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Department of Examinations - Sri Lanka

G.C.E. (O/L) Examination - 2018

80 - Infromation and Communication Technology

Marking Scheme

ICT

This document has been prepared for the use of Marking Examiners. Some changes would be made according to the views presented at the Chief Examiners' meeting.

Amendments to be included

37. How many times will the $ mark be displayed after the execution of the following pseudocode?

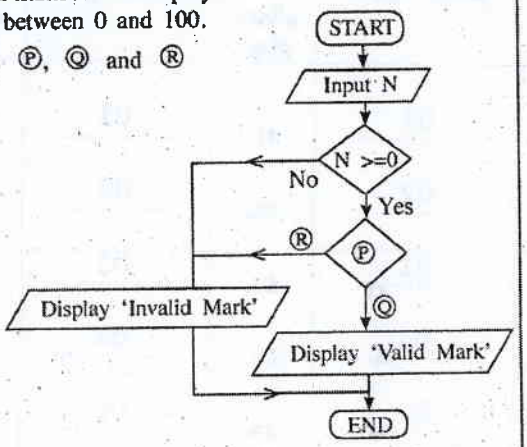
```
BEGIN
    P = 0
    REPEAT
        Q = P MOD 2
        IF Q =1 THEN
            DISPLAY '$'
        ENDIF
        P = P + 1
    UNTIL P < 5
END
```

(1) 1 (2) 2 (3) 3 (4) 4

38. Consider the flowchart on the right which inputs a number and displays the message '*Valid Mark*' if the input number is between 0 and 100.

What should be the correct terms for labels Ⓟ, Ⓠ and Ⓡ respectively?

(1) N<=100, No, Yes
(2) N<=100, Yes, No
(3) N=100, No, Yes
(4) N=100, Yes, No



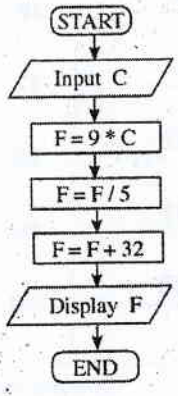
39. Which of the pseudocodes is equivalent to the logic of the flowchart on the right?

(1)
```
BEGIN
    READ C
    F = 9*C
    F = F + 32
    F = 5*F
    SHOW F
END
```

(2)
```
BEGIN
    READ C
    3F = 9*C/5 +32
    SHOW F
END
```

(3)
```
BEGIN
    READ C
    F = 9*C/5 +32
    SHOW F
END
```

(4)
```
BEGIN
    READ C
    F = 9*C
    F = C + 32
    F = 5*C
    SHOW F
END
```



40. Which of the following is/are correct regarding programming languages?

A - Machine language uses binary digits (bits) based instructions which a computer can understand.

B - *Assembly* is a low level machine dependent programming language which uses a symbolic representation of machine code.

C - High level programming languages are machine independent.

(1) A only (2) A and C only (3) B and C only (4) All A, B and C

* *

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
இலங்கைப் பரீட்சைத் திணைக்களம்
අ.පො.ස. (සා.පෙළ) විභාගය - 2018
க.பொ.த (சா.தர)ப் பரீட்சை - 2018

රහස්‍යයි

විෂයය අංකය
பாட இலக்கம் 80

විෂයය
பாடம் තොරතුරු හා සන්නිවේදන තාක්ෂණය

I පත්‍රය - පිළිතුරු
I பத்திரம் - விடைகள்

ප්‍රශ්න අංකය வினா இல.	පිළිතුරු අංකය விடை இல.	ප්‍රශ්න අංකය வினா இல.	පිළිතුරු අංකය விடை இல.	ප්‍රශ්න අංකය வினா இல.	පිළිතුරු අංකය விடை இல.	ප්‍රශ්න අංකය வினா இல.	පිළිතුරු අංකය விடை இல.
01.	01	11.	01	21.	02	31.	03
02.	02	12.	02	22.	01	32.	01
03.	01	13.	01	23.	04	33.	02
04.	04	14.	03	24.	02	34.	02
05.	02	15.	03	25.	01	35.	03
06.	02	16.	01	26.	03	36.	03
07.	04	17.	02	27.	01	37.	ALL
08.	02	18.	04	28.	03	38.	02
09.	01	19.	02	29.	03	39.	03
10.	04	20.	01	30.	01	40.	04

විශේෂ උපදෙස්
විசேட அறிவுறுத்தல்
එක් පිළිතුරකට ලකුණු
ஒரு சரியான விடைக்கு
01
බැගින්
புள்ளி வீதம்

මුළු ලකුණු / மொத்தப் புள்ளிகள் 01 × 40 = 40

පහත නිදසුනෙහි දක්වෙන පරිදි බහුවරණ උත්තරපත්‍රයේ අවසාන තීරුවේ ලකුණු ඇතුළත් කරන්න.
கீழ் குறிப்பிடப்பட்டிருக்கும் உதாரணத்திற்கு அமைய பல்தேர்வு வினாக்களுக்குரிய புள்ளிகளை பல்தேர்வு வினாப்பத்திரத்தின் இறுதியில் பதிக.

