Q1) Write an expert system program (in Prolog) to classify computer types, using forward chaining. *(10 Degrees)*

Q2) Write a complete program to parse the following natural language sentences, with CFG: *(10 Degrees)*

"Ali store the small white ball in his large bag"
"Maha will go to the nearest market by public bus"

Q3) A) What are the benefits of NN? *(5 Degrees)*
B) Write a complete program to train Hopfield NN. *(15 Degrees)*

Q4) Compute the certainty value for the following tree: *(10 Degrees)*

![Diagram of a tree structure with nodes C3, C1, C2, E1, E2, E3 and their respective certainty values.]

Note: All rules are reversible.

Q5) Write a program to analyze chemical compounds. *(10 Degrees)*