Paper 1 (Section A)

Question No.	Key	Question No.	Key
1.	D (79%)	21.	D (79%)
2.	A (89%)	22.	C (57%)
3.	A (43%)	23.	A (77%)
4.	B (88%)	24.	B (88%)
5.	A (90%)	25.	C (61%)
6.	C (70%)	26.	C (36%)
7.	B (76%)	27.	B (59%)
8.	C (77%)	28.	A (61%)
9.	D (57%)	29.	D (74%)
10.	A (44%)	30.	B (78%)
11.	A (55%)	31.	C (77%)
12.	C (39%)	32.	B (41%)
13.	A (91%)	33.	A (33%)
14.	B (89%)	34.	B (64%)
15.	D (64%)	35.	A (73%)
16.	D (60%)	36.	D (88%)
17.	B (91%)	37.	C (89%)
18.	A (58%)	38.	D (67%)
19.	D (66%)	39.	B (94%)
20.	C (78%)	40.	C (85%)

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

Paper 1 (Section B)

1. (a) Benefit: Messages are protected from eavesdropping and interception. (better data security)   1
    Drawback: Take time to do the encryption.   1

   (b) The symbols are encoded and sent (text/character)   1
    so that the size of the messages (storage required) can be reduced.   1

   (c) Reduce time for file transmission. (network traffic)   1
    Reduce data storage needed for the recipient's device. (storage space)   1

   (d) Mary may suffer from a pain in his neck fatigue. (Alternatives: eyes, arms)   1
       +
    She should take a 5-minute break after using the tablet computer for every 30 minutes. /   1
    ergonomic-designed furniture

   (e) (i) It helps the recovery of users' contact lists/previous messages through the Internet. /   1×2
    The data in the tablet computer can be deleted so as to save its storage space. /
    Maintain the consistency of data for multiple devices.

   (ii) WAPP company may distribute/misuse the contact lists of users for other commercial activities./   1×2
    WAPP company may reveal users' privacy in their private conversations. /
    The server will attract more hacking as it has much more privacy information.

2. (a) (i) The codecs they support are different. / MP4 has a smaller file size. /   1×2
    MP4 is a compressed format. / MP4 has a lower video quality. /
    MP4 supports streaming. / More portable devices/operating systems support MP4. /
    HTML5 supports MP4 only. / MP4 supports subtitle/menu.

   (ii) System software is used to help manage the hardware resources. It includes operating systems,   1×2
    utility programs and driver programs that provide an interface between hardware and users.

    ① function   ① description / ② two functions

   (b) 30 × 1024 / 25   1
    = 1228.8 seconds = 20 minutes   1

    30 × 1000 / 25   ✗
    ① for answer only (20)

   (c) (i) It can shorten the waiting time to view the videos,   1
    because users can watch the videos without downloading the entire files.   1

   (ii) Mr Wong can choose 1280 × 720 (high resolution) to view the videos with high quality. /   2*
    Mr Wong can choose 240 × 135 (low resolution) to view the videos with a shorter waiting time.

    ① Choose the option according to the bandwidth/video quality/waiting time.

    ✗ screen resolution / browser resolution

   (d) Peter should obtain the permission from the copyright owners of the videos before using them   1
    and acknowledge the sources of the videos afterward.   1

3. (a) ① Display of all information — 3
        ① Interactive layout
        ① Ease of input

  (b) (i) Flash memory (EEPROM) is non-volatile. — 1

      (ii) Flash memory (EEPROM) is re-writable. — 1

  (c) 9 — 1

  (d) X ← 1 — 1
       Y ← 9 — 1
           T ← T + W[i] — 1, 1

  (e) It is flexible to substitute the index of the respective stations in the algorithm — 1
       to estimate the travel times for different segments in the route. — 1

4. (a) (i) Brothers or sisters graduated in the same year may use the same phone number. — 1

      (ii) CLASS + CLASSNO — 1

  (b) Character/format/data type check for checking the alphanumeric character at each position / — 1×2
       Length check for checking the length of the entered string (presence check) /
       Check digit / Uniqueness check

  (c) (i) ASCII does not include codes of Chinese characters. — 1

      (ii) There are simplified Chinese characters in the data which can be represented by Unicode. / — 1
           Unicode includes characters of different languages.

      (iii) As Unicode can store more characters of different languages, — 1
            more storage capacity should be required in Unicode than that in Big-5 code. /
            Unicode uses variable-width encoding (1-4 bytes) while Big5 uses 2 bytes only.

  (d) | 6A | 2 | — 2
       | 6B | 2 |
       | 6C | 1 |

       └── ① exactly 3 items, not necessary in order

  (e) Subject — 1
       Registration Number — 1
       sum (total ✘) — 1

5. (a)   HTTP: Browses the shopping web site.   1

      SSL: Do payment on the shopping web site. /   1
              Any kind of data that need secure transmission, e.g., personal / sensitive data (member
              registration, login information) /
              Secure the data transmission (e.g. HTTPS, SFTP)

      SMTP: Send email to the customer services of the shopping web site.   1

   (b) (i)   Senders expect actions and attention from the recipients in 'To'   1
             while the recipients in 'Carbon Copy' receive the messages for information only.   1

       (ii) The sender has put the email addresses of all recipients in 'bcc'.   1

       (iii) No translation for the domain name is required. /   1
             It is not necessary to own (or purchase) a domain name.

             It looks like a phishing web site that customers do not want to visit it. /   1
             It is hard to remember the IP address when comparing with a meaningful domain name.

   (c) (i)   Password length: long password (8 or more characters)   1×2
             Password content: a combination of characters, numbers and symbols / not a word in dictionary
             words, not easy-to-guess password
             Client side : regularly update the password

             •   masking the password in the password field ✖
             •   a limited number of login trials ✖
             •   SSL ✖
             •   security tokens, multi-factor authentication, digital certificate ✖

       (ii) Tokens store cryptographic keys (a passcode /a password / a value) to enhance the security on   2
             top of the current security measure (e.g. password). It can be in the form of one-time password,
             hardware device, contactless device, etc.

             ① what a token is
             ① process / use

* Marking criteria
② Illustrate a comprehensive and logical answer
① Illustrate a relevant answer