SASTRA DEEMED TO BE UNIVERSITY (U/S 3 OF THE UGC ACT, 1956) THINK MERIT | THINK TRANSPARENCY | THINK SASTRA	**School of Computing** **Course Code: CSE405R02** **Course Name: Natural Language Processing** **Duration: 3 hrs** **Max Marks: 50**

Question 2

1. Using CYK algorithm, find the parse tree for the sentence **"students play football with friends"**

S -> NN VP	0.50	S - > VP NP	0.50
NP -> NN PP	0.70	NP -> PP NN	0.30
VP -> VB NP	0.30	VP -> VP NP	0.20
VP -> VB NN	0.35	VP -> VB PP	0.15
PP->P VP	0.50	PP->P NN	0.50
P -> with	0.70	P -> without	0.30
VB -> play	0.20	VB -> enjoy	0.20
VB -> watch	0.20	VB-> like	0.15
VB->enjoy	0.15	VB->listen	0.10
NN -> children	0.15	NN->students	0.10
NN -> cricket	0.15	NN-> football	0.15
NN -> friends	0.20	NN -> painting	0.25

2. Design text generator using LSTM and generate words based on the input provided. **File name: Electronic_World.txt**