MYCLO
Malaysian Computational Linguistics Olympiad

Question Booklet

MALAYSIAN COMPUTATIONAL LINGUISTICS OLYMPIAD 2023

Name : _____

Student ID : _____

- Instructions -

Do not open this booklet until you are instructed by the invigilator.

Time allowed : **3 hours**
Languages : **English & Bahasa Melayu**

This Question Paper contains **FIVE (5)** linguistics problems:

- **Each problem is worth 20 points.**
- **Students are required to answer ALL FIVE (5) problems.**
- **Question booklet is divided into TWO (2) sections according to language.**
- **Choose ONLY ONE (1) section:**
  a) English (pages 2 to 9)
  b) Bahasa Melayu (pages 10 to 17)

Write your solutions in the given MyCLO Answer Sheet.

- **Only 2B PENCIL, PEN, CORRECTION TAPE OR LIQUID PAPER and ERASER are allowed.**
- **You CANNOT use any calculators, electronic devices, textbooks or notes during the competition.**
- **Discussion is STRICTLY PROHIBITED.**
- **Write your Name and Student ID on the front page of the answer sheets.**
- **You may use English or Bahasa Melayu.**
- **Make sure your Name and Student ID are written on ALL pages including extra sheets.**
- **Students are required to provide an explanation for each written answer.**
- **Lack of explanation will lead to less marks.**

Good Luck!

PROBLEM 1

The International Linguistics Olympiad 2022 was held at Isle of Man, which is an island situated between Great Britain and Ireland. In the Isle of Man, the four seasons occur as follows:

Spring: February to April
Summer: May to July
Autumn: August to October
Winter: November to January.

The following table shows some phrases in the Manx language (a language spoken in the Isle of Man), and their English translations, in the wrong order:

1	Jerrey Geuree	A	June
2	mean oie	B	January
3	Toshiaght Souree	C	Midnight
4	oie gyn cadley	D	February
5	Jerrey Souree	E	July
6	cadley geuree	F	Winter sleep
7	Toshiaght Arree	G	May
8	Mean Souree	H	Sleepless night

For this problem, **please write the answers only**; you do not have to explain your reasoning.

Assignment 1. Match each Manx phrase with the correct English translation (match each number 1-8 with a letter A-H; no need to rewrite the phrases).

Assignment 2. Translate into English:

(a) Mean Fouyir
(b) gyn jerrey.

Assignment 3. Translate into Manx:

(a) April
(b) October.

PROBLEM 2

The following table shows some toponyms (place names) in the Hungarian language, their English translations, and the countries where the places are situated:

Hungarian	English translation	Country (in English)
Abonyba	To Abony	Hungary
Amszterdamból	From Amsterdam	Netherlands
Csehország	Czech Republic	Czech Republic
Esztergomba	To Esztergom	Hungary
Hatvan	Hatvan	Hungary
India	India	India
Indiába	To India	India
Kaposvárra	To Kaposvar	Hungary
Komárom	Komarom	Hungary
Lagos	Lagos	Nigeria
Oroszországból	From Russia	Russia
London	London	UK
Londonból	From London	UK
Magyarországról	From Hungary	Hungary
Mariborba	To Maribor	Slovenia
Miskolc	Miskolc	Hungary
Miskolcra	To Miskolc	Hungary
Miskolcról	From Miskolc	Hungary
Nagybajomból	From Nagybajom	Hungary
Nyíregyháza	Nyíregyháza	Hungary
Ózd	Ózd	Hungary
Pomáz	Pomáz	Hungary
Salgótarjánba	To Salgótarján	Hungary

Sopronból	From Sopron	Hungary
Tatabánya	Tatabánya	Hungary
Tatabányára	To Tatabánya	Hungary
Toronto	Toronto	Canada
Torontóból	From Toronto	Canada

Note:
The mark ´ indicates a long vowel.
ny is pronounced like soft n.
gy is pronounced like soft d.

<u>Assignment 1</u>. Translate the following into Hungarian. Explain your answers.

(a) To Lagos
(b) To Czech Republic
(c) From Ozd
(d) From Hatvan
(e) To Pomaz
(f) To Komarom
(g) From Nyíregyháza
(h) Salgótarján.

PROBLEM 3

The following table shows some sentences in the Pari language with their English translations:

dɪɛl acam kwacɪ.	The leopard ate the goat.
dhɪɛŋ ɲɑɑth ɲɪwatɪ ɲɑɑdhɔ.	The friend will show the cow.
jɑɔk ayaaɲ ɲɪkɔthɪ.	Nikot insulted the spirit.
ayɑɔm kwal dhɪɛŋŋɪ kwalɔ.	The cow will steal the monkey.
kwac acɑɔl cɑɑrrɪ.	The eagle called the leopard.
dhɔɔthɔ yap lɪɛcɪ yabɔ.	The elephant will open the door.
riŋo aŋɔt lacannɪ.	The poor man cut meat.

