

QUIZ II – Spring 2022
Computational Linguistics 1

Answer all the questions in the given booklet:

1. Read the following sentences: [4+4+4+6]

The book describes the beautiful cities.

The girls talk about the beautiful cities in the book on phone.

The men from the beautiful cities talk softly.

- (i) Write a grammar and lexicon for the above sentences.
- (ii) Draw one ATN that recognize the above sentences correctly with input as words.
- (iii) Draw one ATN for each of the non-terminal nodes i.e. phrasal categories
- (iv) Draw syntactic trees for each of the above sentences.

2. Translate the following sentences into your mother tongue in WX notation and give a shallow parse of the translated sentences in SSF as shown in the handout showing pos, chunk and morph features. [6+6]

- (i) The houses were damaged badly.
- (ii) The tigers chased the deer in the forest.

Shakti Standard Format Example

<sentence id = "1">

```

1      ((      NP
1.1    children  NNS      <fs af=child,n,m,p,3,0,,>
      ))
2      ((      VG
2.1    are      VBP      <fs af=be,v,m,p,3,0,,>
2.2    watching VBG      <fs af='watch,v,m,s,3,0,,,' aspect=PROG>
      ))
3      ((      NP
3.1    some     DT      <fs af=some,det,m,s,3,0,,>
3.2    programmes NNS   <fs af=programme,n,m,p,3,0,,>
      ))
4      ((      PP
4.1    on       IN      <fs af=on,p,m,s,3,0,,>
4.1.1 ((      NP
4.1.2 television NN      <fs af=television,n,m,s,3,0,,>
      ))
      ))
5      ((      PP
5.1    in       IN      <fs af=in,p,m,s,3,0,,>
5.2    ((      NP
5.2.1 the      DT      <fs af=the,det,m,s,3,0,,>
5.2.2 house    NN      <fs af=house,n,m,s,3,0,,>
      ))
      ))

```

(1)

mA snehiwudu nan-nu kAlejI xAkA nad-ipiMc-A-du.
 we.POSS friend.NOM I-ACC college till walk-CAUS-PST-3.SG.M
 'My friend made me to walk till the college'.

<Sentence id="1">

```

1      ((      NP
1.1    mA      PRP      <fs af='memu,pn,any,pl,1,o,ti,ti'>
1.2    snehiwudu NN      <fs af='snehiwudu,h,,sg,,d,0,0'>
      ))
2      ((      NP
2.1    nannu   PRP      <fs af='nenu,pn,any,sg,1,,ni,ni'>
      ))
3      ((      NP
3.1    kAlejI  NN      <fs af='kAlejI,n,,sg,,d,0,0'>
3.2    xAkA    PSP      <fs af='xAkA,avy,,,,,0,0_avy' poslcat="NM">
      ))
4      ((      VGF
4.1    nadipiMcAdu VM      <fs af='nadipiMcu,v,m,sg,3,,A,A'>
4.2    .       SYM      <fs af='&dot;;punc,,,,,'>
      ))
</Sentence>

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POS Tags

- 1.1 Noun NN
- 1.2 NLoc NST
- 2. Proper Noun NNP
- 3.1 Pronoun PRP
- 3.2 Demonstrative DEM
- 4 Verbfinite VM
- 5 Verb Aux VAUX
- 6 Adjective JJ
- 7 Adverb RB *Only manner adverb
- 8 Post position PSP
- 9 Particles RP
- 10 Conjuncts CC
- 11 Question Words WQ
- 12.1 Quantifiers QF
- 12.2 Cardinal QC
- 12.3 Ordinal QO
- 12.4 Classifier CL
- 13 Intensifier INTF
- 14 Interjection INJ
- 15 Negation NEG
- 16 Quotative UT
- 17 Symbols SYM
- 18 Compounds *C
- 19 Reduplicative RDP
- 20 Echo ECH
- 21 Unknown UNK

Chunk Tags

- 1 Noun Chunk NP
- 2 Finite Verb Chunk VGF
- 3 Nonfinite Verb Chunk VGNF
- 4 Infinitival Verb Chunk VGINF
- 5 Verb Chunk (Gerund) VGNN
- 6 Adjectival Chunk JJP
- 7 Adverb Chunk RBP
- 8 Chunk for Negatives NEGP
- 9 Conjuncts CCP
- 10 Chunk Fragments FRAGP
- 11 Miscellaneous BLK