| 系　所　別 | 組　別 | 考試科目 | 考試日期 | 時　　間 | 備　註 |
|---|---|---|---|---|---|
| 資訊科技學系碩士班<br>資訊管理學系碩士班 | -- | 系統程式 | 92.3.30 | 13:30-15:10 | 共二頁 |

1. [10%] What are the basic operations of *Complier*? What is *compiler-compiler*?

2. [10%] Suggest a design for a *one-pass linking loader*. What restrictions (if any) would be required? What would be the advantages and disadvantages of such a one-pass loader?

3. [10%] Distinguish between *fixed-partition* memory management, *dynamic* memory management.

4. [10%] What is *virtual memory*? Virtual memory dose not make a computer faster, but just more efficient. Explain.

5. [10%] Consider a swapping system in which memory consists of the following hole sizes in memory order: 8K, 10K, 20K, 15K, 7K, 5K, 18K and 10K. Which hole is taken for successive segment requests of
   - I.　15K
   - II.　12K
   - III.　5K

   for *first fit*? Now repeat the question for *best fit, worst fit*.

# 臺中健康暨管理學院
## 九十二學年度碩士班暨碩士在職專班招生考試試題紙

| 系 所 別 | 組 別 | 考試科目 | 考試日期 | 時 間 | 備 註 |
|---|---|---|---|---|---|
| 資訊科技學系碩士班<br>資訊管理學系碩士班 | -- | 系統程式 | 92.3.30 | 13:30-15:10 | 共二頁 |

6. [10%] What is *race condition*? How do we avoid *race condition*?

7. [10%] What is an *interrupt*? Explain the relationship between interrupts and the dispatcher.

8. [10%] What is *deadlock*? How to prevent *deadlock*?

9. [10%] Explain *throughput, turnaround time* and *response time*? Which are related to two common job-scheduling policies, *first come-first served*(FCFS) and *shortest job first*(SJF) ? Explain.

10. [10%] Five batch jobs A through E, arrive at a computer center at almost the same time. They have estimated running times of 9, 2, 5, 4 and 6 minutes. Their (externally determined) priorities are 3, 5, 2, 1 and 4, respectively, with 5 being the highest priority. For each of the following scheduling algorithms, determine the *mean process turnaround time*. Ignore process switching overhead. All jobs are completely CPU bound.

   - *Priority scheduling.*

   - *Shortest job first.*