Note:
Nikot is a male name.
ɲ is pronounced like soft n.
ŋ is pronounced like ng in the word “song”.
The vowels **ɪ**, **ɛ**, **ɔ**, and **ɑ** are pronounced like i, e, o, and u, respectively.

<u>Assignment 1</u>. Translate the following into English. Explain your answers.

(a) cɑɑr akwal dɪɛllɪ.
(b) lacan cɑɔl ɲɪkɔthɪ cɑɔlɔ.

<u>Assignment 2</u>. Translate the following into Pari. Explain your answers.

(a) The spirit will insult the friend.
(b) The monkey will cut meat.
(c) The cow showed the elephant.

<u>Language Information</u>. Pari belongs to the Western Nilotic languages. It is spoken by about 28,000 people in South Sudan.

PROBLEM 4

Author: Vee Hua Zhi

The table contains the names in the Alamblak language for the following numbers (perfect squares up to 100), but not in the correct order:

1, 4, 9, 16, 25, 36, 49, 64, 81, 100.

A	tir hosfirpati rpat
B	yima hosfirpati hosfihosf
C	yima yohtti tir yohtt
D	yima tir yohtt
E	tir yohtti hosfihosf
F	yima hosfi tir yohtti hosfihosf
G	yima yohtti tir hosfirpati rpat
H	yima hosfihosfi rpat
I	hosfihosf
J	rpat

For this problem, **please write the answers only**; you do not have to explain your reasoning.

Assignment 1. Match each number with the correct Alamblak name (match each number with a letter A-J; no need to rewrite the names).

Assignment 2. Determine what numbers are these:

(a) yima hosf
(b) tir yohtti hosfirpat.

Assignment 3. Write in Alamblak:

(a) 2
(b) 20
(c) 34.

Language Information. The Alamblak language is spoken by about 1,200 people in the Angoram District of Papua New Guinea.

PROBLEM 5

Author: Monojit Choudhury

Prof. Elena Ryabina from University of Helsinki once conducted an experiment involving 50 speakers of the Komi language. She had a set of 12 cards with different colors. She gave each person several cards (the number of cards might differ from person to person), and asked them to describe the colors on the cards in the Komi language.

These are the colors of the cards and the number of people that received each card:

Card color	**Sample**	**Number of people given the card**
Black		50
Blue		50
Brown		20
Cyan		28
Green		50
Grey		42
Orange		20
Pink		23
Purple		26
Red		50
White		45
Yellow		50
TOTAL		**454**

You may assume the following:

1. Each person gave one answer for each card received.
2. All the given answers are correct.
3. The same color might be described using different words.
4. One of the words given as an answer can be used to mean two different colors.

The following table shows all the answers that she received, as well as the number of people giving each answer:

Answer	**Number of people giving the answer**
gẹrd	50
lẹz	50
śẹd	50
jeǯịd	45
turunviž	45
rud	42
koĺkviž	35
viž	20
keĺịdlẹz	15
pemịdlẹz	14
alẹj	13
jugịdlẹz	13
pemịdgẹrd	12
koričnevẹj	11
gẹrdkoĺkviž	11
jugịdgẹrd	10
mugẹm	9
keĺịdkoričnevẹj	9
TOTAL	**454**

For this problem, **please write the answers only**; you do not have to explain your reasoning.

Assignment 1. Which of the words given as an answer can mean two different colors? Which two colors are these?

Assignment 2. Translate into English:

(a) gẹrd
(b) lẹz
(c) jeʒi̯d
(d) alẹj
(e) mugẹm.

Assignment 3. These answers become compound terms when translated into English (e.g., “light red”). Translate into English:

(a) keĺi̯dlẹz
(b) pemi̯dgẹrd
(c) jugi̯dlẹz
(d) gẹrdkoĺkviž
(e) keĺi̯dkoričnevẹj.

Language Information. The Komi language is spoken by about 160,000 people in the Komi Republic in Russia.

END OF ENGLISH PAPER

MASALAH 1

Pertandingan International Linguistics Olympiad 2022 telah diadakan di Isle of Man, suatu pulau yang terletak di antara Great Britain dan Ireland. Di Isle of Man, terdapat empat musim yang mengikut aturan berikut:

Musim bunga (*spring*): Februari ke April
Musim panas (*summer*): Mei ke Julai
Musim luruh (*autumn*): Ogos ke Oktober
Musim sejuk (*winter*): November ke Januari.

