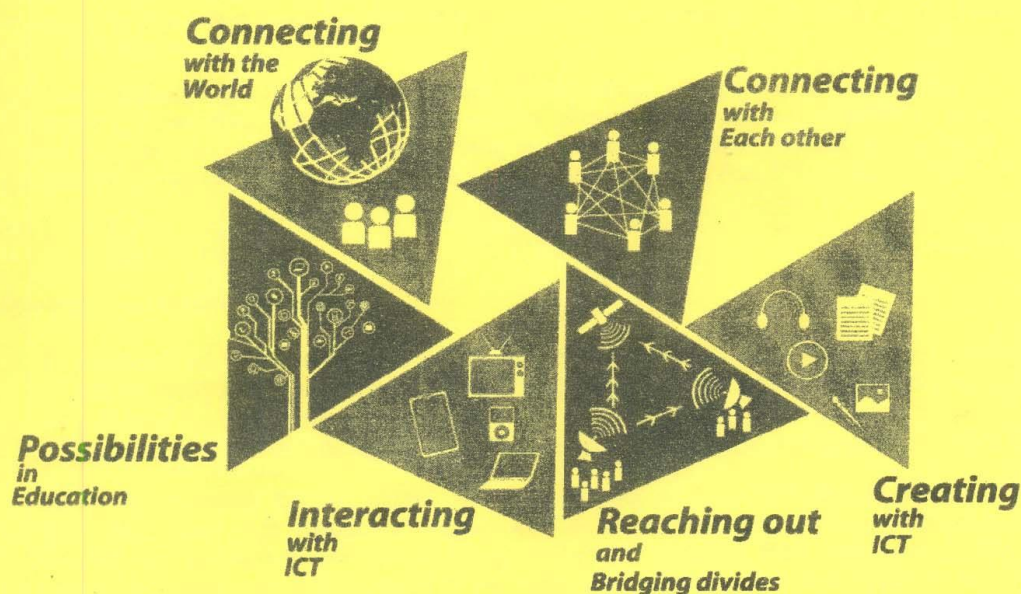




Department of Examinations - Sri Lanka
G.C.E. (O/L) Examination - 2014
80 - Information & Communication
Technology
Marking Scheme



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

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ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
இலங்கைப் பரீட்சைத் திணைக்களம்
අ.පො.ස.(සා.පෙළ) විභාගය - 2014
க.பொ.த (சா.தர)ப் பரீட்சை - 2014

රහස්‍යයි

විෂය අංකය
பாட இலக்கம்

80

විෂය
பாடம்

Information & Communication Technology

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.	.....1.....	11.	.....2.....	21.	.....3.....	31.	.....2.....
02.	.....2.....	12.	.....2.....	22.	.....1.....	32.	.....3.....
03.	.....1.....	13.	.....4.....	23.	.....2.....	33.	.....4.....
04.	.....2.....	14.	.....4.....	24.	.....4.....	34.	.....4.....
05.	.....2.....	15.	.....3.....	25.	.....1.....	35.	.....4.....
06.	.....3.....	16.	.....4.....	26.	.....4.....	36.	.....3.....
07.	.....3.....	17.	.....1.....	27.	.....2.....	37.	.....4.....
08.	.....1.....	18.	.....3.....	28.	.....3.....	38.	.....1.....
09.	.....2.....	19.	.....3.....	29.	.....1.....	39.	.....2.....
10.	.....3.....	20.	.....3.....	30.	.....3.....	40.	.....4.....

විශේෂ උපදෙස් } එක් පිළිතුරකට ලකුණු
விசேட அறிவுறுத்தல் } ஒரு சரியான விடைக்கு

01

බැගින්
புள்ளி வீதம்

මුළු ලකුණු / மொத்தப் புள்ளிகள் **01 × 40 = 40**

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

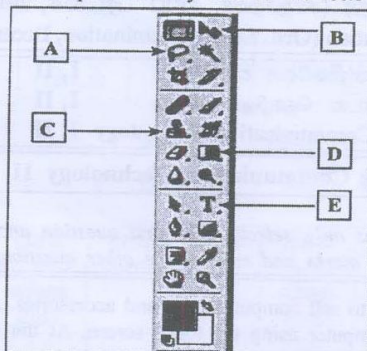
නිවැරදි පිළිතුරු සංඛ්‍යාව
சரியான விடைகளின் தொகை

40

I පත්‍රයේ මුළු ලකුණු
பத்திரம் I இன் மொத்தப்புள்ளி

40

- (vii) (a) List **two** kinds of input devices that allow us to input digital images directly into a computer.
 (b) List **two** kinds of data storage media that can be used to exchange data or programs between two users.
- (viii) The following image shows a part of a frequently used toolbar of a certain image editing software. Write down the functions performed by each of the tools labeled as A-E.



