Roll No. | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B. Tech. (CSE/IT) (Sem.–4th)

SYSTEM PROGRAMMING

Subject Code : BTCS-405 (2011 Batch)

Paper ID : [A1187]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

a. Differentiate between system software and application software.

b. What is the difference between the following :

```
INDEX    EQU    5

INDEX    DC     F'5'
```

c. Differentiate between a pass and a phase.

d. List two disadvantages of binding at load time over binding at assembly time.

e. List two advantages of binding at execution time over binding at load time.

f. In what phase of compiler the elimination of common sub expressions is performed? Why?

g. Differentiate between a macro and subroutine.

h. What is the purpose of LEX and YACC in Linux?

i. Differentiate between full screen editor and a line editor.

j. Compare the functionalities of a linker and a loader.

SECTION-B

2) Give an example of each of the following types of address constants

   a. Simple Relocatable

   b. Absolute

   c. Complex Relocatable

3) Describe the input and output of a macro processor. How dependent it is upon the assembler source code format?

4) Give three examples of machine-dependent optimizations. State where these types of optimizations are performed in compiler?

5) Describe the various debugging techniques.

6) Discuss the various databases needed to implement a two pass macro processor.

SECTION-C

7) Discuss in detail the case study of vi editor.

8) Discuss the two pass design of a two pass Assembler.

9) Discuss the Analysis and Synthesis Model of a compiler with an example.