Department of Examinations, Sri Lanka

G.C.E. (O/L) Examination – 2023 (2024)

80 – ICT

Mark Scheme

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This document has been prepared for the use of marking examiners. Some changes would be made according to the views presented at the Chief Examiner's Meeting.

Amendments are to be included.

3   Paper 1 answers

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இலங்கைப் பரீட்சைத் திணைக்களம்

අ.පො.ස. (සා.පෙළ) විභාගය - 2023(2024)
க.பொ.த. (சா.தர)ப் பரீட்சை - 2023(2024)

| විෂය අංකය / பாட இலக்கம் | 80 | විෂයය / பாடம் | Information & Communication Technology |

I පත්‍රය - පිළිතුරු
I பத்திரம் - விடைகள்
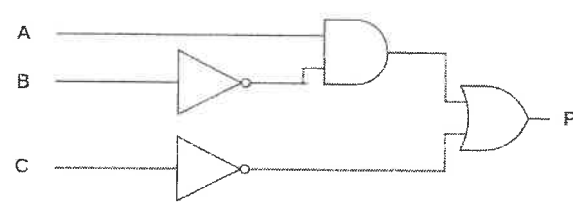
ප්‍රශ්න අංකය	පිළිතුරු අංකය	ප්‍රශ්න අංකය	පිළිතුරු අංකය	ප්‍රශ්න අංකය	පිළිතුරු අංකය	ප්‍රශ්න අංකය	පිළිතුරු අංකය
01.	4	11.	2	21.	4	31.	3
02.	3	12.	1	22.	2	32.	1
03.	4	13.	4	23.	1	33.	4
04.	2	14.	4	24.	4	34.	2
05.	4	15.	3	25.	3	35.	2
06.	4	16.	2	26.	4	36.	4
07.	2	17.	4	27.	2	37.	3
08.	2	18.	3	28.	2	38.	3
09.	3	19.	2	29.	2	39.	1
10.	3	20.	4	30.	1	40.	4

Question	Answer	Marks

1(i)	**Any two** from:
	
	  • Total amount of money to be paid to each owner
	  • Total amount of money to be paid to all owners
	  • List of songs played
	  • The number of times each song was played
	  • Most played song list
	  • Least played song list
	  • Owner-wise song distribution
	  • Suggestion of songs to be played
	
	Award 1 mark for each correct answer up to a maximum of 2.
	If more than two pieces given, cut the extra ones and consider only the first two.
	The above are examples only. The Chief Examiner is given the freedom to decide on other pieces of information. But those should be obtainable from the system.
		2

1(ii)	(a) B (b) A Award one mark for each. Ignore case. Drawing the ports acceptable. But the drawings must be exact.	2
1(iii)	1010101_2 Writing base (2) is not compulsory. Zero marks if other bases written.	2
1(iv)	 Award only 1 mark if only the AND with correct inputs is correct. If more than one circuit drawn, cut the extra ones and consider only the first one. Label P not compulsory.	2

1(v)	A – BIOS B – memory C – operating system // OS D – computer Award 0.5 marks for each.	2
1(vi)	**Any two** from: Q, R, V Award 1 mark for each correct answer up to a maximum of 2. Naming (italic, underline, change case) **or** drawing the icon acceptable. If more than three labels indicated, then 0 marks. If three labels written, then they have to be Q, R, V. Else 0 marks.	2
1(vii)	A - ✓ B - ✗ C - ✗ D - ✓ Award 0.5 marks for each. True, False, Correct, Incorrect, Wrong, T, F etc. acceptable.	2
1(viii)	P – E Q – C R – A S – F T – D U – B Award 1 mark for P, Q, R (if only two **adjoining** ones correct then 0.5) Award 1 mark for S, T, U (if only two **adjoining** ones correct then 0.5) Writing answer in text is acceptable. But the text must be exactly as given in the **List** in the question. Ignore case in such text. Ignore also the hyphens in `End-of-file?`.	2

1(ix)	(a)	2nd – <u>Designing</u> the solution 3rd – <u>Coding</u> the solution 4th – Testing // Debugging 5th – <u>Deployment</u> of the system // Installation If one or two steps correct, give 0.5 marks. If three or four steps correct, give 1 mark. For a step to be marked correct, its position must be correct. If more than four steps given, cut the extra ones and consider only the first four. If the student starts with the first step, then ignore it and examine the rest.		1
	(b)	'Identification of requirements' step // first step	✕	1
1(x)		A - ✓ B - ✗ C - ✓ D - ✓ Award 0.5 marks for each. True, False, Correct, Incorrect, Wrong, T, F etc. acceptable.	✕	2

