(S6/A-46)   SEAT No._____

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SARDAR PATEL UNIVERSITY
External Examination - 2019
SYBCA – SEMESTER-IV
US04CBCA03 – Operating System

Date: 04/04/2019. Thursday   Time: 02:00 P.M. to 05:00 P.M.   Marks: 70

Q-1   **Multiple choice questions.**   **[10]**

i)   _____ Scheduler select process from ready queue for execution.
(a) Short-term   (b) Long-term
(c) Medium-term   (d) None of these

ii)   Saving the state of the old process and loading the saved state of the new process is called _____.
(a) Running   (b) Waiting
(c) Context Switch   (d) None of these

iii)   Which operating system is used when the concept of rigid time requirement have been placed?
(a) Time-sharing System   (b) Real-time System
(c) Multi-user System   (d) None of these

iv)   In Paging, Physical memory is divided into fixed-size blocks is called _____.
(a) Files   (b) Pages
(c) Frames   (d) None of these

v)   _____ scheduling algorithm gives minimum Page Faults.
(a) LRU   (b) Optimal
(c) FIFO   (d) None of these

vi)   Difference between allocated memory and requested memory is known as _____.
(a) Internal fragmentation   (b) External fragmentation
(c) Virtual memory   (d) None of these

vii)   Each process has a segment of code called _____
(a) important Section (b) Critical Section (c) Mutual Section (d) None

viii)   If process is executing in its critical section , then no other processes can be executing in their critical section called _____
(a) Mutual Understanding   (b) mutual Exclusion
(c) Mutual Data   (d) None

ix)   _____ command is use to merge multiple files.
(a) paste   (b) merge
(c) cp   (d) None

x)   For delimiter _____ option is use in cut command.
(a) –f   (b) -c
(c) -d   (d) None

Q-2   **Answer the following (Any Ten)**   **[20]**
[1]   What is Process? Explain **Process States** Diagram.
[2]   Differentiate between **Hard real** time system and **Soft real** time system.
[3]   Explain **Multi-user** system in brief.
[4]   Explain **Internal Fragmentation** in short.
[5]   Explain **First-Fit** memory allocation techniques.
[6]   Explain **Virtual memory** in short.
[7]   Define   1) Cooperative Process   2) Independent Process
[8]   Why is LINUX an **Open Source**?

P.T.O

	[9]	Explain **Resource Utilization** in details.	
	[10]	Explain **Test** command in short.	
	[11]	Explain **ls –l** command.	
	[12]	Explain **cut** command in short.	

| Q-3 | [A] | Explain **Virtual machine** in detail. | [05] |
| | [B] | Explain **SJF** scheduling algorithm in brief. | [05] |

<div align="center">OR</div>

| Q-3 | [A] | Explain **PCB** in detail. | [05] |
| | [B] | Explain **Round-Robin** scheduling algorithm with example. | [05] |

| Q-4 | | Explain **Optimal** Page replacement with example and **NRU** Page Replacement algorithm in detail. | [10] |

<div align="center">OR</div>

| Q-4 | | Explain **Demand Paging** in detail. | [10] |

| Q-5 | [A] | Explain **EXT2 File system** in details. | [05] |
| | [B] | Explain **Algorithm 1** and **Algorithm 3** for two process solution. | [05] |

<div align="center">OR</div>

| Q-5 | [A] | What do you mean by **Deadlock**? Explain all necessary conditions for occurrence of deadlock. | [05] |
| | [B] | What is LINUX? Explain basic **Features** of LINUX Operating System. | [05] |

| Q-6 | [A] | Explain various **Mode** of vi editor. | [05] |
| | [B] | Explain **grep** command with at least four possible attributes and examples. | [05] |

<div align="center">OR</div>

| Q-6 | [A] | Explain different **loops** in Linux with example. | [05] |
| | [B] | What do you mean by **Wildcard Characters** in LINUX? How it is useful? | [05] |