

INFORMATION AND COMMUNICATION TECHNOLOGY PAPER 1 (SECTION A)

8.30 am – 10.30 am
(2 hours for both Sections A and B)

INSTRUCTIONS

1. Read carefully the instructions on the Answer Sheet. After the announcement of the start of the examination, you should first stick a barcode label and insert the information required in the spaces provided. No extra time will be given for sticking on the barcode label after the 'Time is up' announcement.
2. When told to open this book, you should check that all the questions are there. Look for the words '**END OF PAPER**' after the last question.
3. All questions carry equal marks.
4. **ANSWER ALL QUESTIONS.** You are advised to use an HB pencil to mark all the answers on the Answer Sheet, so that wrong marks can be completely erased with a clean rubber. You must mark the answers clearly; otherwise you will lose marks if the answers cannot be captured.
5. You should mark only **ONE** answer for each question. If you mark more than one answer, you will receive **NO MARKS** for that question.
6. No marks will be deducted for wrong answers.

Not to be taken away before the
end of the examination session

There are 40 questions in this paper. Choose the most suitable answers.

1. An 8-bit code 10010011 is received without an error. The last bit is a parity bit. Using the same parity check, which of the following received codes has an error?
 - A. 00111111
 - B. 10000010
 - C. 10011011
 - D. 00110101

2. Arrange the following 4-bit numbers using two's complement representation in ascending order.
 - (1) 1000
 - (2) 0100
 - (3) 0111
 - (4) 1111
 - A. (4) < (1) < (3) < (2)
 - B. (1) < (4) < (2) < (3)
 - C. (2) < (3) < (1) < (4)
 - D. (3) < (2) < (4) < (1)

3. When using a database management systems tool, what is the major purpose of a query?
 - A. Adjust the layout of a database report.
 - B. Help users enter data.
 - C. Extract information from a database.
 - D. Collect feedback from users.

4. A company uses a smart card system to record the attendance records of its employees. When an employee enters the company's office, he puts his smart card on a card reader and a new record is generated and stored in a database table. Which of the following fields are essential in the new record?
 - (1) Smart card number
 - (2) Employee's name
 - (3) Employee's department
 - (4) Time of entering the office
 - A. (1) and (3) only
 - B. (1) and (4) only
 - C. (2) and (3) only
 - D. (2) and (4) only

5. 10,000 runners participate in a marathon competition. Each runner has a unique identity code stored in a RFID (radio-frequency identification) tag on one of his or her shoes. What is the minimum storage size required in each tag?
 - A. 1 byte
 - B. 2 bytes
 - C. 3 bytes
 - D. 4 bytes

Answer Questions 6 and 7 with reference to the following passage.

In a law firm, the lawyers need to read many archive documents every day. The firm plans to scan and store its archive documents as digital images so that the lawyers can use computers to search and view the documents.

6. What is the major benefit of such digitisation?
- A. The intellectual property of the documents can be well protected.
 - B. The lawyers can easily make copies of the documents.
 - C. The lawyers can save time typing documents.
 - D. The lawyers can easily retrieve and read a document.
7. The law firm uses optical character recognition (OCR) technology to convert digital images into document files. Which of the following attributes can highly affect the accuracy of the conversion during the scanning process?
- A. DPI (dots per inch) resolution
 - B. Colour depth
 - C. File format
 - D. Image size
8. Which of the following functions in word processing is applied to 'Please read Handbook for Candidates' at the bottom of the page in the document below?

The Hong Kong Examinations and Assessment Authority (HKEAA) is dedicated to providing equitable, reliable and valid examination and assessment services. Special examination arrangements¹ can be made for candidates with special needs (such as candidates with disabilities). The provision of such services allows these candidates to be equitably assessed under suitable conditions without having an unfair advantage over other candidates.

