

Part 1.

manish Ugras
19EE10039.

Exam Page
Date: / /

Transition A.

	N	S
<S>	.75	.25
N	.5	.5
V	.75	.25

Emission B.

	bill	table	book
N	.5	.2	.4
V	.1	.3	.1

$$v_t(i) = P(\text{path for } t \text{ ending at state } i)$$

$$bt(i) = \text{state } j \text{ at } t \text{ maximize.}$$

$$v_2(N) = (0.75 \times 0.25)^{0.5} = 0.375 \times \frac{1}{2} = 0.1875$$

$$v_2(V) = (0.25 \times 0.1)^{0.5} = 0.025 \times \frac{1}{2} = 0.0125$$

$$v_1(N) = 0.75$$

$$v_1(V) = 0.25$$

$$v_3(N) = 0.75 \times 0.25 \times \dots$$

$$v_3(V) =$$

$$0.5 \times 0.4$$

$$\max(0.075 \times 0.5 \times 0.2)$$

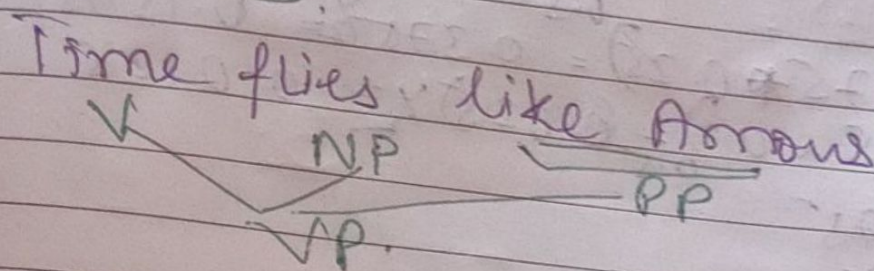
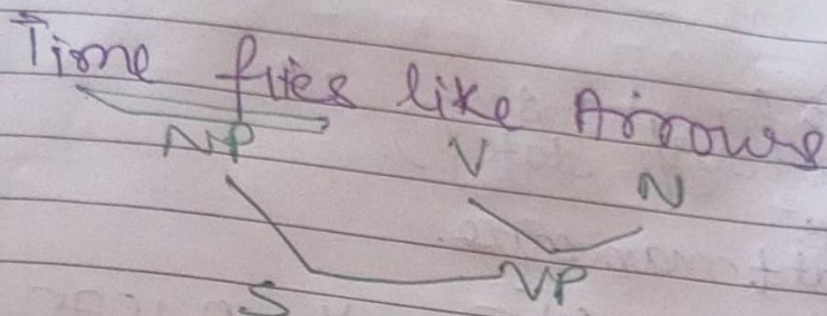
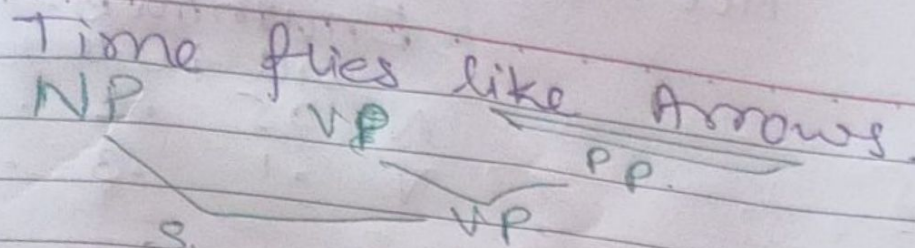
$$0.01875$$

$$0.1875$$

$$\sqrt{0.01125}$$

$$\max(0.25 \times 0.5 \times 0.1, 0.025 \times 0.25 \times 0.1)$$

Part 2.



Time	flies	like	arrow.
VT N NP.	NP	None	VP, NP, S.
VT N NP.	VT N NP.	None	S, NP, VP
		VT, Prep	VP, PP
			N, NP.

Part 8.

I called the girl with red hair

Stack	Buffer	Action	Arrows Added
root	I called the girl with red hair.	Shift	
root I		Shift	
root root called		Shift	
root called the			

root called girl

root called girl with

Added directly in form