

參考答案*
Suggested Answers

Answer requirements are provided for the reference of students and teachers only. They should not be treated as model answers.

The examination emphasises the testing of understanding, the practical application of knowledge and the use of processing skills. Candidates are advised to study this document in conjunction with the examiner's comments on candidates' performance in this booklet.

In questions asking for a special number of reasons or examples etc. to be given and a candidate gives more than that is required, the surplus answers will not be marked. For example, in a question asking for two examples to be given and three are given by a candidate, then only the first two answers will be marked.

Paper 1

1. (a) bold, underline, italics, font size, font colour, font type (any two)
Mark/Select the title and select the character formatting feature
(b) (i) It may not align properly (neatly/tidily/vertically) due to inappropriate fonts.
(ii) Tab 定位點/跳位點/跳格/標記, columns 欄, text box, table/tabling (any two)
(c) Adv: The size of the email is smaller.
It is safer to open an email without any attachment. (risk of virus infection)
No word processor (software) is required to open.
It is faster to upload/download the email.
(any one)
Disadv: The original formatting features will be lost (changed).
2. (a) (i) modem 調制解調器/調解器/數據機
(ii) communication software / dialup software 通訊軟件/撥號軟件/撥入軟件
(b) Network B has lower data transfer rate.
Network B is less secure.
(c) Employees: As they need not go to the office to work, it saves time/money on travel.
(flexible time/comfortable environment)
Employers: As they will be less office space requirement, the company can save money to rent the office. (saving resources)
(d) $10 \times 2^{20} \times 8 \text{ bits} \div 60 \text{ seconds}$ (320 s & 53.3 s) (1.875 MB & 11.25 MB)
= 1,398,101 bps or 1.4 Mbps
Thus, 1.5 Mbps is required.

* 此部分只設英文版本

3. (a)

Address 1101	Address 1110	Address 1111	Accumulator
1	1	6	0
1	1	6	1
1	1	6	2
2	1	6	2
2	1	5	2
2	1	5	3
2	3	5	3
2	3	4	3
2	3	4	4

(b)

	Address 1101	Address 1110	Address 1111	Accumulator
1 st pass	2	3	4	4
2 nd pass	5	8	2	2
3 rd pass	13	21	0	0

(c) 21

4. (a) Adv.: There is no need to exchange coins for each transaction.
It reduces the chance of theft.
(any one)

Disadv.: Cost on purchasing/operating the smart card system is needed.

(b) (i) Unit A is Control Unit (CU). 控制部件

Unit B is Arithmetic and Logic Unit (ALU). 算術及邏輯運算部件

Unit B is used to perform the arithmetic and logic operations (calculation).

(ii) 2^8 or 256

(iii) ROM is non-volatile. 非易失性 / 非揮發性 / 非依電性
It avoids users modifying the operating system.

(iv) RAM holds the balance of the transaction/payment.
RAM supports (read and) write access.
RAM holds user/student program and data.
(any one)

(wrong answer: RAM is volatile)

5. (a) (i) A: 0100 0001
(ii) B: 0100 0010

(b) (i) bit pattern of p # q : 0100 0000

the character: @

(ii) 0100 0000

(iii) 1111 1111

(c) bit pattern of p # q : 0000 0100

the integer: 4

6. Line Number Program Statement

```
310    classno := copy(data[count], 4, 2);
320    if (class=inpclass) and (classno=inpno) then
350    if position > 0 then
or <> 390    data[position] := copy(data[position], 1, 6) + newno;
400    rewrite(datafile);
410    for i := 1 to count do
420    writeln(datafile, data[i]);
435    if position = 0 then
440    writeln('No such record!')
445    else
```

inpclass+''+inpno+''

Alternative:

```
425    writeln('Record has been modified successfully.');
```

430 end else

450 or add to 440

between 420 and 430

7. (a) (i) ONE

(ii) BAR

(b) Input the encrypted text into the program
or

Modify the code segment as follows:

Original version	Modified version
tmp := ord(InStr[i]) + shift;	tmp := ord(InStr[i]) - 13;
if tmp > 90 then tmp := tmp - 26;	if tmp < 65 then tmp := tmp + 26;

shift

- (c) **A** Text
 B Filename
 C Length(InStr)
 D Freq[InStr[i]] + 1
 E Freq[c] > Freq[max]

- (d) Letter 'E' is not the only most frequent letter because
- there may be more than 1 highest frequent letter
 - the passage contains too many abbreviations 縮寫 or special terms
 - the passage is not long enough
- (any two)
(other reasonable answers)