¹ Please read Handbook for Candidates

Page 2 of 10

- A. Footnote
 - B. Indentation
 - C. Index
 - D. Centre alignment
9. What is the order of sizes of the three character sets, ASCII, Big-5 code and Unicode?
- A. ASCII < Unicode < Big-5 code
 - B. ASCII < Big-5 code < Unicode
 - C. Unicode < ASCII < Big-5 code
 - D. Unicode < Big-5 code < ASCII

10. Consider the spreadsheet below.

	A	B
1	Project	Day
2	X	15
3	X	20
4	P	30
5	X	10
6	P	10
7	X	5

What is the output value of the following formula?

`=SUMIF(A2:A7, "X", B2:B7)`

- A. 90
B. 80
C. 50
D. 20
11. When inserting a hyperlink in a slide in a presentation file, which of the following can be linked?
- (1) A video file
(2) A web site
(3) A spreadsheet file
- A. (1) and (2) only
B. (1) and (3) only
C. (2) and (3) only
D. (1), (2) and (3)
12. During data input, which of the following can minimise input errors?
- (1) Two's complement
(2) Double entry
(3) Type check
- A. (1) only
B. (3) only
C. (1) and (2) only
D. (2) and (3) only
13. Which of the following components in a Central Processing Unit (CPU) fetches an instruction from the main memory?
- A. Arithmetic and Logic Unit (ALU)
B. Memory Address Register (MAR)
C. Program Counter (PC)
D. Control Unit (CU)

14. The table MACHINE has four records, as shown below.

CLASS	CODE	PT
V1	15	80
V2	16	80
V3	17	60
V1	18	70

What is the output of the following SQL command?

```
SELECT CODE FROM MACHINE WHERE CLASS <> 'V1' AND PT < 80
```

- A. 15
B. 16
C. 17
D. 18
15. A university assigns a student number, YYYYNNNG, to every new student where

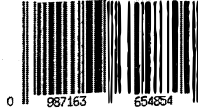
YYYY is the year of enrollment (e.g. 2015),
NNN is a 3-digit number ranging from 000 to 999, and
G is the area of study (1 stands for science and 2 stands for non-science).

According to this scheme, how many student numbers the university can assign in the year of 2015?

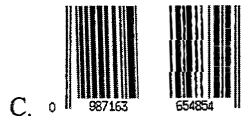
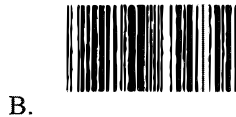
- A. 999
B. 1000
C. 2000
D. 3998
16. Which of the following functions does an operating system usually have?
- (1) Provision of a user interface
(2) Analysis of 'What-if' scenarios
(3) Allocation of memory
(4) Construction of web pages
- A. (1) and (3) only
B. (1) and (4) only
C. (2) and (3) only
D. (2) and (4) only
17. Which of the following statements about cache memory in CPU are correct?
- (1) It is better than main memory in terms of access speed.
(2) It stores frequently-used data and recently-used data.
(3) It is non-volatile.

- A. (1) and (2) only
B. (1) and (3) only
C. (2) and (3) only
D. (1), (2) and (3)

18. In a supermarket, the original barcode of a product is shown below.



Part of the barcode of the product is covered. Which of the following **cannot** be properly scanned?



19. Mary creates a file in HTML format instead of text format. Why?

- (1) Text format is not cross-platform.
- (2) The file can store hyperlinks.
- (3) Videos can be displayed when opening the file.

- A. (1) and (2) only
- B. (1) and (3) only
- C. (2) and (3) only
- D. (1), (2) and (3)

Answer Questions 20 and 21 with reference to the following passage.

A company invents a smart thermostat to control the temperature of a house through the Internet. Customers can install the smart thermostat in their house and adjust the heating/cooling functions of the air conditioner from a smart phone.

20. Which of the following best describe the application of the smart thermostat?

- (1) multi-user system
- (2) batch processing system
- (3) distributed processing system
- (4) real-time system

- A. (1) and (3) only
- B. (1) and (4) only
- C. (2) and (3) only
- D. (2) and (4) only

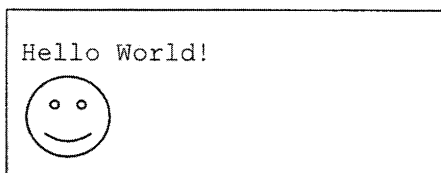
21. The smart thermostat connects to the Internet through a wireless connection. What is the advantage of this?

