

OzCLO

Australian Computational and Linguistics Olympiad

Regional Round 2023

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Welcome to the Australian Computational and Linguistics Olympiad!

To be completely fair to all participants across Australia, we need you to read, understand and follow these rules.

RULES

1. Write your registration number on each page of the Answer Booklet.
1. The contest is two hours long.
2. Follow the facilitators' instructions carefully.
3. If you want clarification on any of the problems, talk to a facilitator.
4. You may not discuss the problems with anyone except your team members and the facilitator.
5. It's up to each team to decide how you want to solve the problems. You may decide to divide up the problems among your team members, or work on each problem together.
6. There are **five** problems. Each problem is worth a specified number of points, with a total of 100 points in the contest.
7. Only work in the **Answer Booklet/Online form** will be graded. All your answers should be in the spaces provided in the Answer Booklet, not in the individual Contest Booklet. (Make sure you allow enough time to transfer your answers to the Online form/Answer Booklet.)
8. At the end of the Session, leave all booklets on your table to be collected by the facilitator.

Each problem has been thoroughly checked for clarity, accuracy and solvability. Some are more difficult than others, but all can be solved using ordinary reasoning and analytic skills. You don't need to know anything about linguistics or about these languages in order to solve the problems. If we have done our job well, almost no one will solve all these problems completely in the time allotted. So don't be discouraged if you don't finish everything.

Enjoy!

<1> **Holiday in Umbria¹ (1/2)****16 Points**

The Iguvine Tablets, a series of inscriptions on bronze from the Italian town of Iguvium (modern Gubbio), are written in the ancient Umbrian language, which is closely related to Latin. The original translators of the tablets used the similarity of many words to their Latin “relatives” to help them in ascertaining the meaning of many passages.

Below are some Umbrian words from the Iguvine Tablets, their Latin equivalents, and their English translations.

Umbrian	Latin	English
<i>sestu</i>	<i>sisto</i>	place, set up
<i>reper</i>	<i>pro re</i>	for the business
(1)	<i>friatum</i>	rubbed down
<i>tefe</i>	<i>tibi</i>	for you
<i>Sahta</i>	<i>Sanctam</i>	holy
<i>tref</i>	<i>tris</i>	three
<i>rufra</i>	<i>rubram</i>	red
<i>katlu</i>	<i>catulum</i>	young animal
<i>Petruniaper</i>	<i>pro Petronia</i>	for Petronia
(2)	<i>tauros</i>	bulls
<i>iveka</i>	<i>iuvencam</i>	heifer
<i>uvef</i>	<i>ovis</i>	sheep
<i>uhtur</i>	<i>auctor</i>	official
(3)	<i>pro tribu</i>	for the tribe
(4)	<i>forum</i>	town square
<i>kanetu</i>	<i>canito</i>	sing
(5)	<i>ostento</i>	show
<i>estu</i>	<i>istum</i>	that one
(6)	<i>inito</i>	go in

Task 1. Can you fill in the Umbrian words (1-6) missing from the table above?

Task 2. Below is a sentence from the Iguvine Tablets, in the original Umbrian with its English translation. (The English words in brackets do not correspond to words in the Umbrian text, but are added to clarify the meaning.)

Vukuku Iuviu tref vetluf Marte Huřie feitu pupluper tutas Ikuvinas tutaper Ikuvina.

“At the temple of Jove, prepare three calves (as a sacrifice) to Mars Hodiū for the community of the town of Iguvium, (and) for the town of Iguvium.”

¹ Created by Michael Salter OzCLO

<1> Holiday in Umbria (2/2)

Give the **Umbrian** words for these three English words:

(a)	prepare	
(b)	community	
(c)	town	

Task 3. What is the meaning of the Latin word *vitulos*? _____

<2> Heart of Parma² (1/1)

24 Points

The Permyak language is spoken by around 60,000 people in the north-eastern part of European Russia. It belongs to the Finno-Ugric language family, along with Finnish, Estonian, Hungarian, and other languages, also mostly spoken in what is now Russia.

Examine the following words in Permyak and their translations.

	Permyak	English		Permyak	English
1.	k'erkulan'	towards the house	7.	purtəla	for the sake of my knife
2.	pizannezītłən	of your (sg.) desks	8.	tiezītəkət	with your (sg.) lakes
3.	ponit	your (sg.) dog	9.	k'erkuezlis'	from the houses
4.	purtnis	their knife	10.	jus's'ezə	my swans
5.	kəinnezis	his wolves	11.	kokiskət	with his foot
6.	vərələn	of my forest	12.	k'itłan'	towards your (sg.) hand

Pronunciation notes: <i> and <ə> are special vowel sounds of Permyak. The apostrophe <'> after a consonant means that the consonant slightly changes its pronunciation (it becomes *palatalized*): consonants with and without the apostrophe are different in the language.

Task 1. Translate the following Permyak words into English, using a cell for each word. Since English 'you' and 'your' are ambiguous between singular and plural, indicate which meaning for these words as in (2), (3), (8) and (12) above.

pizanislis'			
vərrezlən			
kəinnitłan'			

Task 2. Translate the following English phrases into Permyak.

his hands	
my knives	
of your (pl.) feet	
with their house	
for the sake of the swan	

² Created by Pavel Iosad

<3> Nizaa³ (1/1) 27 Points

While touring the *sì jangide* ("school"), you attempt to learn a few words of the Mambiloid language, Nizaa (approx. 10,000 speakers), with the help of a few trusty flashcards. Unfortunately, someone didn't get the memo to print the flashcards double-sided!

