

NLP
Home assignment-5

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1.(a) 5 different types of verbs

(i) Sota hai [Intransitive]

<u>Karaka relation</u>	<u>vibhakti</u>	<u>m/o</u>
k ₁	Ø	m
k _{7p}	mein/par	0
k _{7t}	mein/ko	0

(ii) dekhta hai [Transitive]

<u>Karaka relation</u>	<u>vibhakti</u>	<u>m/o</u>
k ₁	Ø	m
k ₂	Ø/ko	m
k _{7t}	mein/ko	0
k _{7p}	mein/par	0
k ₃	se/ke-dwara	0

(iii) deta hai [Ditransitive]

<u>Karaka relation</u>	<u>vibhakti</u>	<u>m/o</u>
k ₁	Ø	m
k ₂	Ø	m
k ₃	se/ke-dwara	0
k ₄	ko	m
k _{7p}	mein/par	0
k _{7t}	mein/ko	0

(iv) leta hai

<u>karaka relation</u>	<u>vibhakti</u>	<u>m/o</u>
k1	ϕ	m
k2	ϕ	m
k3	se/ke-dwara	0
k5	se	m
k7 _p	mein/par	0
k7 _t	mein/ko	0

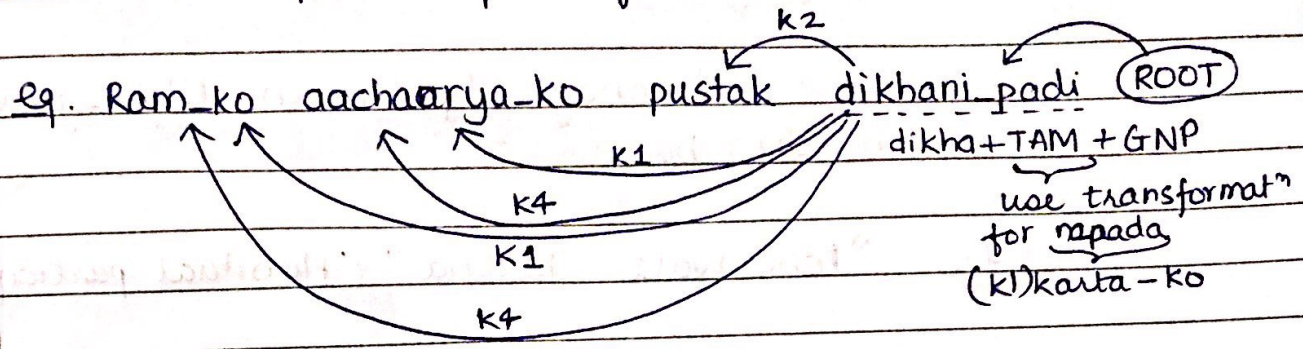
(v) nikalta hai

<u>karaka relation</u>	<u>vibhakti</u>	<u>m/o</u>
k1	ϕ	m
k5	se	m
k7 _t	mein/ko	0
k7 _p	mein/par	0

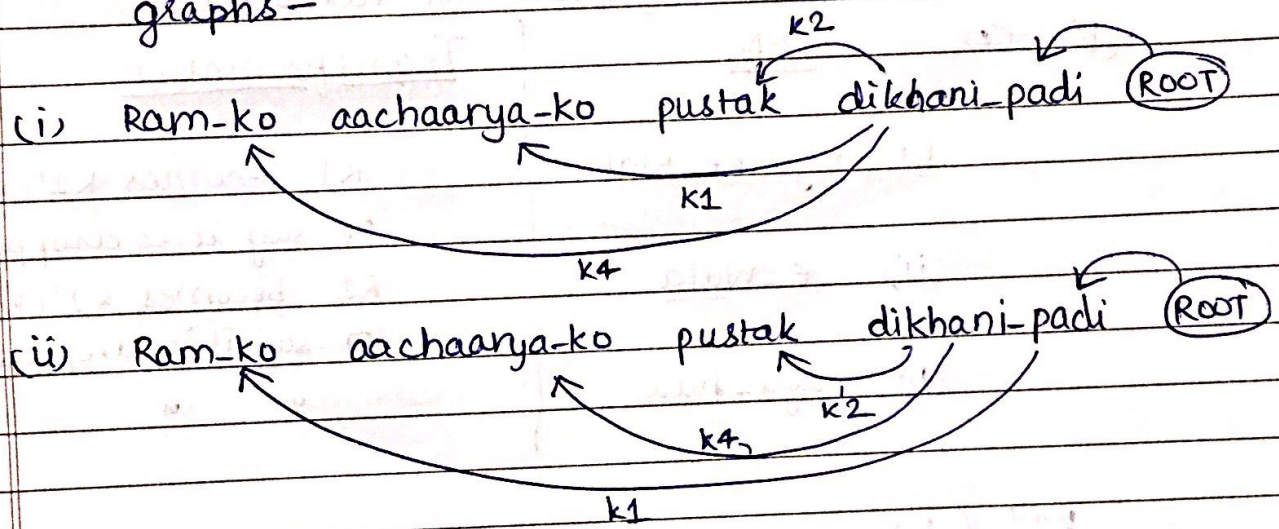
eg. Ganga Himalaya-se nikalti-hai

1. (b) is <u>TAM label</u>	<u>Transformation (karaka-vibhakti)</u>
(i) yaa	(k1)Karta-ne
(ii) naa-paDaa	(k1)Karta-ko
(iii) yaa-gaya	k1 - se/ke-dwara (also k1 is optional)
(iv) kara	k1 must not be present and k2 optional
(v) taa-hua	k1 is optional and k2 is optional

1.(c) How it helps in parsing.



Now, using global constraints,
K1 and K4 both are mandatory. Hence 2 possible graphs -



If there had not been Transformation chart -

we would be associating (using basic chart)

a - pustak with K1 and K2

b - Ram-ko and aacharya-ko as K4

where b would have to choose one as K4
(only one mandatory edge) and one of
Ram-ko / aacharya-ko would not get an
edge. Hence Reject / Error

But since we have transformation chart we
could give the two possible constraint graphs.

2. (a) (i) "likhi-jaane-wali bhasha" (passive participial)

eg. Hindi devanagiri-lipi-mein likhi-jane-wali bhasha hai.

(ii) "rone-wala baccha" (Habitual participial)

eg. Rone-wala baccha khana kha raha hai.

(iii) "Khaya-hua fal"

eg. Wahan khaya-hua fal rakha hai

(b) TAM | Transformation

(i) i-jaane-wala

K1 becomes K1' (K1-inverse)

or say it is dropped

(ii) e-wala

K1 becomes K1' (K1-inverse)

or say it is dropped

(iii) aya-hua

" "

K1' (K1-inverse)

↳ where verb becomes the ^{child} ~~head~~ of head which is noun

eg. bhasha
↓
likhi-jane-wali

} so now K1 gets
inversed

eg. baccha
↓
Rone-wala

eg. fal
↓
Khaya-hua