- A. It is convenient for installing and controlling the thermostat.
- B. TCP/IP protocol can be used.
- C. The data can be encrypted before transmission.
- D. Customers are required to enter a password to control the smart thermostat.

22. On a web page, some data are entered using a drop-down list instead of a text box, as shown below. What are the major benefits of this design?

Hong Kong Museum of Art (10 Salisbury Road, Tsim Sha Tsui, Kowloon) ▼

- (1) Decrease the input time.
(2) Reduce input errors.
(3) Allow more input words.
- A. (1) and (2) only
B. (1) and (3) only
C. (2) and (3) only
D. (1), (2) and (3)
23. Mary receives an anonymous email, saying that the attached file photos.exe includes some photos of Mary. She tries to execute the file but no photos are displayed. What is/are the possible reason(s)?
- (1) Photo editing software has not been installed in Mary's computer.
(2) The file contains malicious code that harms Mary's computer.
(3) The email server cannot execute the file.
- A. (1) only
B. (2) only
C. (1) and (3) only
D. (2) and (3) only
24. A cloud computing company not only provides cloud storage but also allows customers to make their files available offline. What is the major benefit of this arrangement?
- A. Customers can remove the files from the cloud storage easily.
B. Customers can increase the bandwidth of the network connection.
C. Customers can access the files through their smart phones.
D. Customers can edit the files without Internet connection.
25. Peter uses a web authoring tool to create a web page under the edit mode 'Design View', as shown below.



He then changes to another mode 'Code View'. Which of the following could be shown?

- A.

```
Hello World!
<IMAGE='smile.png'>
```
- B.

```
<HTML><HEAD></HEAD><BODY>
Hello World!<BR>
<IMG SRC='smile.png'>
</BODY></HTML>
```
- C.

```
<HTML><BODY>
<TEXT='Hello World! '>
<IMAGE='smile.png'>
</BODY></HTML>
```
- D.

```
BEGIN
  PRINT 'Hello World!'
  PRINT FILE 'smile.png'
END
```


26. David answers the following question in his school assignment: 'What is the history of the HKEAA?' He uses a search engine and finds the following paragraph:

The HKEAA was established in 2077...

Which of the following actions is/are appropriate?

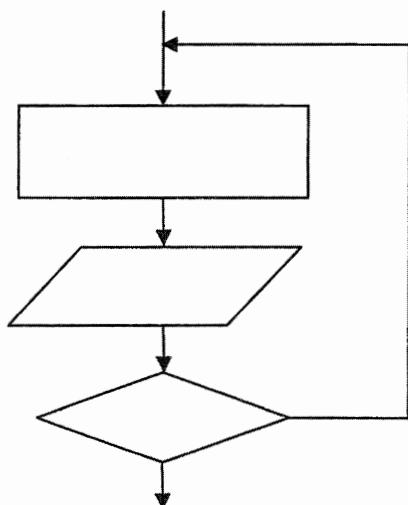
- (1) Put the entire paragraph in a search engine and search for similar results.
- (2) Browse other web sites to validate the information.
- (3) Copy the paragraph to the assignment.

- A. (1) only
- B. (2) only
- C. (1) and (3) only
- D. (2) and (3) only

27. John edits the font colour of a web page. How many different colours can he choose?

- A. $256 \times 256 \times 256$
- B. $16 \times 16 \times 16$
- C. $8 \times 8 \times 8$
- D. $3 \times 3 \times 3$

28. What kind of iteration is used in the following segment of a flowchart?



- A. Multi-way selection
- B. For loop
- C. Pre-test loop
- D. Post-test loop

29. The following pseudocode represents part of an algorithm.

```
IF (AGE > 6) AND (AGE < 12) THEN  
    OUTPUT AGE
```

Which of the following sets of test data is the most appropriate?

