

B.E. Information Technology Sem-IV
IT405 - System Programming

P. Pages : 2

Time : Three Hours



GUG/S/19/1573

Max. Marks : 80

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- Notes :
1. Same answer book must be used for All questions.
 2. All questions carry marks as indicated.
 3. Due credit will be given to neatness and adequate dimensions.
 4. Assume suitable data wherever necessary.
 5. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Explain the different components of system software. 8
- b) Describe the various data formats of IBM 360/370. 8

OR

2. a) With the help of suitable diagram, explain simple batch monitor system from user's view point. 10
- b) Differentiate between:- 6
- 1) Open & closed subroutine.
 - 2) Multiprocessing & multiprogramming.
 - 3) Interpreter & compiler.
3. a) Explain the general design procedure for assembler. 8
- b) State & outline various translation phases of an assembler. 8

OR

4. a) Sort the following numbers using:- 12
- 1) Bucket sort
 - 2) Shell sort
 - 3) Address calculation sort.
23, 29, 44, 47, 49, 73, 36, 38, 101.
- b) Write and explain the steps involved in pass - 1 and pass - 2 of an assembler. 4
5. a) Define Macro. Explain the features of macro facility provided by macro languages of IBM 360/370. 8
- b) Enlist and explain the four basic tasks that any macro instruction processor must perform. 8

OR

- 6.** Explain the single pass macro processor with flow chart. **16**
- 7.** a) Explain the following loading schemes with its advantages and disadvantages **12**
- 1) General loader
 - 2) Absolute loader
 - 3) "Compile and go" loader
- b) Explain : - **4**
- 1) Dynamic linking
 - 2) dynamic Loading.

OR

- 8.** a) Explain BSS loader in detail. **10**
- b) Explain:- **6**
- 1) GEST
 - 2) LESA
- 9.** a) Describe in brief the important features of High level Language. **8**
- b) Explain asynchronous operation in detail. **8**

OR

- 10.** Explain various phases of a compiler in detail. **16**
