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Seat No. \_\_\_\_\_

SARDAR PATEL UNIVERSITY  
 External Examination (CBCS)  
 B. Sc. (Info & Tech.) - 5<sup>th</sup>- Semester (CBCS)  
 US05CINT04: Operating System  
 18<sup>th</sup> November, Monday - 2019

Time: 10:00 am to 1:00 pm

Total Marks: 70

Q-1 Select an appropriate option. 10

1. Compiler is an example of which components of Operating system?  
 (a) Hardware (b) System Program  
 (c) Application Program (d) None of these
2. A Program in execution is known as \_\_\_\_\_.  
 (a) Process (b) Files (c) Commands (d) None of these
3. A newly created process resides in \_\_\_\_\_ queue.  
 (a) Job (b) Ready (c) Running (d) Waiting
4. Technique use to solve problem of external fragmentation is known as \_\_\_\_\_.  
 (a) Process (b) Compaction (c) Aging (d) None of these
5. A Lazy Swapper is also known as \_\_\_\_\_.  
 (a) Pager (b) Frames (c) Pages (d) None of these
6. Demand Paging is \_\_\_\_\_.  
 (a) Paging with swapping (b) Paging without Swapping  
 (c) Swapping with fragmentation (d) Swapping without fragmentation
7. \_\_\_\_\_ is not a valid deadlock characteristic.  
 (a) Hold & Wait (b) No-Preemption (c) Preemption (d) None of these
8. \_\_\_\_\_ is not a necessary condition of critical-sections.  
 (a) Mutual Conclusion (b) Progress  
 (c) Bounded waiting (d) Mutual Exclusion
9. The If statement ends with \_\_\_\_\_.  
 (a) end (b) fi (c) end if (d) None of these
10. \_\_\_\_\_ option of vi editor is use to delete a line.  
 (a) yy (b) dd (c) cc (d) None of these

Q-2 Answer the following questions. (Attempt any TEN) 20

1. Define Operating system.
2. What is Context Switching?
3. Justify - "Operating system works as a Resource allocator."
4. What is Belady's Anomaly?

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(P.T.O)

5. Explain Virtual memory in short.
6. What is Compaction? State its use.
7. When Race conditions arise?
8. Explain resource utilization in details.
9. Justify "Linux is a secure operating system".
10. Explain ls -l command.
11. Explain cut command in short.
12. Explain while loop with example.

Q-3

- |  |   |
|--|---|
| (a) List out various types of OS. Explain any one in detail. | 5 |
| (b) Explain Process state and PCB in detail.                 | 5 |

OR

Q-3

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|--|---|
| (a) Explain Layered approach in detail.              | 5 |
| (b) Explain Priority Scheduling algorithm in detail. | 5 |

Q-4

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|---|---|
| (a) What is Memory Management? Explain Logical-Versus-Physical Address space. | 5 |
| (b) What is Fragmentation? List and explain different types of Fragmentation. | 5 |

OR

Q-4

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|--|---|
| (a) What is Demand Paging? Explain in detail.              | 5 |
| (b) Explain Clock Page replacement algorithm with example. | 5 |

Q-5 What is Cooperative Process? Explain Producer-Consumer Problem. 10

OR

Q-5 Write short note on 'Deadlock'. 10

Q-6

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|---|---|
| (a) What do you mean by Wildcard characters in LINUX? How it is useful? | 5 |
| (b) What is FAP? Explain various ways to change permission on a file.   | 5 |

OR

Q-6

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|--|---|
| (a) List and explain various file redirection operators used in Linux. | 5 |
| (b) Explain if and case statement in Linux.                            | 5 |

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 (2)