- A. 3 6 10 12 40
- B. 4 5 6 8 11
- C. 6 8 9 10 12
- D. 7 9 11 12 13

30. An array DAT stores English names as shown below.

Amy	Bob	Carol	Dave
DAT[1]	DAT[2]	DAT[3]	DAT[4]

After executing the following algorithm, which element in DAT stores 'Carol'?

```
P ← 4  
While P > 2  
    DAT[P] ← DAT[P-1]  
    P ← P - 1
```

- A. DAT[1]
- B. DAT[2]
- C. DAT[3]
- D. DAT[4]

31. Consider the algorithm below.

```
A ← 1  
While A < 10  
    A ← A + A  
Output A
```

Which of the following values is/are included in the output?

- (1) 6
- (2) 8
- (3) 16

- A. (1) only
- B. (2) only
- C. (1) and (3) only
- D. (2) and (3) only

32. Peter changes the format of his audio files from wav to mp3. What is his main reason for doing this?

- A. Store the mp3 files in a network-attached storage (NAS) device.
- B. Increase the quality of the audio data.
- C. Reduce the storage space required for the audio data.
- D. Create MIDI files for the audio data.

33. When solving a problem in a project, Mary needs to define the scope of the problem precisely. What is/are the major reason(s) for doing this?
- (1) She can break down the problem into sub-problems effectively.
 - (2) She can use a truth table to illustrate the solution.
 - (3) She can ignore the boundary cases when testing the algorithm.
- A. (1) only
B. (2) only
C. (1) and (3) only
D. (2) and (3) only
34. Cindy meets her friends and shares her photos. She does not upload the photos to her social networking account. Why not?
- (1) Cindy wants to own the copyright of the photos.
 - (2) Cindy wants to protect her personal privacy.
 - (3) Cindy wants to prevent her account from being hacked.
- A. (1) only
B. (2) only
C. (1) and (3) only
D. (2) and (3) only
35. The logon page of an online banking system requires customers to enter a 6-digit number generated by their security token, as shown below.

Username: _____

Password: _____

6-digit number (token):

What is the purpose of using the token?

- A. Prevent the computer from virus infection.
B. Allow customers to enter a token value without their password.
C. Authenticate customers' identity.
D. Act as a firewall.
36. Mr Chan wants to buy a tablet computer for his 8-year-old daughter, Susan. Which of the following actions is/are appropriate?
- (1) Mr Chan should buy a tablet computer with a longer battery life.
 - (2) Susan should use the tablet computer with a mouse.
 - (3) Susan should take a 5-minute break after using the tablet computer for 30 minutes.
- A. (1) only
B. (2) only
C. (1) and (3) only
D. (2) and (3) only

37. Which of the following is/are ergonomic design(s)?
- (1) A password can be set on a wireless router to prevent access by unauthorised users.
 - (2) The angle of the elevation/depression of a monitor display is adjustable.
 - (3) The text shown in word processing software can be enlarged.
- A. (1) only
B. (2) only
C. (3) only
D. (1), (2) and (3)
38. Which of the following statements about phishing email is/are correct?
- (1) Phishing email is a type of advertisement that a company sends out to target recipients.
 - (2) Phishing email is typically carried out by sending target recipients an email with a fake web site to acquire their personal information.
 - (3) Target recipients will not be able to use their computers for a few days after a phishing attack.
- A. (1) only
B. (2) only
C. (1) and (3) only
D. (2) and (3) only
39. Recently some countries have attracted more females to study ICT courses and to work in the ICT industry. What is the benefit of this policy?
- A. Widen the digital divide.
B. Reduce the computer crime rate.
C. Increase the salary.
D. Expand ICT innovations.
40. Which of the following functions is provided by a typical Internet browser?
- A. Block unauthorised access to the computer.
B. Generate a public key.
C. Prevent attack from computer virus.
D. Support the Secure Sockets Layer (SSL) in online transactions.