නිවැරදි පිළිතුරු සංඛ්‍යාව
சரியான விடைகளின் தொகை
25
40

I පත්‍රයේ මුළු ලකුණු
பத்திரம் I இன் மொத்தப்புள்ளி
25
40

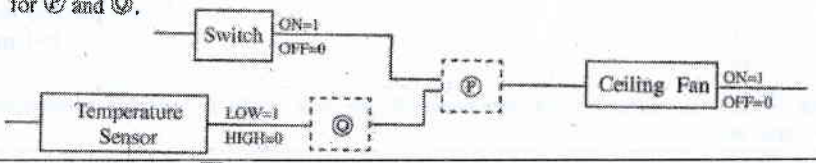
Paper II

Special Notes:

.../.../... indicate only one of the options included are considered as correct answer

Underlined key words or synonyms are mandatory

[..] Indicates marking guidelines

1	
(i)	If character 'm' is represented in the ASCII table as 109_{10} write down the binary representation of the word 'no' using 7 bits for each character.
1101110 1101111 **[Either only one of letters 'n' or 'o' is correctly represented: 1 Mark,** **Both are correctly represented but the final answer not written OR incorrect: 1.5 Marks,** **Final answer correct with or without steps =2 Marks]**	
(ii) (a)	Consider the following simplified logic circuit, which is designed to switch on a ceiling fan when temperature is HIGH while the power switch is ON. Write down the **two** relevant logic gates for Ⓟ and Ⓠ. 
P → AND/  Q→ NOT/  **[0.5 x 2 Marks = 1 mark]**	

2. (i)

(i) People who work with computers for long periods sometimes complain of certain health issues.

The following shows the **Health Issues** (labeled Ⓐ - Ⓒ), **Possible Reasons** (labeled ⓖ - ⓘ) and **Possible Solutions** (labeled Ⓟ - Ⓦ).

Match each health issue Ⓐ - Ⓒ, with a possible reason ⓖ - ⓘ and a possible solution Ⓟ - Ⓦ and write down using their labels.

(**Note:** *There can be more than one possible solution for a given health issue. However, you are required to write only one solution.*)

Health Issue	Possible Reason
Ⓐ – Carpel Tunnel Syndrome	ⓖ – Poor posture or a non-ergonomically designed work space
Ⓑ – Computer Vision Syndrome (Digital Eye Strain)	ⓗ – Painful compression of a nerve as it passes across the front of the wrist
Ⓒ – Musculoskeletal disorder	ⓘ – Looking at computer screen for prolonged periods

Possible Solutions

Ⓟ - Rest the eye muscles by looking up and staring for a moment at objects in the distance
Ⓠ - Stand up and stretch the back, arms and fingers frequently
Ⓡ - Take regular short breaks from a repetitive task by using an alarm as a reminder
Ⓢ - Avoid bending the wrists and keep the arms, wrists and fingers aligned when typing
Ⓣ - Use keyboard shortcuts to reduce typing and mouse movements
Ⓤ - Avoid hitting the keys too hard while typing / use *touch typing*
Ⓥ - Position the computer screen to avoid glare / use curtains or drapes on windows
Ⓦ - Keep the computer screen about 15 to 20 degrees below eye level

Health Issue	Possible Reason	Possible Solution
A	H	Q/R/S/T/U
B	I	P/R/V/W
C	G	Q/R

OR

A→H→ Q/R/S/T/U
B→I→ P/R/V/W
C→G→Q/R

1 mark each for correct mapping of *Health Issue* with *Possible Reason*
[1 Mark *3
= 3 Marks]

1 mark each for correct mapping of *Possible Reason/ Health Issue*with *Possible Solution*
[1 Mark *3
= 3 marks]

****Note 1: If the answer include incorrect mappings with correct mappings <u>NO marks awarded</u>**

****Note 2:only the correspondence between each column in row is important and the order of columns does not matter (i.e. Solution→ Reason OR Reason→ Solution is acceptable)**

(ii)	For each of the issues (labelled Ⓐ-Ⓓ) below, identify the relevant term from the list and write down the term against each relevant label. Ⓐ - A person receiving an email that appears to have come from a well-known organization and asking for personal information such as the credit card number, the user name and the password of the person's online banking facility Ⓑ - The practice of taking someone else's work and publishing them off as one's own Ⓒ - A person having unauthorized access to a computer network and accessing personal information such as names and addresses of customers Ⓓ - A person selling unauthorized copies of a licensed software at a 5% of the original price **List of terms :** {*fair use, forgery, hacking, phishing, plagiarism, piracy, spam*}

A→ Phishing
B→ Plagiarism
C → Hacking
D → Piracy

[1 Marks*4 =4 Marks]

3

(i) The HTML source of the web page shown in **Figure 1** is given in **Figure 2** with certain missing tags and parameters labelled ① - ⑧.

