PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2022
(Third Semester)

Branch – COMPUTER TECHNOLOGY

OPERATING SYSTEMS

Time: Three Hours   Maximum: 50 Marks

SECTION-A (5 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (5 x 1 = 5)

1. _____ is a program in execution that forms basis of all computation.
   (i) Software   (ii) Thread   (iii) Process   (iv) Interrupt

2. Semaphore can be accessed via two operations namely _____ operations.
   (i) wait() and signal()   (ii) P() and V()
   (iii) proberen() and verhogen()   (iv) access() and store()

3. Among the following CPU scheduling algorithms, which of these allocated the CPU first to the process that requests the CPU first?
   (i) FCFS   (ii) SJF   (iii) Priority scheduling   (iv) LRU

4. Copying a process from memory to disk to allow space for other processes is called
   _____.
   (i) Deadlock   (ii) Swapping   (iii) Page fault   (iv) Demand paging

5. In the _____ algorithm, the disk arm starts at one end of the disk and moves toward the other end, servicing requests till the other end of the disk. At the other end, the direction is reversed and servicing continues.
   (i) LOOK   (ii) SCAN   (iii) C-SCAN   (iv) C-LOOK

SECTION - B (15 Marks)
Answer ALL Questions
ALL Questions Carry EQUAL Marks   (5 x 3 = 15)

6. a) Outline the Operating system services.
   OR
   b) Describe about System calls.

7. a) Explain the concept of Multicore Programming.
   OR
   b) State the Critical-section problem and Peterson's solution.

8. a) Describe any one type of CPU Scheduling algorithm.
   OR
   b) Explain the method of Deadlock detection.

9. a) Describe Segmentation memory management.
   OR
   b) Describe about any one Page replacement algorithms.

10. a) Explain the Mass Storage structure.
   OR
   b) Describe about Free-Space management.

SECTION -C (30 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks
(5 x 6 = 30)

11. a) Discuss the concept of Process and Process scheduling.

OR

   b) Outline the fundamentals of Interprocess Communication.

12. a) Discuss on the working of Semaphores.

OR

   b) Highlight the functioning of Monitors.

13. a) Summaries the basic concepts of CPU Scheduling and Scheduling criteria.

OR

   b) Discuss on Deadlock avoidance and recovery from deadlock.

14. a) Elucidate the functioning of Paging memory management method.

OR

   b) Examine the working of Demand-paging memory management technique.

15. a) Discuss on the Disk Scheduling algorithms.

OR

   b) Discuss about the Allocation methods in File system.

Z-Z-Z   END