St. Joseph's Institute of Technology
St. Joseph's College of Engineering
Department of CSE/IT
Assignment-IV
CS6660-Compiler Design

Part-A

1) What are the function of construction of syntax tree for expression? Explain.
2) What do you mean by DAG?
3) Define activation trees.
4) Define syntax directed definition.
5) Define procedure definition.
6) What are the advantages of compile time checking and the dynamic checking?
7) What is Symbol Table and explain Symbol Table Management
8) Explain Storage Allocation Strategies

Part-B

1. (i)Given the Syntax-Directed Definition below construct the annotated parse tree for the input expression: "int a, b, c".

   D → T L L.inh = T.type
   T → int T.type = integer
   T → float T.type = float
   L → L1, id L1.inh = L.inh addType(id.entry,L.inh)
   L → id addType(id.entry,L.inh)

   (ii) Given the Syntax-Directed Definition below with the synthesized attribute val, draw the annotated parse tree for the expression (3+4) * (5+6).

   L → E L.val = E.val
   E → T E.val = T.val
   E → E1 + T E.val = E1.val + T.val
   T → F T.val = F.val
   T → T1 * F T.val = T1.val * F.val
   F → (E) F.val = E.val
   F → digit F.val = digit.lexval

2. (i)What are different storage allocation strategies? Explain.(8
   (ii)Specify a type checker which can handle expressions, statements and functions.(8)

3. Explain the organization of runtime storage in detail.
4. Explain the various structures that are used for the symbol table constructions.