Jadual berikut menunjukkan beberapa frasa dalam bahasa Manx (bahasa yang dituturkan di Isle of Man), dan terjemahannya dalam bahasa Inggeris, dalam urutan yang salah:

1	Jerrey Geuree	A	June
2	mean oie	B	January
3	Toshiaght Souree	C	Midnight
4	oie gyn cadley	D	February
5	Jerrey Souree	E	July
6	cadley geuree	F	Winter sleep
7	Toshiaght Arree	G	May
8	Mean Souree	H	Sleepless night

Untuk masalah ini, **tuliskan jawapan sahaja**; anda tidak perlu menghuraikan jawapan anda.

Tugasan 1. Padankan setiap frasa Manx dengan terjemahan Inggeris yang betul (padankan setiap nombor 1-8 dengan salah satu huruf A-H; anda tidak perlu menulis semula frasa-frasa tersebut).

Tugasan 2. Terjemahkan ke bahasa Inggeris:

(a) Mean Fouyir
(b) gyn jerrey.

Tugasan 3. Terjemahkan ke bahasa Manx:

(a) April
(b) October.

MASALAH 2

Jadual berikut menunjukkan beberapa toponim (nama tempat) dalam bahasa Hungarian, terjemahannya ke bahasa Inggeris, dan negara terletaknya tempat tersebut:

Hungarian	**Terjemahan bahasa Inggeris**	**Negara (dalam bahasa Inggeris)**
Abonyba	To Abony	Hungary
Amszterdamból	From Amsterdam	Netherlands
Csehország	Czech Republic	Czech Republic
Esztergomba	To Esztergom	Hungary
Hatvan	Hatvan	Hungary
India	India	India
Indiába	To India	India
Kaposvárra	To Kaposvar	Hungary
Komárom	Komarom	Hungary
Lagos	Lagos	Nigeria
Oroszországból	From Russia	Russia
London	London	UK
Londonból	From London	UK
Magyarországról	From Hungary	Hungary
Mariborba	To Maribor	Slovenia
Miskolc	Miskolc	Hungary
Miskolcra	To Miskolc	Hungary
Miskolcról	From Miskolc	Hungary
Nagybajomból	From Nagybajom	Hungary
Nyíregyháza	Nyíregyháza	Hungary
Ózd	Ózd	Hungary
Pomáz	Pomáz	Hungary

Salgótarjánba	To Salgótarján	Hungary
Sopronból	From Sopron	Hungary
Tatabánya	Tatabánya	Hungary
Tatabányára	To Tatabánya	Hungary
Toronto	Toronto	Canada
Torontóból	From Toronto	Canada

Nota:
Tanda ´ melambangkan huruf vokal panjang.
ny disebut seperti huruf n lembut.
gy disebut seperti huruf d lembut.

Tugasan 1. Terjemahkan yang berikut ke bahasa Hungarian. Huraikan jawapan anda.

(a) To Lagos
(b) To Czech Republic
(c) From Ozd
(d) From Hatvan
(e) To Pomaz
(f) To Komarom
(g) From Nyíregyháza
(h) Salgótarján.

MASALAH 3

Jadual berikut menunjukkan beberapa ayat dalam bahasa Pari dengan terjemahannya dalam bahasa Inggeris:

dɪɛl acam kwacɪ.	The leopard ate the goat.
dhɪɛŋ ɲɑɑth ɲɪwatɪ ɲɑɑdhɔ.	The friend will show the cow.
jɑɔk ayaaɲ ɲɪkɔthɪ.	Nikot insulted the spirit.
ayɑɔm kwal dhɪɛŋŋɪ kwalɔ.	The cow will steal the monkey.
kwac acɑɔl cɑɑrrɪ.	The eagle called the leopard.
dhɔɔthɔ yap lɪɛcɪ yabɔ.	The elephant will open the door.
riŋo aŋɔt lacannɪ.	The poor man cut meat.

Nota:
Nikot ialah nama seorang lelaki.
ɲ disebut seperti huruf n lembut.
ŋ disebut seperti ng dalam perkataan Inggeris “song”.
Huruf vokal **ɪ**, **ɛ**, **ɔ**, dan **ɑ** disebut masing-masing seperti huruf i, e, o, dan u.

Tugasan 1. Terjemahkan ke bahasa Inggeris. Huraikan jawapan anda.

(a) cɑɑr akwal dɪɛllɪ.
(b) lacan cɑɔl ɲɪkɔthɪ cɑɔlɔ.

Tugasan 2. Terjemahkan ke bahasa Pari. Huraikan jawapan anda.

