

[A-25]

SARDAR PATEL UNIVERSITY
 Post Graduate Diploma in Computer Applications (PGDCA)
 Semester – II External Examinations
PS02CDCA21
Operating Systems
10th April, 2018

Time: 10:00 a.m. to 1:00 p.m.

Max Marks: 70

Q1. Choose the most appropriate option for each question.**[8]**

- i. An operating system is a software program that manages the _____ resources of a computer
 - A) Hardware
 - B) Software
 - C) Both A and B
 - D) None of these
- ii. A process is _____ if it is spending more time paging than executing.
 - A) Paging
 - B) Thrashing
 - C) Virtual Paging
 - D) None of these
- iii. An Address generated by the CPU is commonly referred to as _____ address
 - A) virtual
 - B) logical
 - C) Both of these
 - D) None of these
- iv. Which one is not memory allocation technique?
 - A) Fragmentation
 - B) Free Space Management
 - C) Partitioning
 - D) None of these
- v. MS-DOS is a _____ system.
 - A) Single-user
 - B) Multi-user
 - C) Both of these
 - D) None of these
- vi. The keyboard is a device that is accessed through a _____ interface.
 - A) Block
 - B) raw I/O
 - C) Character-stream
 - D) None of these
- vii. A _____ file is a sequence of subroutines and functions.
 - A) Text
 - B) Object
 - C) Execute
 - D) Batch
- viii. _____ is an example of consumable resource.
 - A) Main Memory
 - B) Secondary Memory
 - C) Signals
 - D) All of the above

Q2. Answer the following questions (Any Seven):**[14]**

- a. What is OS? Write down Rules for Constructing name of DOS file.
- b. Define Process? List out Process State.
- c. What is SPOOLING?
- d. List out features of Unix Operating System.
- e. What is memory management? List out its techniques.
- f. What is DMA?
- g. What is concurrency? Give Example.
- h. Define the following : 1) Bus 2) Device Driver
- i. What is a Monitor?

C.P. T. O.)

- Q3. Answer the following questions:
- a. Write a short note on Layered Operating System structure. [6]
 - b. Discuss the evolution Operating System. [6]

OR

- b. Explain Process Control Block. [6]

- Q4. Answer the following questions:
- a. Explain the basic page replacement algorithm with diagram. [6]
 - b. Explain about the memory allocation techniques in detail. [6]

OR

- b. Find average waiting time using Round Robin scheduling algorithm (Time Quantum=4). [6]

Process	Arrival Time	Burst Time (in ms)
P1	0	8
P2	1	4
P3	2	15
P4	3	2
P5	4	6

- Q5. Answer the following questions:
- a. List and explain different categories of devices. [6]
 - b. Write a short on Resource Allocation Graph. Justify the statement "If graph contains no cycles there will be no deadlock." [6]

OR

- b. What is File Management? Explain in Details. [6]

- Q6. Answer the following questions:
- a. What is dead lock? Which are the methods for handling of dead lock? [6]
 - b. Write a short note on direct File Access method. [6]

OR

- b. What do you mean by the term "directory"? Explain any two types of it. [6]

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