23ITU312

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024
(Third Semester)

Branch – **INFORMATION 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. When was the first operating system developed?
   (i) 1948 (ii) 1949
   (iii) 1950 (iv) 1951

2. Which of the following are two types of atomic operations performed by semaphores?
   (i) Wait, Signal (ii) Wait, Stop
   (iii) Signal, Stop (iv) Signal, Wait

3. What is the maximum length of the filename in DOS?
   (i) 4 (ii) 5
   (iii) 8 (iv) 12

4. Which of the following supports Windows 64 bit?
   (i) Windows XP (ii) Windows 1998
   (iii) Windows 2000 (iv) None of the above

5. What type of scheduling is round-robin scheduling?
   (i) Linear-data (ii) Non-Linear Data
   (iii) Preemptive (iv) Non-Preemptive

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

6. a) Write a short notes on System calls?
   OR
   b) Define Operating system and its operations.

7. a) Summarize about the Mutex locks in Synchronization.
   OR
   b) Explain the process involved in Deadlock Detection.

8. a) Give a detail note on Paging?
   OR
   b) What is Swapping and explain it?

9. a) Explain the Swap-Space Management in detail.
   OR
   b) Elaborate the Structure Storage Attachement.

10. a) Describe about the File Access Method.
   OR
   b) Explain the Structure of File System.

Cont...

SECTION -C (30 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 x 6 = 30)

11. a) Explain about the User and Operating system Interfaces in detail.

OR

b) Demonstrate the Inter Process Communication in OS.

12. a) Discuss about the Dealock Prevention & Avoidance.

OR

b) Explicate the Real time Cpu Scheduling algorithm with relevant example.

13. a) Explain the Thrashing method in Virtual Memory.

OR

b) Enumerate the Paging hardware with TLB.

14. a) Discuss about the Storage Device Management Structure.

OR

b) Explicate the HDD Scheduling with example.

15. a) Explain the File Directory Structure in detail.

OR

b) Discuss about the Memory Mapped Files.

Z-Z-Z END