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ROLL NO 17
BE CMAPNA

NLP
A1-2

Desai

Page No.	
Date	

MI11

Q2.

Sequence

$\langle S \rangle$ DT NN V DT NN $\langle \text{IS} \rangle$

$\langle S \rangle$ DT NN V P DT NN $\langle \text{IS} \rangle$

$\langle S \rangle$ N V NN $\langle \text{IS} \rangle$

Bigrams	Possibilities
$\langle S \rangle$ DT	$P(DT \langle S \rangle) = 2/3 = 0.67$
DT NN	$P(NN DT) = 4/4 = 1$
NN V	$P(V NN) = 2/5 = 0.4$
V DT	$P(DT V) = 1/3 = 0.33$
NN $\langle \text{IS} \rangle$	$P(\langle \text{IS} \rangle NN) = 3/5 = 0.6$
V P	$P(P V) = 1/3 = 0.33$
$\langle S \rangle$ N	$P(N \langle S \rangle) = 1/3 = 0.33$
N V	$P(V N) = 1/1 = 1$
V NN	$P(NN V) = 1/3 = 0.33$
P DT	$P(DT P) = 1/1 = 1$

Transition Matrix

	$\langle S \rangle$	DT	NN	V	P	N	$\langle \text{IS} \rangle$
$\langle S \rangle$	0	0.67	0	0	0	0.33	0
DT	0	0	1	0	0	0	0
NN	0	0	0	0.4	0	0	0.6
V	0	0.33	0.33	0	0.33	0	0
P	0	1	0	0	0	0	0
N	0	0	0	1	0	0	0
$\langle \text{IS} \rangle$	0	0	0	0	0	0	0

MIII

03.

Emission

The students pass the test

The students wait for the pass

Teachers test students

Emission Probabilities

	DT	NN	V	P	N
The	4/4	0	0	0	0
Student	0	3/3	0	0	0
pass	0	1/2	1/2	0	0
test	0	1/2	1/2	0	0
wait	0	0	1/1	0	0
for	0	0	0	1/1	0
teachers	0	0	0	0	1/1