8. `var n, i : integer; f, result : real;`
`Begin`
`i := 1; result := 0;`
`readln(n);`
`while i <= n do`
`begin`
`readln(f);`
`if (i <> 1) and (i <> n) then`
`result := result + 2 * f`
`else`
`result := result + f;`
`i := i + 1;`
`end;`
`result := result / 2;`
`writeln(result:0:2);`
`End.`
- Annotations for problem 8:
- `read(n);` (points to `readln(n);`)
 - `read(f);` (points to `readln(f);`)
 - `f + f` (points to `result := result + 2 * f`)
 - `DIV *` (points to `result := result / 2;`)
 - `optional` (points to `writeln(result:0:2);`)
 - `repeat until` (points to the `while` loop, with a checkmark below it)
9. (a) `procedure removesp;`
`begin`
`nospace := '';`
`for i := 1 to length(inp) do`
`if inp[i] <> ' ' then`
`nospace := nospace + inp[i]`
`end;`
- Annotations for problem 9(a):
- `copy(inp, i, 1)` (points to the concatenation `nospace := nospace + inp[i]`)
 - looping
check space (a-z, A-Z)
concatenation
- (b) `procedure upper;`
`begin`
`for i := 1 to length(nospace) do`
`if ord(nospace[i]) >= 97 then`
`nospace[i] := chr(ord(nospace[i]) - 32)`
`end;`
- Annotations for problem 9(b):
- `from 91 to 96` (points to `ord(nospace[i]) >= 97`)
 - `nospace[i] >= 'a'` (points to `ord(nospace[i]) >= 97`)
 - looping
check small cap
change to cap
- (c) `procedure test(var x : boolean);`
`begin`
`j := 0;`
`for i := 1 to length(nospace) do`
`begin`
`if nospace[i] <> nospace[length(nospace)-j] then`
`x := false;`
`j := j + 1`
`end`
`end;`
- Annotations for problem 9(c):
- `DIV 2 ok for some cases` (points to the loop in (b))
 - `x := x and (nospace[i] = nospace[length(nospace)-i+1])` (points to the final assignment in (c))

10. (a) (i) SID or student number

(ii) It can handle leading zero(s).

(iii) It can save storage space.

It can save time on data entry.

It can reduce errors on data entry.

The data in the system will not be affected by the change of the subject names.

(any two)

(b) It is flexible to increase more subjects. / It is easy to create queries for subject information.

(c) (i) It cannot eliminate all typing errors. (Not a complete solution)
It spends more time on data entry process. (more resources needed)

(ii) Step 1: Eliminate unnecessary entries (Name, Sex, Email address).

Step 2: In addition, create small boxes for students to fill in to represent the data they input and students are no longer to write alphabets on the sheet.

Step 3: Put all the registration sheets on an optical mark reader machine / OMR /

光標閱讀機 / 光學標記閱讀器 (scanner with suitable software) to scan and collect the data.

(d) 1. Invalid data (e.g. subject code) are marked on the sheet.
2. Some important data (e.g. student number) are left empty.

(e) He should not publish students' addresses and contact telephone numbers so as to preserve the data privacy.
He should arrange students to check their personal data privately.

Or he can just show the SID instead of name for students to check their own information.

Effective communication:

Relevance

0 / 1 / 2

Language/Style

0 / 1 / 2

correct and
appropriate

0 / 1 / 2 / 3 / 4

卷二
Paper 2

題號 Question No.	答案 Key	題號 Question No.	答案 Key
1.	A (38)	26.	A (61)
2.	D (62)	27.	D (54)
3.	A (82)	28.	D (37)
4.	D (63)	29.	C (72)
5.	C (71)	30.	A (81)
6.	B (54)	31.	C (58)
7.	B (56)	32.	D (56)
8.	C (81)	33.	B (50)
9.	B (74)	34.	A (51)
10.	C (68)	35.	B (84)
11.	C (83)	36.	A (64)
12.	B (71)	37.	A (39)
13.	A (61)	38.	C (71)
14.	C (79)	39.	A (52)
15.	C (69)	40.	B (27)
16.	D (53)	41.	B (71)
17.	A (64)	42.	B (71)
18.	D (92)	43.	C (52)
19.	B (54)	44.	D (60)
20.	C (75)	45.	B (46)
21.	D (56)	46.	D (71)
22.	A (63)	47.	B (58)
23.	A (43)	48.	C (54)
24.	A (59)	49.	D (51)
25.	C (63)	50.	B (45)

註：括號內數字為答對百分率。

Note: Figures in brackets indicate the percentages of candidates choosing the correct answers.

