

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

2/06/09

3 p.m. to 6 p.m.

Con. 3092-09. Systems Software & Operating Systems
(REVISED COURSE) VR-5433

(Lib)

(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 ? 10
What are the advantages and disadvantages of single pass assembler ?
- (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) Ambiguous grammer.
 - (e) Virtual Memory.
 - (f) Debug Monitor.