END OF PAPER

INFORMATION AND COMMUNICATION TECHNOLOGY
PAPER 1 (SECTION B)
Question-Answer Book

8.30 am – 10.30 am
(2 hours for both Sections A and B)
This paper must be answered in English

INSTRUCTIONS

- (1) After the announcement of the start of the examination, you should first write your Candidate Number in the space provided on Page 1 and stick barcode labels in the spaces provided on Pages 1, 3, 5 and 7.
- (2) **ANSWER ALL QUESTIONS.** Write your answers in the spaces provided in this Question-Answer book. Do not write in the margins. Answers written in the margins will not be marked.
- (3) Supplementary answer sheets will be supplied on request. Write your Candidate Number, mark the question number box and stick a barcode label on each sheet, and fasten them with string **INSIDE** this book.
- (4) No extra time will be given to candidates for sticking on the barcode labels or filling in the question number boxes after the 'Time is up' announcement.
- (5) The last page of this question-answer book contains a list of SQL commands and spreadsheet functions which you may find useful.

Please stick the barcode label here.

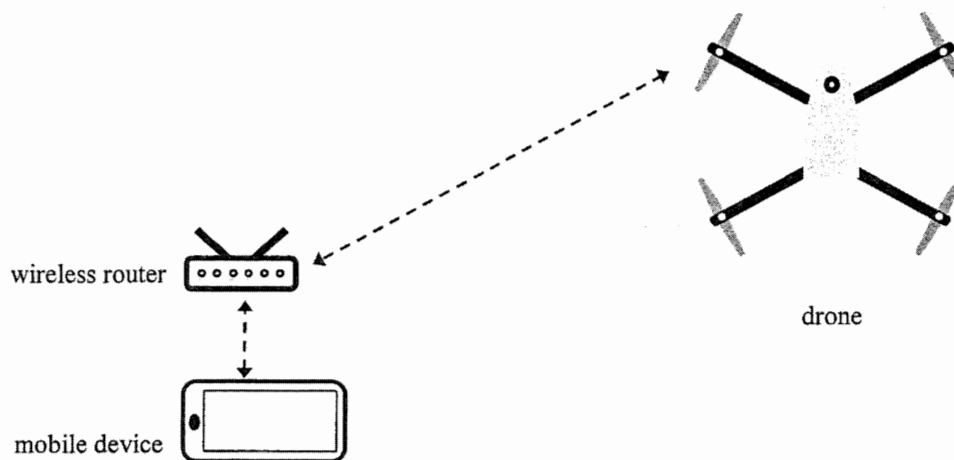
Candidate Number

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



Answer all questions.

1. Ada develops a drone which is a remote control flying device. She can use a mobile device to control the drone to fly and capture videos and photos from a high place.



- (a) The mobile device connects to the drone through the wireless router instead of the mobile phone network.
- (i) Suppose that the mobile device can connect to the drone through the mobile phone network. What is the advantage of this connection?

- (ii) Suppose that the wireless router is connected to the Internet. Give one advantage and one disadvantage of the connection to the Internet.

Advantage: _____

Disadvantage: _____

(3 marks)

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

Please stick the barcode label here.

- (b) The drone flies and takes videos at the same time. Distributed processing system cannot properly describe the two operations. What kind of computer system best describes the two operations? Explain your answer briefly.

(2 marks)

- (c) When a video starts to be recorded, live video at a high resolution will be transmitted to the mobile device for recording. Give two design issues related to networking that Ada should consider.

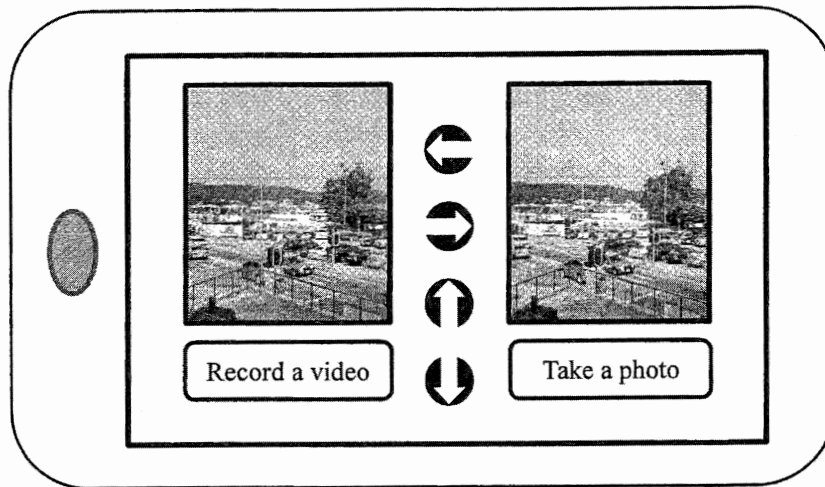
(2 marks)

Answers written in the margins will not be marked.