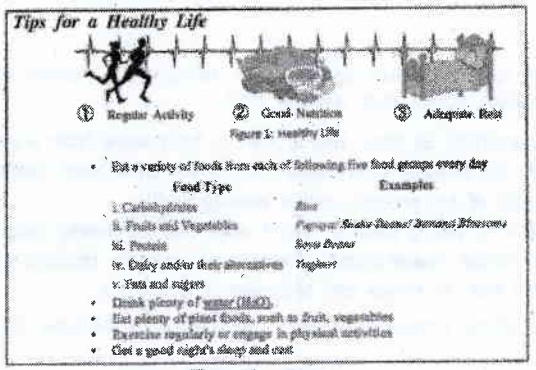


Figure 1 web page

```
                <tr>
                    <td>iii. Protein</td>
                    <td> <i>Soya Beans</i> </td>
                <tr>
                    <td>iv. Dairy and/or their alternatives </td>
                    <td> <i>Yoghurt</i>  </td>
                <tr>
                    <td> v. Fats and sugars </td>
                <tr>
            </td>
        <⑥>
        <li>Drink plenty of <⑦ href="https://www.purewaterfortheworld.org">water
            (H<⑧>2<⑧>O)<⑦>.</li>
        <li>Eat plenty of plant foods, such as fruit, vegetables</li>
        <li>Exercise regularly or engage in physical activities</li>
        <li>Get a good night's sleep and rest </li>
        <⑤>
    </body>
</html>
```

Figure 2 The HTML Source code

Select the matching correct tag or parameter from the following list for each of the labels ① - ⑧ given in **Figure 2** and write down against each label number.

List of terms : *{a, alt, b, br, center, dl, href, i, img, li, ol, p, src, sub, sup, table, td, th, tr, ul}*

(i)

1→i← **[0.5 Marks]**
2→center ← **[0.5 Marks]**
3→src ← **[0.5 Marks]**
4→alt ← **[0.5 Marks]**
5→ul ← **[0.5 Marks]**
6→table ← **[0.5 Marks]**
7→a ← **[0.5 Marks]**
8→sub ← **[1 Mark]**

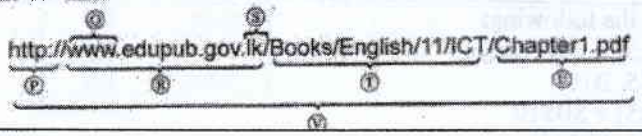
[= 4.5 Marks]

(ii)

(ii) Use the following list of terms in answering questions (a) and (b) below.

List of terms : { *DNS server, domain name, FTP, IP address, mail server, path to resource, protocol, resource, SMTP, spam mail, streaming server, top level domain, uniform resource locator (URL), web server, World Wide Web (WWW)* }

(a) Identify the correct term from the above list for labels Ⓟ-Ⓥ below and write the correct terms against the label.



P→ protocol
Q→ world wide web
R→ domain name
S→ top level domain
T→ path to resource
U→ resource
V→ uniform resource locator/URL

[0.5 Marks* 7 =3.5 Marks]

(b)

Match the descriptions given in Ⓐ-Ⓓ with the correct terms from the list given above and write down the relevant term against the label.

Ⓐ	Delivers web pages to clients using HTTP
Ⓑ	Helps uniquely identify a computer on the internet
Ⓒ	Every email that is sent passes through a series of this type of servers along its way to its intended recipient
Ⓓ	Unwanted email messages

A→ web server
B→ IP Address
C→ Mail Server
D→ Spam

[A,C,D correct 0.5 each= 1.5 marks + 0.5 for B due to Tamil Translation Error =2 Marks]

4(i)

(i) Consider the spreadsheet segment given below containing prices of two models of laptop computers and their accessories.

	B	C
1	Description	Price (Rs.)
2		Model A
3	Laptop computer	64000
4	Bag	1900
5	Mouse device	450
6	Total	83950
7	Total including delivery Cost	66300
8		
9		
10	Delivery Charge (City limits)	350

The delivery cost is Rs. 350 and this cost is shown in cell B10. "Total" and "Total including Delivery Cost" are to be calculated for the two models.

(a) Write down the formula that should be entered in cell B6 to calculate the 'Total' for Model A in the form of *=function(cell1:cell2)*.

(a)

=sum(B3:B5) OR sum(B3:B5)

[=1.5 Marks]

****Note: No partial marks**