



A. 題目1至題目10為單選題，每題5分。(50%)

1. Which is not the main advantage of multiprocessor systems?
  - (A) increased throughput
  - (B) economy of scale
  - (C) increased reliability
  - (D) high CPU utilization
  
2. Which is a closed-source operating system?
  - (A) GNU/Linux
  - (B) Microsoft Windows
  - (C) BSD UNIX
  - (D) Solaris
  
3. What is the structure of Solaris?
  - (A) monolithic structure
  - (B) layered approach
  - (C) microkernel
  - (D) modules
  
4. Which is not the benefit of multithreaded programming?
  - (A) real-time
  - (B) resource sharing
  - (C) economy
  - (D) scalability
  
5. Which is a nonpreemptive process scheduling algorithm?
  - (A) FCFS scheduling
  - (B) SJF scheduling
  - (C) priority scheduling
  - (D) RR scheduling
  
6. Which is not the condition the deadlock prevention approach tries to prevent?
  - (A) no preemption
  - (B) circular wait
  - (C) mutual exclusion
  - (D) hold and wait



7. Which strategy does not need to search the entire list of free holes?
- (A) random fit
  - (B) first fit
  - (C) best fit
  - (D) worst fit
8. If it takes 20ns to search the TLB and 120ns to access memory, how long is the effective memory-access time for an 90% hit ratio?
- (A) 126ns.
  - (B) 142ns
  - (C) 152ns.
  - (D) 162ns
9. Which page-replacement algorithm may exhibit Belady's anomaly?
- (A) FIFO
  - (B) optimal page replacement
  - (C) LRU
  - (D) LFU
10. Which allocation method cannot support both sequential and direct access?
- (A) contiguous allocation
  - (B) linked allocation
  - (C) indexed allocation
  - (D) multilevel index
- B. 題目11至題目13為詳答題。(50%)
11. (a) Why we need the synchronization mechanism in an operating system? (5%)  
(b) Define the Dining Philosopher (DP) problem in the operating system. (5%)  
(c) Solve the DP problem by using the “Monitor” method and give some detail descriptions of the codes. (15%)
12. Determine the AWT (Average waiting time) and ATT (Average turnaround time) by using the Preemptive Shortest Job First (P-SJF) scheduling. (15%)



國立雲林科技大學

101 學年度碩士班暨碩士在職專班招生考試試題

系所：資工系

科目：作業系統

Process	Arrival time	Burst Time
P1	0	8
P2	1	4
P3	2	9
P4	3	5

13. Describe how to implement an OS with supporting of multitasking? And what is the main overhead and impact of that? (10%)