17517

21718

3 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions : *(1)* ***All*** *questions are* ***compulsory****.*
(2) Answer ***each*** *next main question on a* ***new*** *page.*
(3) Assume suitable data, if ***necessary****.*
(4) Mobile Phone, Pager and any other Electronic Communication devices are ***not*** *permissible in Examination Hall.*

Marks

1. a) Attempt **any three**: **12**

1) Define :
   a) Allocation
   b) Relocation
   c) Linking
   d) Loading.
2) Explain the foundation of system programming.
3) Compare the binary and linear search.
4) Explain syntax phase of compiler with database and example.

b) Attempt **any one** : **6**

1) List components of system software and explain any two of them.
2) Explain working of macro-processor.

2. Attempt **any two** : **16**

1) Draw flow-chart for Pass-I assembler.
2) Explain following sort :
   a) Inter-change sort.
   b) Address calculation sort.
3) Draw block diagram of phases of compiler.

3. Attempt **any four** : **16**

1) What is system software ? List three types of system program.
2) How to improve the assembler design ?

P.T.O.

Marks

3) State four function of compiler.

4) Write function of ESD, RLD, TXT and END.

5) Explain concept of top-down parser.

4. a) Attempt **any three** : **12**

1) State and explain need of GEST and LESA.

2) Explain storage allocation concept in compiler.

3) Describe lexical phase of compiler.

4) Explain concept of bottom-up parser.

b) Attempt **any one** : **6**

1) Define macro and explain conditional macro expansion.

2) Compare advantages and disadvantages of top-up and bottom-up parser.

5. Attempt **any two** : **16**

1) Explain following term in detail :

a) Compile and go loader

b) Absolute loader.

2) Explain simple machine independent optimization algorithm with an example.

3) Apply radix sort for following example :

227, 125, 02, 940, 1207, 748, 1520.

6. Attempt **any four** : **16**

1) State and explain four basic task of Macro processor.

2) Explain data structure of Pass-I assembler.

3) What are the advantages and disadvantages of BSS loader ?

4) Explain intermediate code generation in compiler.

5) Explain overlay structure used in dynamic loading scheme.