- (ix) Consider the following pseudo code segment:

```
Sum = 0
Num = 10
While Num >= 0
    Sum = Sum + Num
    Num = Num - 2
End While
```

What are the values of *Sum* and *Num* when the execution of the While loop is completed?

- (x) Write down a suitable phrase from the list given below, to fill each blank in the following statements (a) and (b).

- (a) The physical pains that occur as a result of involving in the same task for a long period of time are called
- (b) The condition of eyes such as dry eyes, blurred vision and double vision resulting from computer usage is called

List : Carpel Tunnel Syndrome, Computer Vision Syndrome, Repetitive Stress Injuries

Paper 2

- 1 (i) (a) Touch Screen
 (b) (Touch) screen/Tablet display

1 + 1 = 2 Marks

(ii)

Column A	Column B
A Service of Internet	Mozilla Firefox
A Web browser	Google
An email software	World Wide Web (WWW)
A search engine	Roundcube webmail

$\frac{1}{2} \times 4 = 2$ Marks

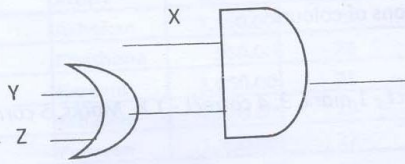
- (iii) A – Local Area Network (LAN)
 B – Wide Area Network (WAN)
 C – Metropolitan Area Network (MAN)

1 correct - 1 Mark, 2 correct - 1 ½ Marks, 3 correct – 2 Marks

(iv) (a) $X \text{ AND } (Y \text{ OR } Z) / X.(Y+Z)$

1 Mark

(b)



1 Mark

(V) $A7B_{16} = 1010\ 0111\ 1011_2$

1 Mark

$\left\{ \begin{array}{lll} A - 10 & 7 - 7 & B - 11 \\ & \text{OR} & \\ A - 1010 & 7 - 0111 & B - 1011 \end{array} \right.$

1 Mark

OR $\left\{ \begin{array}{l} A7B_{16} = 10 \times 16^2 + 7 \times 16^1 + 11 \times 16^0 \\ = 2683_{10} \quad (\text{Hexadecimal to decimal conversion}) \\ \text{Decimal to binary conversion} \end{array} \right.$

$\frac{1}{2}$ Marks

$\frac{1}{2}$ Marks

[Compulsory to include base 2 in the final answer]

(vi) ASCII

EBCDIC

UNICODE

any two

$1 \times 2 = 2$ Marks

(vii) (a) Digital Scanners,

Webcam

Digital Camera

CCTV Camera

Mobile Phone with camera or smart phone

any two

$\frac{1}{2} \times 2 = 1$ Mark

(b) Magnetic Media

Optical Media

Solid State/Semiconductor devices

OR

Blue ray

Magnetic tape

CD

DVD

Flash Memory

Floppy Disk

Removable/External Hard Disk

SD Card / Memory Chip

any two

$\frac{1}{2} \times 2 = 1$ Mark

- viii) A – Lasso Tool – to draw selections in shapes
B - Move Tool – to move an object
C – Clone Stamp Tool – to get a direct copy of the information from a previously selected area to a new one
D – Gradient Tool – To make a gradations of colours
E - Text Tool – To type text

1 correct - ½ Marks, 2 correct - 1 mark, 3, 4 correct - 1 ½ Marks, 5 correct 2 Marks

- (ix) Sum = 30
Num = -2

1 x 2 = 2 Marks

- (x) (a) - Repetitive Stress Injury (RSI)
(b) – Computer Vision Syndrome (CVS)

1 x 2 = 2 Marks

2. The following worksheet in a spreadsheet software provides a sample of information to process monthly payments for October for casual employees in a company.