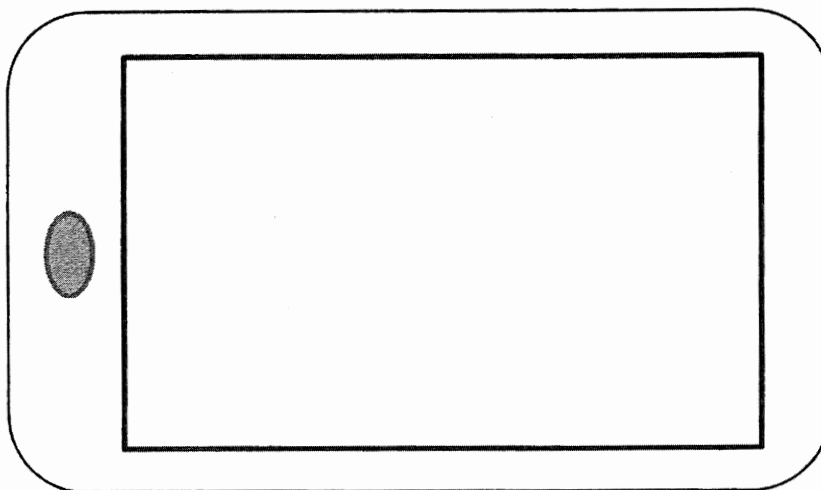
Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

- (d) The mobile device that Ada uses is a tablet computer. She develops an interface for controlling the movement of the drone and capturing videos and photos, as shown below.



- (i) There are drawbacks in the design of the interface. Make two changes to improve the design and draft it below.



- (ii) Describe the improvement in (d)(i) briefly.

(4 marks)

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

Please stick the barcode label here.

2. A learning centre has several branches with 5,000 members. Mr Li, the manager of the learning centre, uses a table MEM in a database to store member information. The first five fields of MEM are listed below:

MEM

Field name	Description
MNO	Membership number
MNAME	Member name
TELNO	Telephone number
EM	Email address
BRANCH	The branch that the member joined

- (a) (i) Explain briefly why Mr Li should not use TELNO as the primary key of MEM.

- (ii) The last digit of the membership number is a check digit. What is the use of the check digit?

(2 marks)

- (b) Mr Li executes a SQL command on MEM with five records, as shown below.

SELECT MNO FROM MEM WHERE BRANCH='WANCHAI' AND EM IS NULL

MEM

MNO	MNAME	TELNO	EM	BRANCH
12342	Au Ka Man	98765432	kmau@hklearn.com.hk	WANCHAI
98768	Fu Li Li	98761234		WANCHAI
10016	Lee Shan	98880001		CENTRAL
87656	Li Ming		mli@hklearn.com.hk	WANCHAI
78463	Siu Ka Ka		kksiu@hklearn.com.hk	

What is the output?

(2 marks)

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

- (c) Mr Li wants to send members a group email with a teacher's presentation file.

To:	_____
cc:	_____
bcc:	<u>mkng@hklearn.com.hk; kksiu@hklearn.com.hk;</u>

- (i) Why does Mr Li enter members' email addresses in 'bcc'?

- (ii) The size of the presentation file is 30 MB which exceeds the limit that the email server allows. Give **two** methods that Mr Li can use so that the members can receive the file through the Internet.

- (iii) Mr Li stores teachers' presentations in HTML format rather than in PPT format and designs the web site of the learning centre so that the presentations can only be shown through the web site. Give **two** benefits of this arrangement to the members.

