K23U 2298

Reg. No. : .....

Name : .....

**V Semester B.C.A. Degree (CBCSS – OBE – Regular/Supplementary/ Improvement) Examination, November 2023**
**(2019 – 2021 Admissions)**
**Core Course**
**5B12BCA – OPERATING SYSTEMS**

Time : 3 Hours

Max. Marks : 40

## SECTION – A
**(Short Answer)**

**(6×1=6)**

Answer **all** questions.

1. What are the advantages of multiprogramming ?
2. Differentiate between system programs and application programs.
3. What is the purpose of CPU scheduler ?
4. Define deadlock.
5. What is sector sparing ?
6. List the various file attributes.

## SECTION – B
**(Short Essay)**

**(6×2=12)**

Answer **any 6** questions.

7. What is the use of system calls ?
8. Which are the states of a process ?
9. Write a note on scheduling queues.
10. What is meant by memory protection ?

P.T.O.

11. What is the use of TLB ?

12. Briefly explain the SCAN algorithm for disk scheduling.

13. What are the procedures that I/O subsystem supervises ?

14. Write short note on interrupts.

## SECTION – C
**(Essay)**

Answer **any 4** questions. **(4×3=12)**

15. What are the operating system services that are helpful to the user ?

16. How to create a process ? Explain.

17. Differentiate between internal and external fragmentation with example.

18. Briefly explain disk management.

19. Differentiate between non-blocking and asynchronous I/O.

20. Write a note on I/O Scheduling.

## SECTION – D
**(Long Essay)**

Answer **any 2** questions. **(2×5=10)**

21. Explain any three operating system structures.

22. Explain about deadlock recovery mechanisms.

23. How demand paging is implemented in virtual memory system ? Explain.

24. Explain different file allocation methods in detail.

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K22U 2250

Reg. No. : .....

Name : .....

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**(2019 Admission Onwards)**
**Core Course**
**5B12BCA – OPERATING SYSTEMS**

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SECTION – A
**(Short Answer)**

Answer **all** questions. **(6×1=6)**

1. What is an operating system ?
2. Differentiate between virus and worm.
3. What is meant by IPC ?
4. Explain fragmentation in memory management.
5. What is meant by paging ?
6. What is buffering ? Why it is used ?

SECTION – B
**(Short Essay)**

Answer **any 6** questions. **(6×2=12)**

7. Briefly explain any four system calls with example.
8. What are the methods for handling deadlock ?
9. What is thrashing ?
10. Why virtual memory is used ?

P.T.O.

11. Explain demand paging.

12. How I/O protection implemented in OS ?

13. Write a note on disk management in OS.

14. What is meant by free space management ?

## SECTION – C

**(Essay)**

Answer **any 4** questions. **(4×3=12)**

15. Briefly explain the structure of an operating system.

16. What are different process states in operating system ?

17. What is meant by contiguous memory allocation ?

18. What is LRU ? Explain with example.

19. Write a note on file sharing and protection.

20. What are the applications of an I/O interface ?

## SECTION – D

**(Long Essay)**

Answer **any 2** questions. **(2×5=10)**

21. Explain the functions of an operating system in detail.

22. What are preemptive and non preemptive scheduling algorithms ? Explain with examples.

23. Write a note on deadlock, deadlock avoidance and deadlock prevention.

24. What is segmentation ? Write a note on it.

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**K21U 4671**

**Reg. No. : .....**

**Name : .....**

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**(2019 Admn. Only)**
**Core Course**
**5B12BCA : OPERATING SYSTEMS**

Time : 3 Hours

Max. Marks : 40

PART – A

**(Short Answer)**

Answer **all** questions. **(6×1=6)**

1. Define operating system.
2. Expand PCB.
3. What is the technique used to support copy semantics for application I/O ? buffering.
4. List any two file attributes.
5. _____ is a mechanism that provides the inference between a process and the operating system.
6. Define external fragmentation.

PART – B

**(Short Essay)**

Answer **any 6** questions. **(6×2=12)**

7. Write short note on command interpreter.
8. Explain process states with neat diagram.
9. Write short note on contiguous memory algorithm.
10. Explain the Look Disk Scheduling algorithm.

**P.T.O.**

11. Explain about virtual memory.

12. Define maskable and non maskable interrupt.

13. Write short note on DMA.

14. Define spool. Explain spooling.

## PART – C

**(Essay)**

Answer **any 4** questions. **(4×3=12)**

15. Explain the fundamental approaches for users to interface with operating system.

16. Explain FCFS and SJF scheduling with example.

17. Write note on segmentation.

18. Explain about file operations.

19. Write note on Inter Process Communication (IPC).

20. Explain the steps in DMA transfer with diagram.

## PART – D

**(Long Essay)**

Answer **any 2** questions. **(2×5=10)**

21. Explain in detail about the functions of operating system.

22. Define Deadlock. Explain Bankers Algorithm for deadlock avoidance.

23. Explain any three page replacement methods with example.

24. Explain in detail about file allocation methods.