PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2022
(Third Semester)

Branch – **COMPUTER SCIENCE**

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. Two primary models of interprocess communication are shared memory and _____.
   (i) Configuration   (ii) Message Passing
   (iii) Editing   (iv) Information Sharing

2. A resource cannot be taken from a process unless the process release the resource is a_____.
   (i) Mutual Exclusion   (ii) Circular Wait
   (iii) No Preemption   (iv) Hold and Wait

3. Which part is allocates the smallest hole that is big enough to process requirements?
   (i) First fit   (ii) Best Fit
   (iii) Worst fit   (iv) Last fit

4. In which algorithm requests are addressed in the disk queue.
   (i) FCFS   (ii) SCAN
   (iii) CSCAN   (iv) SSTF

5. The Direct Memory Access controller offers addresses and _____.
   (i) Read   (ii) Write
   (iii) Read and Write   (iv) None of the above

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

11 a Describe the Computer System Organization.
      (OR)
   b Write a Short notes on Process Scheduling.

12 a Illustrate the methods for Handling Deadlocks.
      (OR)
   b Categorize four conditions in Deadlock.

13 a What is Main Memory and why it is required?
      (OR)
   b Analyze advantages of Demand Paging.

14 a Explain the concept of File Systems.
      (OR)
   b Narrate the important terms of Disk Scheduling.

15 a Given a short notes on Polling.
      (OR)
   b Compare Buffering and Caching.

Cont...

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

16   a   Explain the Computer System Architecture with neat sketch.
(OR)
      b   Discuss in detail about types of Inter Process Communication with example.

17   a   What is wait for graph in deadlock? Explain with example.
(OR)
      b   Elaborate Deadlock Avoidance and its algorithm.

18   a   Examine about Memory Allocation with example.
(OR)
      b   Discuss about the Page Replacement algorithms.

19   a   Analyze the File Directories and its advantages.
(OR)
      b   Elucidate the Disk Management algorithm.

20   a   I) Illustrate the Block and Character devices
            II) Analyze Some Network Devices.
(OR)
      b   Examine the Kernel Data Structures.

Z-Z-Z   END