考生注意事項：
一、考試時間 100 分鐘。
二、答前，請先核對試題，答案卷（試卷）與准考證上之所組別與考試科目
　　是否相符。
三、請依照題目順序在答案卷作答。

試題：

一、問答題

1. 請寫出下運算列式子的中置(infix notation)表示法。(7%)
    (a) +-*$ABCD//EF+GH
    (b)AB+C*DE—FG+$

2. 請利用卡諾圖(Karnaugh map)化簡下列式子。(8%)

    $f(W,X,Y,Z) = \sum(4,6,7,12,14)$

3. 試分別以下列三種方法，求（−29）的 6-bit 的表示法。(6%)
    (a) sign / magnitude：
    (b) two's complement：
    (c) one's complement：

4. What is the function of a router? (4%)

5. Must a WAN include other networks, such as LANs that have been tied together? (4%)

6. What does the term Topology mean? (4%)

7. Describe the role of a hub in a star network. (4%)

8. What does a modem do during its two phases of operation? (4%)

9. Why is it possible to build an office automation system from off-the-shelf applications instead of using customized software? (4%)

10. What is the role of programmers in an IS department? (4%)

11. What kinds of systems support ActiveX applets? (4%)

背面還有試題

12. What are the five phases of the systems development life cycle for programming? (4%)

13. What is the difference between syntax errors and logic errors in software? (4%)

二、填充題(每一空格3%共計15%)

(1) 遞迴公式 $C_r^n = C_r^{n-1} + C_{r-1}^{n-1}$ 請問 C_3^5 共遞迴呼叫 (a) 次。

(2) 河內塔(Hanoi Tower)搬碟子問題,若有6個碟子共需搬 (b) 次才會完成。

(3) 10筆資料以 Bubble Sort方法排序 ,它的迴路比較次數應為 (c) 。

(4) 指令週期(I-Cycle) 和執行週期 (E-Cycle) 合起來稱為 (d) 。

(5) 某程式語言提供內儲亂數函數名為RND(I),函數傳回值在0到I之間,即 $0 <= RND(1) < 1$,若欲產生兩位數(11到99) 的亂數給N,則以程式語言 寫法,應為N= (e) 。

三、名詞解釋(每題 3%共計 24%)

(1) XML

(2) GPRS

(3) DBA

(4) WML

(5) ERP

(6) XSL

(7) Dead lock

(8) Frame Relay