PVP 14

Code: IT4T4

II B.Tech - II Semester – Regular/Supplementary Examinations – April 2017

AUTOMATA AND COMPILER DESIGN
(INFORMATION TECHNOLOGY)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11 x 2 = 22

1.

a) Design DFA for the language which consists of set of strings ends with 10.
b) Difference between DFA and NFA.
c) What are the different phases of compiler?
d) What is ambiguous grammar and give one example?
e) Define recursive-decent parser.
f) Define handle.
g) Define LR (k) parser.
h) Define name equivalence.
i) What are the contents of the activation record?
j) What are the different storage allocation strategies?
k) Define live variables.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Construct the equivalent DFA for the following regular expression (11+0)*(00+1)* 8 M

   b) Explain the different phases of compilers. 8 M

3. Construct SLR parsing table and parse the string id*id + id for the given grammar: 16 M

   E→ E + T|T
   T→ T*F|F
   F→(E) | id

4. Discuss about the different dynamic storage organization schemes. 16 M

5. a) Give the translation scheme for changing infix to postfix. Translate 9-5+2. 8 M

   b) What is an intermediate code? Explain the different types of it with examples. 8 M

6. a) Explain the different issues in the design of code generator. 6 M

b) Give DAG for the given block

*l*1: t1:= 5+a
t2:= x [t1]
t3:= 5+a
t4:= y[t3]
t5:= t2+t4
t6:= b * t5
b:= t6
t7:= a*3
a:=t7
If a< 10 go to *l*1 10 M