(5 marks)

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Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

Please stick the barcode label here.

The following worksheet stores the estimated revenue of four branches in 2016.

	A	B	C	D
1	Commission rate	5%		
2		2016		
3	Branch	Jan-Jun (HK\$)	Jul-Dec (HK\$)	Commission (Branch) (HK\$)
4	ABERDEEN	500,000	500,000	50,000
5	WANCHAI	540,000	500,000	52,000
6	SHATIN	600,000	550,000	57,500
7	JORDAN	580,000	590,000	58,500
8			Total commission	218,000

The commission rate for Mr Li is stored in B1. For example, the commission that Mr Li will receive from the ABERDEEN branch is B1 times the sum of B4 and C4.

(d) (i) Mr Li enters a formula in D4 and then copies it into D5 to D7. Write down the formula in D4.

(ii) Mr Li wants to know how to receive a total commission of \$300,000. He uses the 'what-if' analysis in the spreadsheet to do so. List all cells that he can change.

(4 marks)

Answers written in the margins will not be marked.

3. John has a tablet computer with the following specifications:

1 GB main memory, 32 GB flash memory, 10" touch screen and microphone

(a) Other than using a virtual keyboard, suggest a way for John to input data without any extra device.

(1 mark)

(b) The tablet computer is equipped with flash memory instead of a small hard disk. Give **two** advantages of using flash memory over a hard disk.

(2 marks)

(c) John can install different types of word processing software in the tablet computer. Complete the following table to compare them.

Type	Benefit	Risk
Shareware	<hr/>	<hr/>
	<hr/>	<hr/>
	<hr/>	<hr/>
Open source software	<hr/>	<hr/>
	<hr/>	<hr/>
	<hr/>	<hr/>

(4 marks)

Answers written in the margins will not be marked.

- (d) When John installs an application in the tablet, a dialog box is shown:

Permission	
The software company will access and store your email address book.	
<input type="button" value="OK"/>	<input type="button" value="Cancel"/>

What is the risk after John clicks 'OK'?

(2 marks)

- (e) John must use the tablet computer for a long-period of time every day. Give a health problem he may encounter and suggest a way to minimise the problem.

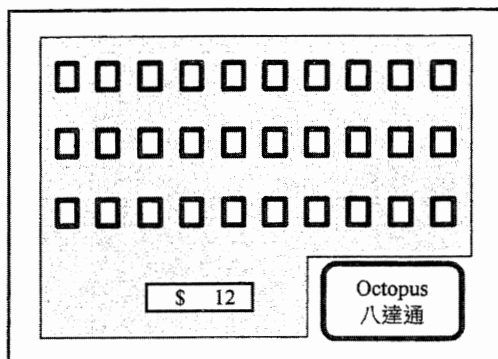
(2 marks)

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

4. Ms Wong develops a vending machine which has an embedded computer. She writes a program to control the sales of 30 kinds of products in the vending machine.



- (a) (i) Other than the operating system, what will the secondary storage in the embedded computer store?

- (ii) The operating system is not installed in the ROM of the embedded computer. Why not?

- (iii) The vending machine only allows customers to use the Octopus stored value card to buy the products. What is the advantage and disadvantage of this setting?

Advantage: _____

Disadvantage: _____

(4 marks)

Ms Wong uses an array with 30 elements, $P[1], P[2], \dots, P[30]$, to store the numbers of the 30 kinds of products remained in the vending machine. She uses the following algorithm ALG1 to check whether all the products in the machine are sold out or not.

ALG1

```

N ← 0
For I from 1 to 30
    N ← N + P[I]
If N = 0 then
    FLAG ← FALSE
else
    FLAG ← TRUE

```

- (b) (i) If the values of $P[1]$ and $P[2]$ are 0 and 1 respectively, what is the final value of FLAG?

- (ii) What does the final value of N mean?

- (iii) Ms Wong chooses Boolean as the data type of FLAG. What is the major benefit of her choice?

(4 marks)

- (c) (i) According to the values of I and FLAG, complete the following truth table.

