T.E. (I.T.) Sem VI (R)

Con. 3092-09. *Systems Software & Operating Systems* VR-5433

2/06/09
3 p.m. to 6 p.m

(REVISED COURSE)

(L6)

(3 Hours) [Total Marks : 100]

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions out of remaining **six** questions.
(3) Assume **suitable data** where **necessary**.

1. (a) What conditions enforce to design multipass assembler ? What are the advantages and disadvantages of single pass assembler ?   **10**

   (b) Explain the working of a two pass assembler with neat flowcharts and Description of various databases used.   **10**

2. (a) Explain the different disk space allocation methods with their merits and demerits.   **10**

   (b) What are the error recovery techniques used by the compiler ?   **10**

3. (a) Explain the file organization and the access methods.   **10**

   (b) Explain Banker's algorithms for deadlock avoidance.   **10**

4. (a) What is parsing ? Differentiate top down parsing vs bottom-up parsing methods.   **10**

   (b) What is a Scheduler ? Describe Short term, mid term and long term scheduling when the schedulers are involved with neat diagrams.   **10**

5. (a) Explain the code optimisation phase of a compiler.   **10**

   (b) Explain the design of direct linking loader.   **10**

6. (a) What is the need of linkage-editor in system programming ? Explain its working in brief.   **10**

   (b) What are the four conditions that create deadlock ? Explain Deadlock prevention and deadlock avoidance.   **10**

7. Write short notes on (any **four**) :—   **20**

   (a) System calls and Driver.

   (b) Interprocess Communication.

   (c) Database for 2-pass Macro .

   (d) Ambigous grammer.

   (e) Virtual Memory.

   (f) Debug Monitor.