en

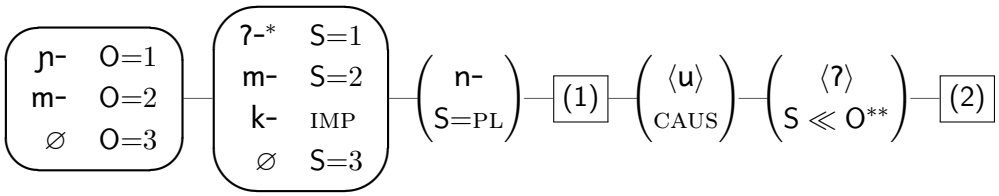
Eighth Asia Pacific Linguistics Olympiad

29 March – 12 April 2026

Solutions

Problem 1.

1. Verb structure:



* #ʔC… → #ɣC…

** 1 ≫ 2 ≫ 3
(e.g. S = 2, O = 1 ⇒ S ≪ O)

(1)	(2)	
n—	ar	*steal*
m—	ap	*want*
x—	tup	*jump*
∅—	iɲ	*give*
∅—	aː	*go*
∅—	amp	*walk*

Abbreviations

#	word boundary
S	subject
O	object
IMP	imperative
CAUS	causative (*make X do Y*)
1	first person
2	second person
3	third person
PL	plural

(a)
1. *I walk*
2. *you(pl) make him go*
3. *they want me*

(b)
4. ɲu͟ʔaː *he makes me go*
5. n̲kuʔamp *make me walk!*

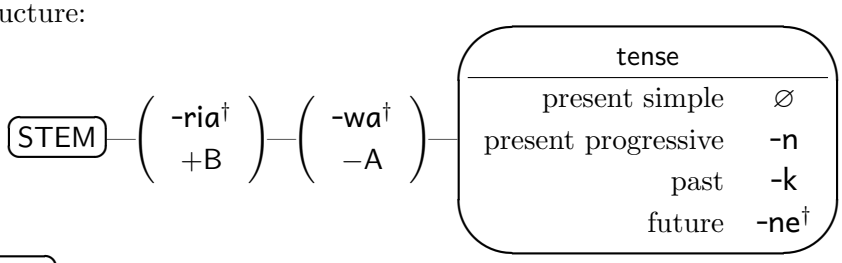
(c)
6. ʔaː
7. naː
8. ɲkxuʔtup
9. mnamp
10. mnar
11. mnmʔap
12. ɲʔiɲ

Problem 2.

1. Sentence structure:

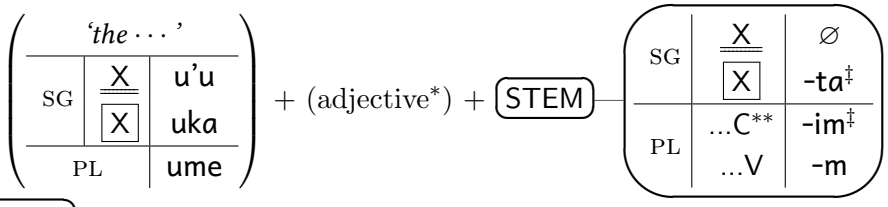
- $\left[\ \underline{\underline{\text{A}}}\ \ \text{V}_\text{i}\ \right]$ $\begin{cases} \xrightarrow[+\text{B}]{\text{-ria}} & \left[\ \underline{\underline{\text{A}}}\ \ \boxed{\text{B}}\ \ \text{V}_\text{i}\ \right] \\ \xrightarrow[-\text{A}]{\text{-wa}} & \left[\ \varnothing\ \ \text{V}_\text{i}\ \right] \end{cases}$ $\varnothing$ = *'someone'*
- $\left[\ \underline{\underline{\text{A}}}\ \ \boxed{\text{P}}\ \ \text{V}_\text{t}\ \right]$ $\begin{cases} \xrightarrow[+\text{B}]{\text{-ria}} & \left[\ \underline{\underline{\text{A}}}\ \ \boxed{\text{B}}\ \ \boxed{\text{P}}\ \ \text{V}_\text{t}\ \right] \\ \xrightarrow[-\text{A}]{\text{-wa}} & \left[\ \varnothing\ \ \underline{\underline{\text{P}}}\ \ \text{V}_\text{t}\ \right] \end{cases}$ $\xrightarrow[+\text{B}-\text{A}]{\text{-ria-wa}} \left[\ \varnothing\ \ \underline{\underline{\text{B}}}\ \ \boxed{\text{P}}\ \ \text{V}_\text{t}\ \right]$

2. Verb structure:



† $\boxed{\text{STEM}}$ = CV:Ca → CVC

3. Noun phrase structure:



‡ $\boxed{\text{STEM}}$ = (C)V:... → (C)V...

