



## ***B.Tech. Degree IV Semester Examination April 2014***

### **IT 1403 SYSTEM PROGRAMMING (2012 Scheme)**

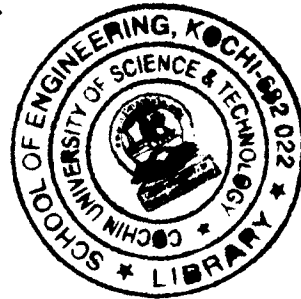
Time : 3 Hours

Maximum Marks : 100

#### **PART A (Answer ALL questions)**

(8 × 5 = 40)

- I. (a) Write a note on assembler directives.
- (b) What is program relocation? Explain the usage of modification records in relocation.
- (c) What are linkage editors? Compare it with linking loader
- (d) Explain recursive macro expansion with the required algorithm.
- (e) What is grammar? Explain how a grammar becomes ambiguous.
- (f) Describe the terms (i) Interpreters (ii) P-code compilers (iii) Compiler-compilers.
- (g) Explain different types of operating systems.
- (h) Write a note on virtual machines.



#### **PART B**

(4 × 15 = 60)

- II. Explain the working of 2 pass assembler with the required data structures and algorithm. (15)
- OR**
- III. (a) What are control sections? How are they handled? (5)  
(b) Write the algorithm for single pass assembler. (10)
- IV. (a) What are relocating loaders? How relocation is handled? Explain with proper algorithms. (7)  
(b) Explain the algorithm of linking loader with the required data structures. (8)
- OR**
- V. Explain macro processor algorithm with the required data structures. (15)
- VI. (a) Explain machine independent compiler features. (10)  
(b) Explain the different intermediate form representation methods. (5)
- OR**
- VII. Explain lexical analysis and syntax analysis with proper examples. (15)
- VIII. Explain (i) User interface (ii) Run time environment (iii) Heirarchical systems. (15)
- OR**
- IX. Explain (i) Network operating systems (15)  
(ii) Distributed operating systems  
(iii) Object oriented operating systems.

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