



**NAVVRACHANA
UNIVERSITY**

a UGC recognized University

School: School of Engineering and Technology
Program/s: Btech –Computer Science and Engineering
Year: 3rd **Semester:** 5th
Examination: End Semester Examination
Examination year: December - 2021

Course Code: CS310 **Course Name:** Operating System

Date: 03/12/2021

Time: 11:30 am to 1:30 pm

Total Marks: 40

Total Pages: 02

Instructions:

- Write each answer on a new page.
- Use of a calculator is permitted/not permitted

Q. No.	Details	Marks	COs*	BTL#
Q.1	Attempt the Following Questions:	10		
1.	What is thrashing. a) A high paging activity is called thrashing b) A high executing activity is called thrashing c) A extremely long process is called thrashing d) A extremely long virtual memory is called thrashing		CO3	1,2
2.	What do you mean by Memory Compaction a) Combine multiple equal memory holes into big hole b) Combine multiple small memory holes into big hole c) Divide Big Memory hole into small holes d) Divide memory hole by 2		CO3	1,2
3.	Virtual Memory is typically located at a) RAM b) CPU c) Flash Card d) Hard Drive		CO3	1,2
4.	Memory Allocation Information for a process is stored in a..... a) Page Table b) Frame Table c) Pages d) Frame List		CO3	1,2
5.	Which of the following file attribute a information is a pointer device and to the location of the file on that device a) Name b) Size c) Time ,date and user Identification d) Location		CO4	1,2

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|-----|---|-----|-------|
| 6. | _____ has the lowest fault rate of all the page replacement algorithms.
a) Optimal page replacement algorithm
b) LRU replacement algorithm
c) FIFO
d) Counting based | CO3 | 1,2,3 |
| 7. | The heads of the magnetic disk are attached to a _____ that moves all the heads as a unit.
a) Spindle
b) Disk Arm
c) Track
d) None of the above | CO4 | 1,2 |
| 8. | The time taken for the desired sector to rotate to the disk is called
a) Positioning Time
b) Random Access Time
c) Seek Time
d) Rotational Latency | CO4 | 1,2 |
| 9. | If a page number is not found in the translation lookaside buffer, then it is known as a?
a) Translation Lookaside Buffer miss
b) Buffer miss
c) Translation Lookaside Buffer hit
d) All of the mentioned | CO3 | 1,2 |
| 10. | Which of the following virtual machine is used by the Android operating system? _____
a) JVM
b) Dalvik virtual machine
c) Simple virtual machine
d) None of the above | CO5 | 1,2 |

Q.2 Attempt the following questions

5

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|----|--|-----|-----|
| 1. | The instruction being executed, must be in _____ | CO3 | 1,2 |
| 2. | Define Kernel. | CO3 | 1,2 |
| 3. | The directory can be viewed as a _____ that translates file names into their directory entries | CO4 | 1,2 |
| 4. | Virtual memory allows _____ | CO3 | 1,2 |
| 5. | Define Cache Memory | CO3 | 1,2 |

Q.3 Attempt (Any 5) from the following questions.

25

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|----|--|-----|-----|
| 1. | Explain swapping in operating system with diagram and suitable example.. | CO3 | 1,2 |
| 2. | Give difference between External fragmentation and Internal fragmentation | CO3 | 1,2 |
| 3. | Describe concept of file, its types and operations on file attributes in detail. | CO4 | 1,2 |
| 4. | Explain Demand Paging with neat diagram | CO3 | 1,2 |
| 5. | Explain Android Architecture Framework with diagram . | CO5 | 1,2 |
| 6. | Explain Paging and Segmentation with suitable example and diagram | CO3 | 1,2 |

7. Consider a disk queue with requests for I/O to blocks on cylinders 98, 183, 41, 122, 14, 124, 65, 67. The FCFS scheduling algorithm is used. The head is initially at cylinder number 53. The cylinders are numbered from 0 to 199. The total head movement (in number of cylinders) incurred while servicing these requests are?

CO4 1,2,3

*****End of Question Paper*****