RANJAL

Q.No. | | | | | | Q.No. | | | | | |

Q.No.

Unit I

(Weightage: 08 marks)

2marks

1. List types of Operating System.
2. Define any Operating System. State its application.
3. Structure of OS Draw.
4. State two features of Linux.
5. Advantages & DisAdvantages of any operating system.

4marks

1. Explain Multiprogramming O.S
   or
2. multiprocessor & Advantages.
   or
3. Time sharing with Diagram
4. Real time & its types.

Comparision

1. CLI vs GUI (4M/6M)
2. Time sharing vs Real Time (2M/4M)
3. Time Sharing(multitasking) vs multiprogramming (2M/4M)

Expected

1. Evolution of Operating System (4M)
2. iOS vs Android (4M/2M)
3. Components of Computer System (4M)
4. List Operations on O.S (2M)

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Unit II
(Weightage : 10 marks)

2marks

① List services of Operating System
or
List System calls.

② List down System calls of file management.

4marks

③ Explain any four services of Operating System.

② What is purpose of System call & Explain system calls and its types.

VIMP ③ Components of Operating System.

6marks

① Use of operating system tools.
i) User management
ii) Security policy
iii) Device management
iv) Task scheduler
v) Performance monitor

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Unit III
(weightage : 14 marks)

2marks
1. Draw Process State diagram.
2. Draw PCB Block.

4marks
1. List scheduler types & explain each scheduler.
2. Explain the concept of CPU switching and context switching.
3. Explain User Thread and Kernal Thread with Advantages and Disadvantages.
4. Explain Process State Diagram.
5. Draw and Explain Process Control Block.
6. Explain commands with syntax
   i) PS ii) wait iii) sleep
   iv) exit v) kill
7. Discuss the Benefits of multithread programming.

6marks
1. Explain Interprocess communication.
   1) Shared memory 2) message passing.
2. Explain & draw Multithreading model.

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Comparision

Expected
1. Shared memory Vs Message passing.
2. Process Vs Thread
3. Process Vs Program

Expected
Describe method of executing given process command. (2m/4m)

Commands

2marks
1. Give commands to perform following tasks.
   i) To add delay in script
   ii) To terminate a process

4marks
1) Create folder OSY
ii) Create file First in OSY folder.
iii) List/display all files & directories.
iv) write command to clear screen.

6marks
i) wait 23850
ii) sleep 09
iii) Ps -u Asha

Outputs

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Unit-IV
(weightage: 14 marks)

2marks

1. Define CPU and I/O burst cycle.
2. Define CPU burst program
   I/O burst program

4marks

1. Explain Round Robin with example.
2. Explain CPU & I/O cycle with example
3. Explain four scheduling criteria.
4. Define Deadlock & necessary conditions for deadlock.
   Or
   Define Deadlock & preventive conditions for deadlock.
5. State steps for Banker algorithms.
6. Explain Pre-emptive is better than Non-Preemptive.

6marks

1. Numericals (FCFS, SJF, Round Robin)
2. Explain Multilevel Queue with example.

Comparision

1. Pre-emptive v/s Non-Pre-emptive (2M+4M)

Expected

1. Define : Pre-emptive & Non-Preemptive
2. What is CPU scheduling & (2M)
3. Need of Scheduling

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Unit IV

(weightage: 14M)

2 marks

(1) Define i) Virtual memory
ii) Paging
iii) Segmentation
iv) Fragmentation
v) Page fault & Page hit

(2) List types of free space management techniques.

4 marks

(1) Types of partitioning & Explain
(2) variable partitioning with suitable example.
(3) Explain free space management technique enlist all and explain any one.
(4) Define Fragmentation. Explain Internal and External Fragmentation.

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6marks

(1) Numericcal (FIFO, LRU, OPTIMAL)

(2) List and Explain Free space management techniques in detailed.

(3) Describe concept of virtual memory with respect to paging. Also draw paging hardware diagram and describe its working with example

Comparision

Paging vs Segmentation

Expected

(1) Variable vs Static Partitioning
(2) Define LRU
(3) Define i) Swapping
ii) Dynamic Reallocation.

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Unit VI

(weightage 20m)

2marks

1. Types or examples of file
2. File attributes.
3. Operation on files.

6marks

1. Explain file directory structure.
   i) Single-level
   ii) two-level
   iii) tree-level.

4marks

1. File allocation methods?
2. Explain linked allocation method?
3. Access methods:-
   1) Sequential
   2) Direct
   3) Swapping

Do not write your name or seat no. below this line

(5) Best Fit
Worst Fit
First Fit (numerical)

End