* adjective: SG $\text{C}_1\text{V}_1\text{C}_2\text{V}_2$i → PL $\text{C}_1\text{V}_1\text{C}_1\text{V}_1\text{C}_2\text{V}_2$i

** ...t → ...ch

Abbreviations

V_i	intransitive verb	C	consonant
V_t	transitive verb	V	vowel
A	agent (who does the action)	SG	singular
P	patient (who is affected by the action)	PL	plural
B	beneficiary (who benefits from the action; *'for* B*'*)		

(a)
11. *A child sang.*
12. *A sea turtle is hit.*
13. *The bird will cry for the sea turtle.*
14. *The chiefs hit [present] some white flowers.*

(b)
15. wi:kit tekota po:nan
16. ume chuchukui wikichim ume u:sim bwikria
17. u'u mi:si uka husai chu'uta ponriawan

Problem 3.

1. $1 \le \mathsf{X} \le 10$:

1	2	3	4	5	6	7	8	9	10
atdi	ɔyɔ	ɨbhʉ	ɨfɔ	imbo	aza	arʉbhʉ	arʉ	arʉgyetdi	ɨdrɛ

2. Traditional system:

   $\mathsf{Y} = 4n \quad (n = 3,\ 4,\ \cdots, 8)$:

12	16	20	24	28	32
otsi	ɔpɨ	aba	arotsi	adzoro	wadhɨ

   $\rightarrow$ $\mathsf{Y} - 1$: Y-vi $\mathsf{Y} + 1$: Y dɔ atdi $\mathsf{Y} + 2$: Y dɔ ɔyɔ

   $32 + \mathsf{W}$: wadhɨ dɔ W $(1 \le \mathsf{W} < 32)$

   $32 \times \mathsf{Z}$ [+ W]: Z wadhɨ [dɔ W] $(1 < \mathsf{Z} < 32;\ 1 \le \mathsf{W} < 32)$

3. New system:

   $10 + \mathsf{P}$: ɨdrɛ dɔna P na $(1 \le \mathsf{P} < 10)$

   $10 \times \mathsf{Q}$ [+ P]: Q kumi [dɔna P na] $(1 < \mathsf{Q} < 10;\ 1 \le \mathsf{P} < 10)$

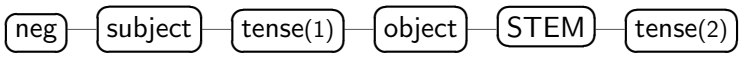
   100 [+ R]: mɨya [dɔna R na] $(1 \le \mathsf{R} < 100)$

   $100 \times \mathsf{S}$ [+ R]: S mɨya [dɔna R na*] $(1 < \mathsf{S} < 10;\ 1 \le \mathsf{R} < 100)$ * ... ~~ŋa~~ na