(a) The spirit will insult the friend.
(b) The monkey will cut meat.
(c) The cow showed the elephant.

Maklumat Bahasa. Bahasa Pari adalah sebahagian daripada bahasa Nilotic Barat. Ia mempunyai sekitar 28,000 penutur di Sudan Selatan.

MASALAH 4

Pengarang: Vee Hua Zhi

Jadual berikut menunjukkan nama-nama dalam bahasa Alamblak bagi nombor-nombor berikut (nombor kuasa dua sehingga 100), tetapi bukan dalam susunan yang betul:

1, 4, 9, 16, 25, 36, 49, 64, 81, 100.

A	tir hosfirpati rpat
B	yima hosfirpati hosfihosf
C	yima yohtti tir yohtt
D	yima tir yohtt
E	tir yohtti hosfihosf
F	yima hosfi tir yohtti hosfihosf
G	yima yohtti tir hosfirpati rpat
H	yima hosfihosfi rpat
I	hosfihosf
J	rpat

Untuk masalah ini, **tuliskan jawapan sahaja**; anda tidak perlu menghuraikan jawapan anda.

Tugasan 1. Padankan setiap nombor dengan namanya dalam bahasa Alamblak (padankan setiap nombor dengan salah satu huruf A-J; anda tidak perlu menulis semula nama-nama tersebut).

Tugasan 2. Tentukan nombor-nombor yang berikut:

(a) yima hosf
(b) tir yohtti hosfirpat.

Tugasan 3. Tuliskan dalam bahasa Alamblak:

(a) 2
(b) 20
(c) 34.

Maklumat Bahasa. Bahasa Alamblak mempunyai 1,200 orang penutur di daerah Angoram di Papua New Guinea.

MASALAH 5

Pengarang: Monojit Choudhury

Prof. Elena Ryabina daripada University of Helsinki pernah membuat satu eksperimen membabitkan 50 orang penutur bahasa Komi. Beliau mempunyai satu set terkandung 12 kad dengan warna yang berbeza. Beliau memberi setiap orang beberapa kad (bilangan kad yang diberi mungkin berbeza antara seorang dengan seorang yang lain), dan kemudian meminta mereka untuk menamakan warna pada kad tersebut dalam bahasa Komi.

Berikut adalah warna kad-kad tersebut dan bilangan orang yang menerima setiap kad:

Warna kad	**Contoh**	**Bilangan orang yang ditunjukkan kad tersebut**
Hitam		50
Biru		50
Perang		20
Cyan		28
Hijau		50
Kelabu		42
Jingga		20
Merah jambu		23
Ungu		26
Merah		50
Putih		45
Kuning		50
JUMLAH		**454**

Anda boleh mengandaikan yang berikut:

1. Setiap orang memberi satu jawapan bagi setiap kad yang diterima
2. Semua jawapan yang diberi adalah betul
3. Warna yang sama boleh dinamakan dengan perkataan berbeza
4. Salah satu daripada jawapan yang diberi boleh mewakili dua warna yang berbeza.

Jadual berikut menunjukkan semua jawapan yang diterima, beserta bilangan orang yang memberi setiap jawapan:

Jawapan	**Bilangan orang yang memberi jawapan**
gẹrd	50
lẹz	50
śẹd	50
jeǯịd	45
turunviž	45
rud	42
koĺkviž	35
viž	20
keĺịdlẹz	15
pemịdlẹz	14
alẹj	13
jugịdlẹz	13
pemịdgẹrd	12
koričnevẹj	11
gẹrdkoĺkviž	11
jugịdgẹrd	10
mugẹm	9
keĺịdkoričnevẹj	9
JUMLAH	**454**

Untuk masalah ini, **tuliskan jawapan sahaja**; anda tidak perlu menghuraikan jawapan anda.

Tugasan 1. Jawapan yang manakah boleh mewakili dua warna yang berbeza? Apakah dua warna tersebut?

Tugasan 2. Terjemahkan ke bahasa Inggeris:

(a) gẹrd
(b) lẹz
(c) jeʒi̯d
(d) alẹj
(e) mugẹm.

Tugasan 3. Jawapan-jawapan berikut merupakan istilah majmuk apabila diterjemahkan ke bahasa Inggeris (contoh: “light red”). Terjemahkan ke bahasa Inggeris:

(a) keĺi̯dlẹz
(b) pemi̯dgẹrd
(c) jugi̯dlẹz
(d) gẹrdkoĺkviž
(e) keĺi̯dkoričnevẹj.

Maklumat Bahasa. Bahasa Komi mempunyai sekitar 160,000 orang penutur di Republik Komi di Russia.

KERTAS SOALAN BAHASA MELAYU TAMAT