Question	Answer	Marks
2(i)	=D3 - E3 Cell addresses must be relative (i.e., $ sign should **not** be used). If more than one formula written, cut the extra ones and consider only the first one. Ignore case.	2
2(ii)	=D8 - E8 Cell addresses must be relative. If more than one formula written, cut the extra ones and consider only the first one. Ignore case. If 2(i) is incorrect but 2(ii) is correct, give only 1 mark.	2
2(iii)	(a) =MIN(B3 : B9) **ALTERNATIVE:** =MIN(B9 : B3) Cell addresses must be relative. If more than one formula written, cut the extra ones and consider only the first one. Square and curly brackets **not** acceptable. Ignore case.	1
	(b) =MAX(C3 : C9) **ALTERNATIVE:** =MAX(C9 : C3) Cell addresses must be relative. If more than one formula written, cut the extra ones and consider only the first one. Square and curly brackets **not** acceptable. Ignore case.	1
2(iv)	D, E, A, C, B No partial marks.	2
2(v)	Column	1
2(vi)	= $B4 + C3 Ignore case.	1

Question			Answer		Marks
3(i)	(a)		Student_id + Course_id	✕	2
			Exact spelling with underscore required. No marks if other fields written. The use of 'and' instead of '+' acceptable only if the student gives a correct description. Ignore case and spacing defects.		
	(b)		Student_id Course_id	✕	1
			Award 0.5 marks for each **if no other field is written**. Else 0 marks. i.e., if the student writes just one of these fields (with no other fields) then s/he will get 0.5 marks. Exact spelling with underscore required. The use of 'and' and comma acceptable. If the answer is: Student_id + Course_id, then 0 marks. Ignore case and spacing defects. 'or' unacceptable.		
3(ii)	(a)		COURSE	✕	1
			Exact spelling required. No marks if additional tables written. Ignore case defects.		
	(b)		STUDENT ENROLMENT	✕	1
			Exact spelling required. No marks if COURSE table also written. Ignore case defects.		

3(iii)	COURSE → (C228, Inorganic Chemistry, 3, Chemistry)	✕	1
	ENROLMENT → (S1000, C228, 08-01-2024)		0.5
	ENROLMENT → (S1003, C228, 09-01-2024)		0.5

COURSE record **should be correct** for the ENROLMENT records to be considered.
Exact spelling required.
No marks if additional tables/records are written.
Ignore case and spacing defects.

Format:
Reduce 0.5 marks **from the total mark** if a correct answer is written in table format. Ignore any existing table records that the student has repeated in his/her answer.

| 3(iv) | ENROLMENT, COURSE | ✕ | 2 |

Exact spelling required.
No marks if STUDENT table also written.
Ignore case defects.
No partial marks.

| 3(v) | Create a new table TEACHER having fields Teacher_id, Teacher_name, Teacher_phone with Teacher_id as the primary key. | | 0.5 |

To COURSE table add new foreign key Teacher_id.   0.5

Student can choose other similar names for the TEACHER table (e.g., INSTRUCTOR, LECTURER) and its primary key.

ALTERNATIVE:

Add a new table for teachers **(Note 1).**   0.5

Change COURSE table **(Note 2).**   0.5

Note 1: If fields of the TEACHER table are listed, then **they have to be correct.**

Note 2: If a description is given about the change to the COURSE table, then **it has to be correct.**

Question	Answer	Marks	Information
4	A: 401 // =400	2	
	B: INPUT // GET // READ // ENTER	1	
	C: bmi = weight / (height * height)	1	**Accepted:** bmi = weight / height^2 × and ÷
	D: bmi < 18.5 THEN	1	THEN not compulsory
	E: bmi < 25.0 THEN	1	THEN not compulsory

	F: IF bmi <=29.9 THEN
	    OUTPUT "Overweight"
	ELSE
	    OUTPUT "Obese"
	ENDIF
		2	**Accepted:**
			IF bmi > 29.9 THEN
			    OUTPUT "Obese"
			ELSE
			    OUTPUT "Overweight"
			ENDIF
			
			THEN not compulsory;
			Double/single quotes essential for the two OUTPUT statements

	G: Count = Count + 1	2	

Ignore case.

Ignore minor spelling mistakes in 'Overweight' and 'Obese'. But variable names (bmi, weight, height, Count) must be exact. Ignore case defects in `Count`.