Traditional system	New system	Value
otsivi	ɨdrɛ dɔna atdi na	11
otsi	ɨdrɛ dɔna ɔyɔ na	12
otsi dɔ atdi	ɨdrɛ dɔna ɨbhʉ na	13
ɔpɨ	ɨdrɛ dɔna aza na	16
(A) abavi	ɨdrɛ dɔna arʉgyetdi na	19
arotsivi	ɔyɔ kumi dɔna ɨbhʉ na	23
adzoro dɔ atdi	ɔyɔ kumi dɔna arʉgyetdi na	29
(B) wadhɨ dɔ ɔpɨvi	ɨfɔ kumi dɔna arʉbhʉ na	47
wadhɨ dɔ wadhɨvi	(C) aza kumi dɔna ɨbhʉ na	63
ɔyɔ wadhɨ dɔ otsi	arʉbhʉ kumi dɔna aza na	76
(D) ɔyɔ wadhɨ dɔ arotsi dɔ ɔyɔ	arʉgyetdi kumi	90
ɨbhʉ wadhɨ dɔ adzorovi	mɨya dɔna ɔyɔ kumi dɔna ɨbhʉ na	123
ɨfɔ wadhɨ dɔ ɔpɨ dɔ ɔyɔ	(E) mɨya dɔna ɨfɔ kumi dɔna aza na	146
imbo wadhɨ dɔ ɨdrɛ	(F) mɨya dɔna arʉbhʉ kumi na	170
arʉbhʉ wadhɨ dɔ aba dɔ atdi	ɔyɔ mɨya dɔna ɨfɔ kumi dɔna imbo na	245
(G) arʉ wadhɨ dɔ arotsi	ɔyɔ mɨya dɔna arʉ kumi na	280
(H) arʉgyetdi wadhɨ dɔ ɔpɨ dɔ atdi	ɨbhʉ mɨya dɔna imbo na	305

Problem 4.

1. Verb structure:



	subject	object
we/us	tú-	tu-
he/him	a-	mu-
they/them	βá-	βa-
it	—	ki-

		neg	tense	
			(1)	(2)
present simple	affirmative	∅	∅	-a
	negative	ti-	∅	-á
present progressive	affirmative	∅	liku-	
	negative	tí-	líku-	

2. Phonological rules:

   - STEM = $[\sigma_H]$ or $[\sigma_L\sigma_H^*]$ (e.g. $\sigma_L\sigma_H$, $\sigma_L\sigma_H\sigma_H$, $\sigma_L\sigma_H\sigma_H\sigma_H$, ...)
   - tú/βá + $_{STEM}[\sigma_L...]$ → tu/βa + $_{STEM}[\sigma_H...]$
   - a + $_{STEM}[\sigma]$ (monosyllabic) → aa + $_{STEM}[\sigma]$
   - [Cu/i] + $_{STEM}$[V...] → [Cw/y] + $_{STEM}$[VV...]
     otherwise, ...u/i + V... → ...w/y + V...

Abbreviations

C	consonant	σ	syllable	H	high tone
V	vowel	[ ]	morpheme boundary	L	low tone
neg	negative				

(a)
1. túmutya *we fear him*
2. tíβálíkwanzúlúlá *they are not extending (something)*
3. titwoonóóná *we do not spoil (something)*
4. alikutusíβá *he is tying us*
5. βahólóóta *they snore*

(b)
6. tyalíkumwoonóóná
7. túβavunáánízya
8. titwaanzúlúlá
9. βálikutolóká
10. tyaatyá

Problem 5.

1. Noun phrase structure:

$$\left\{\begin{array}{lll} & \text{possessor} & \text{SG} \quad \text{PL} \\ (i)^{*} & 1 & \text{máá} \quad \text{nè màà} \\ & 2 & \text{àà} \quad \text{àà màà} \\ & 3 & \text{màà} \quad \text{nì màà} \\ (ii)^{**} & \textit{`the} \cdots\textit{'} & \text{ā} \\ (iii) & \text{otherwise,} & \varnothing \end{array}\right\} + \boxed{\text{STEM}^{\dagger}} \text{—} \left(\text{PL} \quad \text{-ndè}^{***}\right)$$

* ...à → ...ā (before L)

** ā → à (before L)

*** ndè → ndé (after L)

† STEM:

(*iii*)		SG		PL
		(*i*)	(*ii*)	(*i*)/(*ii*)
L*H*	→	H*↘	M*↘	H*
M*↘	→	L*		

↘: word-final syllable = L

Abbreviations

H	high tone	1	first person	SG	singular
M	mid tone	2	second person	PL	plural
L	low tone	3	third person		

X* $\underbrace{\text{X.....X}}_{\geq 1}$

1. dījà
2. bīī^{n}ndè
3. màā bìì^{n}
4. à tààrè
5. ā būjāgì
6. máá túúrè
7. àà màà túúréndè
8. à gàrìbùndé
9. nì màā tàj
10. nè màà kwáábè