faults would occur for the following replacement algorithms, assuming three frames? Remember all frames are initially empty

(a)LRU replacement (5)

(b) FIFO replacement (5)

17. Compare DOS and UNIX memory management strategies.