Question	Answer		Marks
5(i)	P → SMTP Q → HTTP R → IP address S → URL Award 0.5 marks for each. Ignore case.	✕	2
5(ii)	1 → F 2 → A 3 → D 4 → G 5 → B 6 → H Award 0.5 marks for each. Ignore case. Writing the example in text is acceptable. But the text must be exactly as given in the **List** in the question. Ignore case in such text.	✕	3
5(iii)	1: title 2: body 3: center 4: h2 5: ul 6: li 7: table 8: th 9: td 10: a Award 0.5 marks for each. Ignore case. Angle brackets **not** acceptable.	✕	5

Question		Answer	Marks
6(i)	(a)	JPG ✖ JPG files are compressed while BMP files are not // JPG uses lossy compression // BMP files are uncompressed and lossless. Choosing JPG is sufficient for full marks.	1
	(b)	BMP ✖	1
6(ii)		**Any one** of the following differences:	1

	Raster files	Vector files
	Images built from pixels	<u>Uses</u> (mathematical equations / lines / <u>curves</u>) to produce an image
	Quality is lost when the size is increased	Quality is not lost when the size is increased

If more than one difference given, cut the extra ones and consider only the first one.
Award 0.5 marks for each correct side of the row.

Question		Answer	Marks
6(iii)	(a)	A – To select a (circular / elliptical) region of an image B – To select a user specified area of an image C – To insert text into an image D – To select in an image, the regions with the same colour Award 0.5 marks to each. The word `image' not compulsory.	2
	(b)	To copy pixels from one part of a graphic to another // To copy an image or a part of it to another place	1
6(iv)		A static frame in a series of frames to be used in the creation of an animation // Drawings that define the starting and ending frames of a transition // Frames at the beginning and end of a motion // Change points in an animation	1

6(v)	P – Select a portion of an opened audio file	1
	Q – To (trim / crop) an audio // To remove audio outside selection	0.5
	R – To make the selection silent // To remove audio inside selection	0.5
	The word `audio' not compulsory.	
6(vi)	A	1

Question	Answer	Marks
7(i)	<u>numbers,</u> (<u>symbols / special characters</u>), <u>letters</u> <u>sufficiently long</u> // mix of the components // difficult to guess // (Or another characteristic that the Chief Examiner can approve) The four mark points underlined. Award 0.5 marks for each mark point.	2
7(ii)	The practice of taking someone else's (work / ideas) and passing them as one's own	1
7(iii)	**Any two** from: • Using a voltage stabilizer • Using a surge protector • Avoiding physical damage (e.g., falls, shocks) • Protecting from (sun / dust / moisture / liquids) • Protecting from viruses • Keeping the magnets away from hard disks • Providing adequate cooling and ventilation • Doing proper maintenance • Doing hard disk defragmentation • Doing hard disk partitioning • (Doing Disk cleanup / Removing unnecessary files on hard disk) • Doing necessary (system / hardware / software) upgrades • Doing necessary (system / software) updates • Using a UPS • Unplugging it from power after use Award 1 mark for each correct answer up to a maximum of 2. If more than two given, cut the extra ones and consider only the first two.	2
7(iv)	**Any one** from: • installing only authorized software • Protecting from viruses // Installing an antivirus software • Keeping the software updated • Not opening attachments from unverified emails • Activating a firewall • Implementing access privileges (e.g., passwords) • Using a UPS If more than one given, cut the extra ones and consider only the first one.	1

7(v)	(a)	**Any one** from: • Using a good folder scheme without storing files everywhere • Using a good file naming method If more than one given, cut the extra ones and consider only the first one.	1
	(b)	**Any one** from: • When finishing each day's work, deleting all unwanted files that one created during that day • Not unnecessarily (downloading files / installing software) • Uninstalling all unused software • Using disk cleanup (options / tools) • Removing temporary files • Empty the contents in the (recycle / trash) bin • Storing the wanted files (on external storage / in the cloud) • Storing the wanted files compressed If more than one given, cut the extra ones and consider only the first one.	1
7(vi)		Keeping the top of screen (at eye level / slightly lower the eye level) If more than one given, cut the extra ones and consider only the first one.	1
7(vii)		**Any one** from: • Can get real-time statistics about the citizens in the District • Can find the real-time population of the District • Can find real-time population density of different areas of the District • Given a particular day, can find the citizens whose birthdays fall on that day • Can find the real-time (male / female) distribution in the District • Can find in real-time the number of people in different age groups and where they live • Can be used to build (relationship /generation) trees • Eases doing a census • (Or any other benefit that the Chief Examiner can approve) If more than one given, cut the extra ones and consider only the first one.	1