

COPYRIGHT RESERVED

BCA (IV)-401

2018

Time : 3Hrs

Full Marks : 80

Candidates are required to give their answers in their own words as far as practicable.

The questions are of equal value.

Answer five questions in which Q. No. 1 is compulsory.

1. Choose the correct answer:

(a) In the memory hierarchy of operation system, which is the fastest accessible memory?

- (i) CPU Register
- (ii) Disk
- (iii) Main memory
- (iv) Cache Memory

(b) What are Commands?

- (i) Specific instructions for performing a particular task
- (ii) Part of the Operating System
- (iii) Part of the shell
- (iv) Special instruction

(c) Process is

- (i) Program
- (ii) Schedule entity

P.T.O.

2018 1 (401)

- (iii) Instance of Program
- (iv) All of the above
- (d) Kernel of an Operating System is
 - (i) Software
 - (ii) Hardware
 - (iii) Firmware
 - (iv) None of the above
- (e) Which of the following is not the approach to handling Deadlocks
 - (i) Deadlock prevention
 - (ii) Deadlock avoidance
 - (iii) Detect and Recover
 - (iv) Virtual Memory
- (f) Operating System manages
 - (i) Memory
 - (ii) Processor
 - (iii) I/O device
 - (iv) All of the above
- (g) Thread handling is achieved in
 - (i) Hardware layer
 - (ii) Hardware abstraction level
 - (iii) Kernel
 - (iv) System interface

- (h) Unix operating system is an.
- (i) Multiuser o/s
 - (ii) Time sharing o/s
 - (iii) Multitasking o/s
 - (iv) All of the above
2. What do you mean by "Operating System"? What are the different types of Operating System? Explain.
3. What are the benefits of a Multiuser Operating System as against a Single-User Operating System? Explain.
4. Describe the concept of process state and process control block (PCB)? What is the use of Process Control Block?
5. Discuss the Round Robin Scheduling policy with its merits and demerits. What is the impact of the quantum of time slice on the system performance?
6. Define Semaphore. Explain how Semaphores work. How can these be used to achieve mutual exclusion and condition synchronization?
7. What do you mean by deadlock? How does deadlock avoidance differ from deadlock prevention?
8. Differentiate between any two of the following:
- (a) Process and Threads
 - (b) Multiprocessor scheduling and Real time scheduling
 - (c) Linux and Windows Memory Management

2018

901

- (d) Spooling and Buffering.
9. Write short notes on any four of the following:
- (a) Evolution of Operating System
 - (b) Principle of Concurrency
 - (c) Symmetric Multiprocessing
 - (d) UNIX Concurrency Mechanism
 - (e) RAID
 - (f) Solaris Thread and SMP Management