	A	B	C	D	E	F	G
1	Employee Number	Employee Name	Daily Rate Rs.	Attendance in October	Monthly Payment	Bonus Rs.	Bonus Rate
2	E0001	Aruna	1,050.00	23			10%
3	E0002	Ashokan	1,150.00	23			
4	E0003	Chethana	950.00	23			
5	E0004	Kareem	1,050.00	21			
6	E0005	Milanda	1,050.00	19			
7	E0006	Praveen	1,100.00	22			
8	E0007	Samantha	1,100.00	20			
150	E0149	Rahuman	1,050.00	18			
151	E0150	Shakya	1,000.00	23			

- (i) Monthly payment for an employee is calculated by multiplying the *Daily Rate* by the *Attendance* in that month. Write the necessary formula which should be written in cell E2 to display the monthly payment of the employee with *Employee Number* E0001 for the month of October.
- (ii) The steps necessary to calculate the monthly payments for October for the rest of the employees are given below:
- Select cell (A)
- Click on icon for (B)
- Select the range (C) to (D)
- Click on the icon for (E)
- Select the correct terms for the labels (A) to (E) from the list given below.
- List of terms: Paste, Cut, Copy, E3, E2, E151
- (iii) A monthly *bonus* is paid to all employees. The *bonus rate* for October is given in cell G2. The amount of *Bonus* is calculated by multiplying the *Monthly Payment* by the *Bonus Rate*. Write down the formula to display the *Bonus* in cell F2, for the employee with *Employee Number* E0001, assuming that this formula will be copied to other cells to calculate the *bonus* for all the employees.
- (iv) Write down the formula in F3 when the formula written in (iii) above is copied to cell F3 to calculate the *Bonus* for the employee with *Employee Number* E0002.

2. (i) =C2*D2

2 Marks

(ii) A – E2

B – Copy

C – E3

D – E151

E – Paste

1 x 5 = 5 Marks

(iii) =E2*G\$2 OR =E2*\$G\$2

2 Marks

(iv) =E3*G\$2 OR =E3*\$G\$2

1 Mark

1 Mark given to part (iv) of Question 2 if the student has attempted this part

3. Consider the following database tables that store data about books, students and books borrowed by students in a school library.

Book Table			Borrowing Table			Student Table	
BookID	Book_Title	Borrowed	Date	BookID	S_ID	S_ID	Student_Name
B1001	Oliver Twist	True	21/8/2014	B1001	S003	S001	Mithun
B1002	Curious George	False	15/9/2014	B1003	S002	S002	Geetha
B1003	Harry Potter	True	15/9/2014	B1004	S002	S003	Niyas
B1004	Thennali Raman	True	15/9/2014	B1006	S001	S004	Kumar
B1005	Arthur	False					
B1006	Manuthapaya	True					
B1007	Gamperaliya	False					

- (i) List **two** primary key values.
- (ii) The library added a new book to the library with Book_Title 'Lion King' and BookID 'B1008'.
- (a) What table(s) need(s) to be updated?
- (b) Show the updated row(s) of the table(s).
- (iii) Kumar goes to library on 25/10/2014 and borrows the book 'Arthur'.
- (a) What table(s) need(s) to be updated?
- (b) Show the updated row(s) of the table(s).

3. (i) Any two values from - (B1001, B1002, B1003, B1004, B1005, B1006, B1007, S001, S002, S003, S004)
1 x 2 = 2 Marks

No marks given for BookID or S_ID

- (ii) (a) Book Table

2 Marks

[Marks given only for the correct answer. No marks if additional tables are given]

- (b)

B1008	Lion King	False
-------	-----------	-------

2 Marks

- (iii) (a) Book Table

Borrowing Table

1 x 2 = 2 Marks

- (b)

B1005	Arthur	True
-------	--------	------

25/10/2014	B1005	S004
------------	-------	------

1 x 2 = 2 Marks

[Marks given only for the correct answer. No marks if additional tables are given]


[Field values must be exactly as given]

4. (i) Write down two methods of creating HTML web pages.
(ii) Copy the Columns X and Y given below into your answer script and draw arrows between matching items in Column X and Column Y.

