ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
இலங்கைப் பரீட்சைத் திணைக்களம்
අ.පො.ස.(සා.පෙළ) විභාගය - 2019
க.பொ.த (சா.தர)ப் பரீட்சை - 2019

විෂයය අංකය / பாட இலக்கம் / பாடம்: 80

විෂයය: Information and Communication Technology

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

විශේෂ උපදෙස් / விசேட அறிவுறுத்தல் — එක් පිළිතුරකට ලකුණු / ஒரு சரியான விடைக்கு } බැගින் / புள்ளி வீதம் **01**

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

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

නිවැරදි පිළිතුරු සංඛ්‍යාව	25 / 40
I පත්‍රයේ මුළු ලකුණු	25 / 40

Paper II (compulsory question)

1. **(i)----------[2]**

Two examples for information

One mark per any of the following. **Maximum of two** of them.

- average rainfall
- maximum rainfall
- minimum rainfall
- mode of the rainfall
- median of the rainfall
- rainfall variation // no. of rainy days // no. of continuous rainy days
- rainfall predictions for future
- total rainfall

(ii)----------[2]

Port label to port name match

Two marks for **4-5** correct, **one mark** for **1-3** correct. **Exact spelling** important for B, C, D and E.

A – Audio ✓ , B – RJ45, C – HDMI, D – USB, E - VGA

(iii) **(a)----------[1]**

Convert 1260_{10} to its octal equivalent

2354_8 // 2354

(b)----------[1]

Convert $A1_{16}$ to its binary equivalent

$1010\ 0001_2$ // 1010 0001

(iv) **(a) ----------[1]**

Draw a truth table with two columns A and P

A	P
0	1
1	0

(b)----------[1]

Boolean expression for S

The dot is not compulsory.

S = X.Y' + X'.Y // $S = X.\overline{Y} + \overline{X}.Y$

(v)----------[2]

Write down folder names

Two marks for **4-5** correct, **one mark** for **1-3** correct.

A – Studies, B – Science ⇦ , C – Music, D – Photos, E – 2019 ⇦ ✓

(vi)----------[2]

Formatting task to tool icon matching

Two marks for **3-4** correct, **one mark** for **1-2** correct.

A – Q, B – S, C – P, D - U ✓

(vii) (a)----------[1]

Which two fields make the primary key?

Exact spelling important. Ignore case and space defects.

Month SalesRepID

(b)----------[1]

Most suitable data types for Month and TotalSales fields?

✓

Month: Text TotalSales: Currency

(viii)----------[2]

Match P, Q,R,S in the flowchart to statement numbers

Two marks for **3-4** correct, **one mark** for **1-2** correct.

P – 1, Q – 4, R – 3 ⇦ , S – 2 ⇦

If the student had written down the statements, then to be considered as correct, each correctly selected statement must be exactly written as in the question.

(ix)----------[2]

Select proper word for blank

Two marks for **3-4** correct, **one mark** for **1-2** correct.

A - pixel, B – vector, C – Lossy, D – GIF ✓

(x)----------[2]

A - Can Gihan see Hameed is a recipient? B – Can Sharma see Gihan as a recipient?

One mark per each

A – T, B – F ✓

2. (i)----------[1]

Match risks to solutions

One mark for **3-4** correct.

A – P, B – U, C – R, D - T

(ii)----------[2]

Explain 3R technique w.r.t.reducing e-waste

Any two from the following with **one mark** for each. Explaining is important.
No mark awarded for just writing *reduce, reuse, recycle.*

- Reduce - Reduce unnecessary purchase/use/accumulation of electronic devices
- Reuse – Reuse/sell/donate/repair old electronic devices without discarding
- Recycle – Recycle the components in irreparable electronic devices

(iii) (a)----------[1]

A person wants to protect a spreadsheet in his computer from unauthorized access. The computer is not connected to the Internet. Write one way how he could do this.

using a password (for the computer account / spreadsheet)

(b)----------[1]

A person cannot afford to buy licensed spreadsheet software for his computer. Write one thing that he could do.

Any **one** of the following:

- installing open source spreadsheet / LibreOffice Calc / OpenOffice Calc software
- using a free cloud based spreadsheet / Google Sheets software // using cloud computing

(c)----------**[1]**

Write down one benefit that the students can obtain through this LMS

Any **one** of the following:

- obtaining study notes / supplementary study material
- getting feedback / results (from teachers)
- online assignment / tutorial submissions
- participating in online quizzes
- participating in discussions / forums // communicating with teachers / students
- getting notices
- studying convenience // less paper work // anytime/anywhere studying // studying at own pace
- learn well due to multi-modal / novel experience

(d)----------**[1]**

A student wants to include in his essay, a part of the content of a website without intellectual property violations. How can he do it?

Any **one** of the following:

- citing / mentioning the rightful owner and his (her) information
- quoting (with inverted commas) and giving the details of the owner
- referencing / listing of resources from which the information was collected
- obtaining permission from author (and indicating it)

(e)----------**[2]**

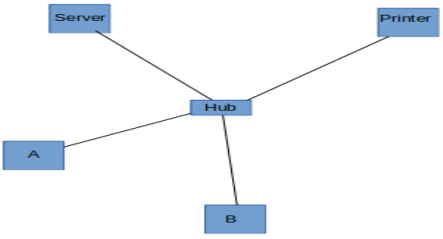
A manager in a Colombo office wants to have a video conference with managers in Jaffna and Matara branches without everybody coming to a single location. Write down the requirements needed in these locations.

Two marks for any **one** of the following. If incomplete, give **one mark**.