Task 1. Your job is to match the English and Nizaa back together.

1.	beè	A.	Anthocleista vogelii ⁴	12.	hodē dǔŋ	L.	puppy
2.	beè nim	B.	calabash ⁵	13.	nì cún	M.	roof
3.	bòw	C.	carpenter	14.	nì gírcí buu	N.	sauce
4.	bòw-ŋwiiŋ	D.	cup (for drinking water)	15.	nì kwéŋ	O.	sauce spoon
5.	buu	E.	dog	16.	nim	P.	soup
6.	cam fwéŋ	F.	duck	17.	nim buu	Q.	source of water
7.	cam-ŋwiiŋ	G.	finger nail	18.	sì buu	R.	tear (from eye)
8.	cún fwéŋ	H.	hairdresser	19.	sìŋw kwéŋ	S.	tree bark
9.	cún nim	I.	head	20.	sìŋw nim	T.	water
10.	dǔŋ	J.	hunter	21.	yír nim	U.	wild bird
11.	dǔŋ nim	K.	little finger				

Show the correct correspondences in this table.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

Task 2. How would you translate the following words into Nizaa:

bush (wilderness)	
hut	
to read	
to shave	

³ Created by Ryan Chi

⁴ A species of tree that thrives in the rainforest.

⁵ A gourd, often hollowed out and dried for use as a container.

<4> **Tidore word formation⁶ (1/1)****16 Points**

Tidore is a North Halmahera language of Indonesia, spoken by about 30,000 people. It is centred on the island of the same name, but it is also spoken in some neighbouring areas.

Task 1. Study the following words, and the verbs derived from them.

1	<i>kene</i>	small	<i>sokene</i>	to reduce
2	<i>gure</i>	a place, location	<i>sogure</i>	to put
3	<i>cum</i>	to indicate	<i>sojum</i>	to explain
4	<i>dadi</i>	to become	<i>sodadi</i>	to do
5	<i>peka</i>	to fall	<i>sobeka</i>	to drop
6	<i>ado</i>	to arrive	<i>sogado</i>	to deliver
7	<i>koko</i>	to stand (up)	<i>sogoko</i>	to put (i.e to cause to stand)
8	<i>tolu</i>	a hat	<i>sotolu</i>	to cover

Pronunciation note: *c* is pronounced like 'ch' in 'church'. All other letters pronounced as in English

The following words are derived by the same process. Fill in the blanks in the table. If there is more than one possible Tidore word, give *only one*.

<i>alo</i>	(a)	<i>soalo</i>	to cool
<i>uci</i>	to go down	(b)	to lower
<i>koliho</i>	to come back	(c)	to send back
<i>akal</i>	cunning	(d)	to outwit
<i>torine</i>	to sit down	(e)	to seat
<i>kai</i>	wedding	(f)	to marry
(g)	a step	<i>sojoko</i>	to advance

Task 2. Consider the derived word *sobaka* below. It could be derived from either *baka* or *paka*. If both could be translated by English 'rise' which would correspond to 'ascent' and which to 'ascend'?

(h)	rise	<i>sobaka</i>	to lift up
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Ascent: _____ Ascend: _____

⁶ Source: 52nd (Russian) Traditional Linguistics Olympiad 2021/22, qualifier stage, created by Pyotr Arkdyev, translated by Harold Somers (AILO).

<5> My Grandmother and I⁷ (1/1)

17 Points

The Australian language, Lardil, spoken on Mornington Island in the Gulf of Carpentaria off North Queensland has a complex but logical system of pronouns. Below are thirteen groups of people, followed by how they would be referred to in Lardil:

English pronouns	Referring to:	Lardil pronouns
we, us	my grandmother and I	<i>nyarri</i>
they/them	he, his brother and sister	<i>bili</i>
you	you, your sister and your grandson	<i>kili</i>
we, us	my great-grandfather and I	<i>nyaan</i>
you	you and your brother	<i>kirri</i>
we, us	my grandparents and I	<i>nyali</i>
you	you and your aunt	<i>nyiinki</i>
you	you, your father and your mother	<i>kilmu</i>
we, us	my son, my mother and I	<i>nyalmu</i>
they, them	she and her grandparents	<i>bili</i>
we, us	my son and I	<i>nyaan</i>
we, us	my sister, my grandson and I	<i>nyali</i>
they, them	she and her great-granddaughter	<i>nyiinki</i>

Task 1. What is the correct Lardil pronoun for these people?

a.	my father and I	
b.	you and your granddaughter	
c.	my uncle, my aunt and I	
d.	he and his parents	
e.	she and her mother	

Task 2. Which of these groups would be designated as *birri* in Lardil?

f.	my uncle and I	
g.	you, your brother and your grandfather	
h.	she and her sister	

Task 3. There is another pair of pronouns in Lardil, *ngakuli* and *ngakulmu*, which refer to "You, me and one other person". Assuming that "you" and "me" are brother and sister, which word would you use to refer to:

i.	You, me and our grandfather	
j.	You, me and our aunt	

⁷ Created by Michael Salter (OzCLO)