Column X
Domain Name
IP address
Email address
URL

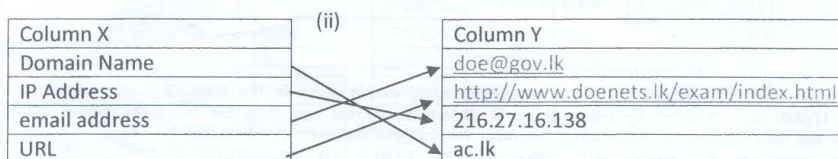
Column Y
doc@gov.lk
http://www.docnets.lk/exam/index.html
216.27.16.138
ac.lk

- (iii) Consider the HTML source code and its corresponding output given in the Table. The code has ten HTML tags indicated by labels 1 to 10. Select the correct tags from the list given below. You are only required to write down the label number and the corresponding HTML tag.
List: HREF, HR, OL, BODY, SRC, HTML, UL, TR, TABLE, TH, TD, TITLE

Source Code	Output										
<pre> <1> <HEAD> <TITLE> XYZ Training Center Web Site </TITLE> </HEAD> <2> <CENTER> <H1> XYZ TRAINING CENTER </H1> </CENTER> <P> XYZ is the leading Training center in the Western province and provide efficient and quality service for the sports loving community. </P> <H4> We offer the following sports activities </H4> <4> <H5> <5> Indoor Activities <6> Table Tennis Badminton </6> Outdoor Activities <6> Swimming Tennis </6> </5> </H5> <7 BORDER=3 > <CAPTION> Activity Charges </CAPTION> <8> <9> Activity </9> <TH> Monthly Charge</TH></8> <8> <TD> Swimming </TD> <TD> Rs. 300</TD></8> <8> <TD> Tennis</TD> <TD> Rs. 500</TD></8> <8> <TD> Table Tennis</TD> <TD> Rs. 200 </TD></8> <8> <TD> Badminton </TD> <TD> Rs. 250</TD></8> </7>
 For further enquiries and reservations <A 10="http://xyz.ac.lk">Click Here </BODY> </HTML> </pre>	<p>XYZ TRAINING CENTER</p>  <p>XYZ is the leading Training center in the Western province and provide efficient and quality service for the sports loving community.</p> <p>We offer the following sports activities</p> <ol style="list-style-type: none"> Indoor Activities <ul style="list-style-type: none"> Table Tennis Badminton Outdoor Activities <ul style="list-style-type: none"> Swimming Tennis <p>Activity Charges</p> <table> <tr> <th>Activity</th><th>Monthly Charge</th></tr> <tr> <td>Swimming</td><td>Rs. 300</td></tr> <tr> <td>Tennis</td><td>Rs. 500</td></tr> <tr> <td>Table Tennis</td><td>Rs. 200</td></tr> <tr> <td>Badminton</td><td>Rs. 250</td></tr> </table> <p>For further enquiries and reservations Click Here</p>	Activity	Monthly Charge	Swimming	Rs. 300	Tennis	Rs. 500	Table Tennis	Rs. 200	Badminton	Rs. 250
Activity	Monthly Charge										
Swimming	Rs. 300										
Tennis	Rs. 500										
Table Tennis	Rs. 200										
Badminton	Rs. 250										

4. (i) Using a Text Editor (Wordpad, Notepad, GEdit, TextEdit, TED Notpat)
Using Web Authoring/Designing tool (Front Page, Dream Weaver, NetObjects Fusion, ColdFusion, Drumbeat, Expression Web)

1 x 2 = 2 Marks



1 correct – 1 Mark, 2 correct – 2 Marks, 3 correct – 2 ½ Marks ,4 correct – 3 Marks

(iii)

Label Number	HTML Tag
1	HTML
2	BODY
3	SRC
4	HR
5	OL
6	UL
7	TABLE
8	TR
9	TH
10	HREF

½ x 10 = 5 Marks

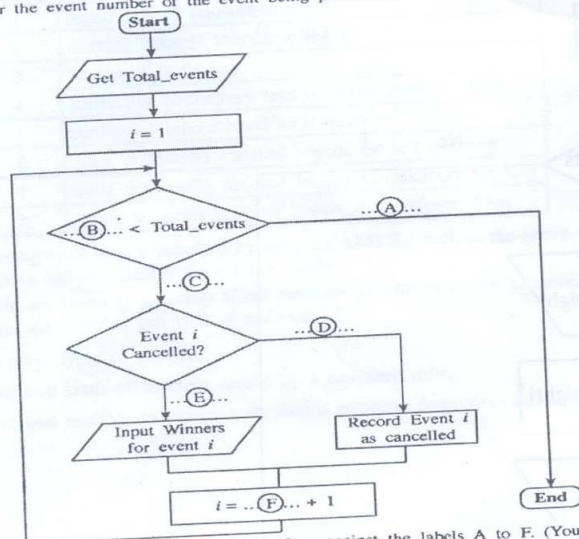
½ Marks 'with or without correct answer' for Label Number 4