- Multimedia computer / laptop **and** communication software **and** Internet
- Computer (with audio hardware) **and** webcam **and** communication software **and** Internet
- Video conferencing kit **and** Internet

(iv)----------**[1]**

An office wants to create a computer network using a *hub*, three computers (named *server, computer A, computer B)* and a *printer* using a *star topology. Draw the topology diagram.*



3. (i) (a)----------[1]

Primary key of team table

Exact spelling important. Ignore case and space defects.
TeamID

(b)----------[1]

Two possible primary keys in the Player table

Exact spelling important. Ignore case and space defects.
PlayerID, StudentID

(ii) (a)----------[2]

Which tables need to be updated to add a new student of the school to the U17 Cricket team?

One mark per each. **Exact spelling** important. Ignore case and space defects.

Player, Player_Team

(b)----------[1]

Which tables need to be updated to make Nimal Fernando the captain of the U19 Football team?

Exact spelling important. Ignore case.
Team

(iii) (a)----------[2]

Record entries needed for **ii (a)** above

One mark per each. Ignore case and space defects.
Player→ (P1120, Piyal, Alwis, S4205) ✓
Player_Team→ (T2, P1120, 2019) ✓

(b)----------[2]

Record entries needed for the creation of U17 Football team with Shane Almaida as captain

One mark per each (Ignore case and space defects)
Team→ (T7, Football, U17, P1005) ✓
Player_Team → (T7, P1005, 2019) ✓

(iv)----------[1]

Which tables are to be joined to write a query to find the name of the U19 Cricket captain?

Exact spelling important. Ignore case.
Team, Player

4. (i)----------[3]

Match statement labels to terms

Three marks for **5-6** correct, **Two marks** for **3-4** correct, **one mark** for **1-2** correct.

A – DNS Service, B – FTP, C – SMTP, D – lk, E – Search engines, F – @ ✓

(ii)----------[2]

Write down examples for software, languages, etc.

Two marks for **3-4** correct, **one mark** for **1-2** correct.

A – Mozilla firefox, B – PHP, C – Kompozer, D – Joomla ✓

(iii)----------[5]

Select html tags

Exact spelling important.

Five marks	for	**9-10** correct
Four marks	for	**7-8** correct
Three marks	for	**5-6** correct
Two marks	for	**3-4** correct
One mark	for	**1-2** correct

1 - head
2 - h2
3 - img
4 - p
5 - tr
6 - th
7 - td
8 - ul
9 - ol
10 - href

5. **(i)** and **(ii)**----------

(i) Formula for C43 to calculate average mark for Subject 1

(ii) After copying above formula, write down what will appear in D43

	(i)	**(ii)** Mark this **only if** **(i)** correct
	=average(C3:C42)	=average(D3:D42)
or	=average(C42:C3)	=average(D42:D3)
Marks	**[2]**	**[1]**

(iii) **(a)** and **(b)**----------

(a) Formula for F3 to compute Kamal's z-score for Subject 1

(b) Copied formula for F42 to compute Kahn's z-score for Subject 1

	(a)	**(b)** Mark this **only if** **(a)** correct
	=(C3-$C$43)/$C$44	=(C42-$C$43)/$C$44
or	(C without preceding $) =(C3-C$43)/C$44	=(C42-C$43)/C$44
or	(C with preceding $) =($C3-$C$43)/$C$44	=($C42-$C$43)/$C$44
or	A combination of above	Appropriate copied output
Marks	**[2]**	**[1]**

(iv)----------**[2]**

Formula for I3 to compute final Z score for Kamal using only COUNT and SUM

=SUM(F3:H3) / COUNT(F3:H3) // =SUM(H3:F3) / COUNT(H3:F3)
// or a combination of above

Do not give marks for **any other** complicated, long formulas.

(v)----------**[2]**

Formula for I44 to print highest Z score

=MAX(I3:I42) // =MAX(I42:I3)

Note: Reduce **one mark** if either the required cell address is given before the equal sign **or** if the equal sign is missing.

6. (i)----------[2]

Terms for SDLC related labels

Two marks for **4-5** correct, **one mark** for 1-3 correct.
A – S, B – Q, C – P, D – R, E – T

(ii) (a)----------[1]

Write one input in the school bookshop system

Any **one** of the following:
- item code
- quantity

(b)----------[2]

Write one process

Any **one** of the following:
- computing / calculating (or similar meaning) total cost of each item
- computing / calculating (or similar meaning) total bill value

(c)----------[1]

Write one output

Any **one** of the following:
- total cost of each item
- total bill value
- final bill

(iii)----------[2]

Match system development related scenario labels to term lables

Two marks for **3-4** correct, **one mark** for **1-2** correct.
A – T, B – P, C – S, D - R

(iv)----------[2]

List **two** benefits of a computer based information system over a manual information system

Any **two** of the following with **one mark** each:
- speed // efficiency // doing many tasks simultaneously
- accuracy // reliability // consistency // no errors as in manual systems
- availability // accessibility
- easy for people // never getting tired
- simultaneous usage by multiple users
- quick storage and retrieval
- efficient storage // ability to store lot of data in a small area
- ability to customize / extend easily
- confidentiality // ease of privilege separation // ease of auditing
- ease of duplication / backing up / maintenance

7. (i) (a)----------[2]

Output of the pseudo code when it is executed on array

65
(for additional output reduce one mark)

(b)----------[3]

Statements for P, Q,R

One mark per each. Ignore case.

P: Is A[k] < Value?
Q: k = k+1
R: Display Value

(c)----------[2]

Redraw array A after assignments

Two marks for **4-5** correct, **one mark** for **1-3** correct.

A[0]	A[1]	A[2]	A[3]	A[4]
80	45	88	65	72

(ii)----------[3]

Statements for P, Q, R

One mark per each. Ignore case.

P: Is L2=L3?
Q: DISPLAY "Isoceles triangle"
R: DISPLAY "Scalene triangle"