考生表現

卷一（必答題）

題號	一般表現
1 (a)	良好。
(b) (i)	平常。有些考生錯誤地指出缺點在於需要重覆按空白鍵。他們未能意識到只需簡單持續按空白鍵便能自動鍵入哪擊鍵。問題不在於擊鍵的過程，而在於未能把文本排成一直行。
(ii)	平常。大多考生能指出使用「定位鍵」(TAB)便能對齊時段。但是很多考生錯誤地指出齊位，包括右對齊、左對齊是問題所要求的對齊時段的方法。
(c)	欠佳。不少考生誤解學校文員在預備給家長的電郵時需要重覆地複製文件內容。其他考生指出家長們可能不懂得如何讀電郵。後者的答案與問題無關，反映這些考生未能清楚明白問題。
2 (a) (i)	良好。
(ii)	平常。頗多考生錯誤地指出他們需要瀏覽器以便接上互聯網。瀏覽器只是一種客戶端應用程序，以讓用戶查看萬維網上的 HTML 文件。在使用瀏覽器之前，我們需要撥號軟件建立連接。
(b)	平常。有些考生提出網絡B與網絡A在連接速度上的差異，但這並非一有關連的答案。連接是指設備之間的連接，與數據傳輸速率的概念無關。
(c)	欠佳。頗多考生錯誤地指出「家居辦公室」的安排可以使僱員能把辦公室的工作帶回家做，而非需要在辦公室超時工作；因此，他們錯誤地指出僱主無需要為超時工作而負出酬勞，但這些並非「家居辦公室」安排的好處。
(d)	頗差。絕大多數考生未能知道如何計算數據傳輸速率。
3 (a)	良好。
(b)	平常。
(c)	平常。
4 (a)	欠佳。問題詢問對學校帶來的好處和壞處，然而，頗多考生只從學生的角度解釋其答案，未能直接回答問題的要求。
(b) (i)	良好。部分考生未能清楚地寫出「算術及邏輯運算部件」的名稱。
(ii)	平常。有一些考生未能知道如何計算8條線組成的地址總線可以尋址多少記憶體地址。
(iii)	良好。
(iv)	平常。問題詢問有關 RAM 在設計中擔當的角色，有些考生只指出 RAM 是易失性的。這答案是 RAM 其中的一個特徵，但與問題要求的答案無關。

題號	一般表現
5 (a)	良佳。
(b) (i), (ii) & (iii)	大致不錯。
(c)	良佳。一些考生忘記在答案上用8位表示的位模式。
6	平常。一些考生試圖改寫程序，而非找出錯誤的位置及更正其語句。
7 (a) (i)&(ii)	平常。考生應多進程序追蹤練習。
(b)	平常。
(c)	良佳。
(d)	頗差。問題詢問有關方法在破譯只含大楷字母段落的弱點。然而，頗多考生錯誤地指出有關破譯方法不能處理小楷字母，與問題的要求無關。
8	頗佳。
9	欠佳。一些考生未能小心閱讀問題。他們在編寫程序的時候使用了不適當的變量。此外，約三分之一的考生沒有試答這問題或只得零分。
10 (a) (i)	頗佳。
(ii)	頗差。大多考生錯誤地指出因為 SID 可能含有字母，所以其數據類型是字符。然而，問題中所有給予的 SID 樣本皆是數字。
(iii)	大致不錯。
(b)	頗差。頗多考生錯誤地指出修改可以簡單地引致加快運作、較少數據、或較容易讀取數據。所寫答案內容虛浮，與問題要求無直接關連。
(c) (i)	平常。問題詢問在數據輸入的時候，有關錯誤處理的過程。然而，頗多考生錯誤地把問題與數據收集時出現的錯誤掛鉤。
(ii)	欠佳。不少考生未能清楚地解釋其答案。此外，頗多考生未能正確地寫出光標閱讀機的名稱。
(d)	平常。
(e)	頗佳。

卷二

本卷共設 50 題多項選擇題。試後統計資料顯示下列各點：

1. 考生未能完全意會到電腦在社會中的使用，他們並不熟悉嵌入系統（第 1 題）和專家系統（第 2 題）。
2. 考生應留意和認識檔案及數據庫，他們的表現未能令人滿意（第 6 題和第 7 題）。
3. 很多考生並不熟悉偽代碼，其表現展示出他們對利用偽代碼編寫程序毫無經驗。他們以為偽代碼是一種高級語言，可被編譯程序或解譯程序翻譯（第 25 題）。
4. 並不是很多考生能應用二進制補碼表法的知識作答，有一些考生更對二進制毫無認識，選了 A 項（第 28 題）。
5. 考生明白從很多方面來看，LCD 均勝於 CRT。但是若與 LCD 的顯示質素比較，CRT 並不遜色（第 33 題）。