

# 臺灣期貨交易所 99 年新進人員招募試題

甄選類別【代碼】：系統程式開發、維護暨測試人員【79301】

專業科目：系統分析、程式設計(C++、JAVA) \*請填寫入場通知書編號：\_\_\_\_\_

注意：①本試卷為一張單面，共有 6 大題之非選擇題，其中 4 題配分各為 15 分，2 題配分各為 20 分。  
②限用藍、黑色鋼筆或原子筆於答案卷上採英文橫式作答（以中文作答者，該題不予計分），並請從答案卷內第一頁開始書寫，違反者該科酌予扣分。所有題目不必抄題但須標示題號。  
③應考人得使用簡易型計算機；於測驗時將不符規定之電子計算機放置於桌面或使用，若經勸阻無效，仍執意使用，該科扣 10 分；計算機並由監試人員保管至該節測驗結束後歸還。  
④答案卷務必繳回，未繳回者該科以零分計算。

## 題目一：

Explain briefly the following terms regarding software testing:

- Verification and Validity (V&V). 【5 分】
- Pareto (80-20) principle in software testing. 【5 分】
- Black-box software testing. 【5 分】
- White-box software testing. 【5 分】

## 題目二：

- Considering economic feasibility analysis, what is the present value of \$10,000 one year from now, assuming a 10% discount rate? 【5 分】
- Considering economic feasibility analysis, what is payback analysis? Explain briefly how to do it. 【5 分】
- Describe the differences between **Tangible** and **Intangible** costs. (Provide an example of each) 【5 分】
- A project has been defined to contain the following activities along with their required times for completion.

Activity	Time required (weeks)	Immediate predecessor
A (initial)	2	--
B	2	A
C	3	B
D	5	B
E	5	B
F	1	C, D
G	4	F
H (final)	5	E, G

Please determine the critical path. 【5 分】

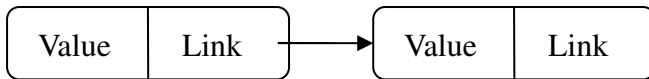
### 題目三：

Please answer the following questions about C++ programming language:

- How does the buffer overflow occur? 【4分】
- What is the error type which a compiler can obviously detect? 【3分】
- What cannot be inherited from the base class? 【8分】

### 題目四：

Please use C++ programming language to program a link list class as following diagram and a bubble sorting in decreasing order function. 【15分】



### 題目五：

Please answer the following questions about JAVA programming language:

- What does execute the JAVA byte codes? What are the advantages and disadvantages with such mechanism? 【8分】
- The following is a JAVA error message. What's happen and how to solve it? 【7分】  
HelloWorld.java:107: reference to Date is ambiguous, both class java.sql.Date in java.sql and class java.util.Date in java.util match

### 題目六：

Please program a loan class with JAVA programming language. The class contains a calculating payment function to calculate how much a month shall pay, and a calculating month function to calculate how many months shall pay with fixed prices per month. (Round to two decimal places) 【15分】