I	FLAG	$(I \leq 30) \text{ AND } (\text{NOT FLAG})$
1	FALSE	TRUE
15	TRUE	
30	FALSE	
31	TRUE	

- (ii) The following algorithm ALG2 performs the same task as ALG1.

ALG2

```

FLAG ← FALSE
I ← 1
While  $(I \leq 30) \text{ AND } (\text{NOT FLAG})$  do
    IF  $P[I] > 0$  THEN
        FLAG ← TRUE
    I ← I + 1

```

Which algorithm, ALG1 or ALG2, should Ms Wong use? Explain briefly.

(4 marks)

Answers written in the margins will not be marked.

Answers written in the margins will not be marked.

5. Amy, Billy and Charles work in a company offering online cooking classes. Read their conversation and answer the questions below.

Amy: Charles, I read an e-commerce book and I don't understand these terms: IP, HTTP, POP, FTP, IMAP and SMTP.

Charles: They are all protocols used in the Internet.

- (a) (i) Give two examples of e-commerce that could be carried out in the company.

- (ii) Match the appropriate protocols with the Internet activities below.

<u>Activity</u>	<u>Protocols</u>
(1) Browse www.gov.hk	IP, _____
(2) Send and receive web mail	IP, _____, _____

(5 marks)

Billy: Charles, I'll have an online cooking show. Do you have any idea?

Charles: We can use streaming technology such as video conferencing and webcasting.

Amy: Charles, we should develop a plug-in so that only our members can view the show through a browser with the plug-in installed.

- (b) (i) What is the basic concept of streaming technology?

- (ii) What is the major difference between video conferencing and webcasting?

(2 marks)

- (c) Give two considerations for developing the plug-in.

(2 marks)

Charles: Billy, I use AVI and MP4 formats to store your cooking shows in a file server.

Billy: I find it difficult to locate a particular video in the file server.

(d) (i) Give one benefit of using each of the following file formats for the videos.

(1) AVI _____

(2) MP4 _____

(ii) Suggest **two** ways for Charles to support searching for videos efficiently.

(4 marks)

END OF PAPER

Answers written in the margins will not be marked.

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Database (SQL commands - based on SQL-92 Standard)

Constants	FALSE, TRUE
Operators	+, -, *, /, >, <, =, >=, <=, <>, %, _, ', AND, NOT, OR
SQL	ABSOLUTE (ABS), AVG, INT, MAX, MIN, SUM, COUNT ASC, AT, CHAR (CHR), CHAR_LENGTH (LEN), LOWER, TRIM, SPACE, SUBSTRING (SUBSTR/MID), UPPER, VALUE (VAL) DATE, DAY, MONTH, YEAR ADD, ALL, ALTER, ANY, AS, ASC, BETWEEN, BY, CREATE, DELETE, DESC, DISTINCT, DROP, EXISTS, FROM, GROUP, HAVING, IN, INDEX, INNER JOIN, INSERT, INTEGER, INTERSECT, INTO, LEFT [OUTER] JOIN, LIKE, MINUS, NULL, RIGHT [OUTER] JOIN, FULL [OUTER] JOIN, ON, ORDER, SELECT, SET, TABLE, TO, UNION, UNIQUE, UPDATE, VALUES, VIEW, WHERE

Electronic Spreadsheet

Constants	TRUE, FALSE
Operators	+, -, *, /, <, >, =, <>, <=, >=
Functions	ABS, INT, MOD, QUOTIENT, RAND, ROUND, ROUNDUP, ROUNDDOWN, SQRT, TRUNC, AND, NOT, OR CHAR, CODE, CONCATENATE, EXACT, ISBLANK, LEFT, LEN, LOWER, MID, PROPER, RIGHT, TEXT, TRIM, UPPER, VALUE AVERAGE, COUNT, COUNTA, COUNTBLANK, COUNTIF, LARGE, MAX, MIN, RANK, SMALL, SUM, SUMIF, SUMPRODUCT, SUMSQ, FREQUENCY DATE, NOW FIND, HLOOKUP, VLOOKUP, LOOKUP, SEARCH, CHOOSE IF