5. (i) The array `numar[]` is defined to store the 10 numbers from 1 to 10. The following `for` loop with missing values in Ⓐ and Ⓑ is used to store the above 10 numbers in `numar[]`.

```
For i = 1 To Ⓐ
    numar[Ⓑ] = i
Next i
```

Write down the relevant values for Ⓐ and Ⓑ.

- (ii) The sportsmeet of a certain school has many events. For each event, the names of the winners of the first, second and the third places need to be recorded. Some events may not take place due to some reason. For an event that does not take place, it is necessary to record it as cancelled. The following flowchart with missing labels A to F presents this scenario. Here '*i*' is used as a variable for the event number of the event being processed.



Identify and write down the appropriate values against the labels A to F. (You are not required to copy the flowchart to your answer script.)

- (iii) Consider the following pseudo code to calculate the Body Mass Index (BMI) for each student of a class.

```
input total_students
For i=1 To total_students
    input height
    input weight
    BMI = weight/(height)2
    output BMI
Next i
```

Draw a suitable flowchart for the above pseudo code.

5. (i) A - 10
B - (i - 1)

- (ii) A - No/N/F
B - i
C - Yes/Y/T
D - Yes/Y/T
E - No/N/F
F - i

1 x 2 = 2 Marks
½ Marks
1 Marks
½ Marks
½ Marks
1 Marks

{total 4 Marks

(iii) (a) Worms

Trojan Horse
Spyware
Adware
Hijacker
Dialer
Spam

1 x 2 = 2 Marks

(b) Loss of Data

Corruption of Data
Disabling of system and application software
Reducing the efficiency of computer (rebooting/...)
Damage to Hardware/Software
Disturbing the file system (making short cuts/hiding/copying files)

$\frac{1}{2} \times 2 = 1$ Marks

(c)

Keeping backups
installing and updating anti-virus software
Providing user accounts for general purpose
Using licensed software
Updating Operating Software
Careful use of external storage devices
Disabling macros in the software

$\frac{1}{2} \times 2 = 1$ Marks

7. (i) Consider the expressions about the System Development Life Cycle (SDLC) given in the Column X and Column Y below.

Column X	Column Y
1. A characteristic of a system	A - final stage of testing and debugging of a system
2. An example for a system	B - having discussions with the client
3. A main fact gathering technique	C - next phase can be considered only if the current phase is successful
4. A tool used in detailed design	D - is made up of different components
5. User acceptance testing	E - flowchart
6. An advantage of phased implementation	F - transactions of school canteen.

Each expression in Column X has a correspondence to one of the expressions in Column Y. Select each expression in Column X and write down its corresponding expression in Column Y.
eg: 1 → D

- (ii) Using the world wide web (www) to find information is a common practice today.
Assume that you have a computer with required software at your home.
(a) Name one hardware device needed to connect the computer to the Internet.
(b) Assume that you want to find information about the 'History of Sri Lanka' and that you do not know the web address (URL) of a website that has this information.
Write the steps you would follow to find this information on the world wide web.

7. (i) 2 → F (transactions of school canteen)
3 → B (having discussions with the client)
4 → E (flowchart)
5 → A (Final stage of testing and debugging of a system)
6 → C (next phase can be considered only if the current phase is successful)

1 x 5 = 5 Marks

[Only the numbers and characters are required. Expressions not necessary in the answer]

- (ii) (a) Modem, [Internet] Dongle, [ADSL] [Wireless] Router, Network Interface Card (NIC)

1 Marks

- (b) step 1 - Open **Web Browser**

Step 2 - Visit/Enter a **Search Engine**

Step 3 - Type "**History of Sri Lanka**" in the **search box** and confirm

Step 4 - Select **suitable link/s** from the result list displayed on the screen

All 4 steps in the correct order - 4 Marks

3 steps in correct order - 3 Marks

2 steps in correct order - 2 Marks

One step - 1 Mark

Step 2 – compulsory - to give marks for other steps below
