TE - Comp / sem. VI / SRPCC / 01/12/2014

QP Code :15111

(3 Hours) **[Total Marks : 100**

N.B. (1) Question No. 1 is **compulsary**.
(2) Attempt any **four** of remaining questions.
(3) Make suitable assumptions if **required**.

1. Solve any **four** of the following :—
   (a) Explain different functions of loader in brief. 5
   (b) Explain positional parameter in macro. 5
   (c) Explain heap allocation. 5
   (d) Explain role of finite automata in compiler. 5
   (e) What are system software and application software ? 5

2. (a) Explain code optimization in compiler designing with suitable example. 10
   (b) Explain two pass macro with flowchart and databases. 10

3. (a) Explain the working of direct linking loader with a proper example. Show the entries in different databases built by direct linking loader. 10
   (b) Explain different error recovery techniques used by compiler. 10

4. (a) Explain one pass assembler with flowchart and respective databases. 10
   (b) Explain operator preceeding parsing with example. 10

5. (a) Consider the following grammer with terminals (,[,) and]. 10
   $S \rightarrow TS \mid [S]S \mid)S \mid \varepsilon$
   $T \rightarrow (X)$
   $X \rightarrow TX \mid [X]x \mid \varepsilon$ non terminals.
   (i) Construct first and follow set for the ~~nontenninals.~~
   (ii) Construct its LL(1) parsing table.
   (iii) Is this LL(1) grammer ? Is this grammar LL(1)?
   (b) Explain syntax directed translation. 5
   (c) Explain three address code. 5

6. (a) Consider the following grammer :— 10
   $S \rightarrow aSbS \mid bSaS \mid \varepsilon$
   (i) Frame the transition table ~~and action / goto table of~~ for the given grammar.
   (ii) Demonstrate if the grammer is LR(O) or not.
   (b) Explain handle, first set and follow set. 5
   (c) Explain role of lexical analyser. 5

7. Solve any **four** of the following :—
   (a) Explain DAG. 5
   (b) Explain LEX and YACC. 5
   (c) Explain the working and need of linkage editor. 5
   (d) What is forward reference problem? How it is resolved in two pass assembler ? 5
   (e) Explain activation record. 5

LM-Con.:8948-14.

Correction Attached

Course : Prog. 583 to 597 T.E. (COMPUTER) (Sem VI)

Q.P Code : 15111

Correction :

Q.5 a) Consider the following grammar with terminals (,[,) and].

S→TS | [S]S |)S | ∈

T→(X)

X→TX | [X]X | ∈

i) Construct first & follow sets for non terminals.

ii)Construct its LL(1) parsing table.

iii)Is this grammar LL(1)?

Q. 6 a) Consider the following grammar.

S →aSbS | bSaS | ∈

i) Frame the transition table for the given grammar

ii) Demonstrate if grammar is LR(0) or not.
