

C 40955

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Name.....

Reg. No.....

**FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, APRIL 2013**

CS 09 405/PTCS 09 404—SYSTEMS PROGRAMMING

(2009 Scheme—Regular/Supplementary/Improvement)

Time : Three Hours

Maximum : 70 Marks

Part A

Short answer questions.

1. Write the functionalities of the following assembler directives :—
 - (a) LORG ;
 - (b) EQU.
2. Differentiate Linkage Loader and Linkage editor.
3. Define macro with an example.
4. What is the main advantage of an operating system designer of using virtual machine architecture ?
5. Differentiate Kernal and User mode of Unix operating system.

(5 × 2 = 10 marks)

Part B

Analytical / Problem Solving Questions.

1. Differentiate SIC and SIC-XE instruction format.
2. Write the general format of Symbol definition with an example.
3. Why are key parameters needed in macro calls ? Give an example.
4. Explain the basic principles for designing an operating system.
5. List five services provided by an operating system.
6. Explain file system of Unix operating system.

(4 × 5 = 20 marks)

Part C

Descriptive / Analytical / Problem Solving questions.

1. Explain the detail the architecture of Power PC machine.
2. What is the need of the Modification records in the object program ? Discuss with an example.

Turn over

3. Discuss the source code of SIC-XE Bootstrap loader.
4. Describe the conditional macro expansion statements with suitable examples.
5. Explain the operation of a computer system and the protection implemented in its hardware.
6. Describe : (i) Batch processing systems ; (ii) Timesharing systems and (iii) parallel systems.
7. Explain the architecture of Unix operating system.
8. Describe the stack and data structures implemented for Unix processes.

(4 × 10 = 40 marks)

