4/6/2012

T.E comp VI (Rev)
System Programming & Compiler construction.

AGJ 1st half (q) 14

Con. 3635-11. **(REVISED COURSE)** **RK-2634**

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

N.B. : (1) Question No. **1** is **compulsory**. Attempt any **four** questions from the remaining **six** questions.
(2) Assumptions made should be **clearly** stated.
(3) **Figures** to the **right** indicate **full** marks.

Q. 1)

A) Explain local code optimization in brief. 5

B) Define Macro. Explain macro calls within macro giving example. 5

C) Define Loader. Explain the functions of a loader in brief. 5

D) Explain the dangling references in run time storage allocation with example. 5

Q. 2)

A) Explain the working of a single pass macro assembler with the help of a neat flowchart. 10

B) Explain the LR parser. Write an algorithm for it. Show the working of this algorithm with an example. 10

Q. 3)

A) Explain the working of a direct linking loader with a proper example. Clearly show the entries in the different databases built by the direct linking loader. 10

B) Explain the different types of intermediate code representation. 10

Q. 4)

A) Explain the databases used by each pass of the 2-pass assembler. Explain how these databases are used by the 2-pass assembler when it processes the source program with an example. Clearly show all the entries in the databases built by the 2-pass assembler. 10

B) What is ambiguity? Explain the techniques to eliminate the ambiguity with an Example. 10

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Q. 5)

A) What is binding? Explain the static and dynamic binding. 10

B) Explain the working of linkage editor in the system programming. 10

Q. 6)

A) Define cross compiler. Explain in brief what activities are performed in various phases of the compiler. 10

B) What is Relocation? Explain in brief various types of loaders with their Advantages and disadvantages. 10

Q. 7) Write a short a note on the following: 20

A) Syntax directed translation.

B) Lexical analysis

C) Heap allocation

D) YACC