B.Tech. Degree V Semester Supplementary Examination April 2019

CS 15-1502 SYSTEM PROGRAMMING
(2015 Scheme)

Time : 3 Hours   Maximum Marks : 60

PART A
(Answer *ALL* questions)

(10× 2 = 20)

I. (a) Explain functions of an assembler
    (b) What are assembler directives? Explain with example.
    (c) Explain the algorithm for absolute loader.
    (d) What is literals? Differentiate between immediate operands and literals.
    (e) What are linkage editors? Compare it with linking loader.
    (f) Differentiate between macro and subroutine with example.
    (g) Explain how unique labels can be generated during macro expansion.
    (h) What is meant by recursive macro? How it is implemented in one pass macro processor?
    (i) Explain object oriented operating system.
    (j) What are the basic functions of an operating system?

PART B

(4 × 10 = 40)

II.   Explain Pass 1 algorithm for 2 pass SIC assembler with data structures used for it.   (10)

OR

III. Explain
      (a) Different records in object format.   (5)
      (b) What is forward referencing problem? How can we handle it in a one pass   (5)
           assembler?

IV.   What is relocation? Explain any two methods for specifying relocation as a part of   (10)
      object program with suitable algorithms.

OR

V.   Explain pass 1 and pass 2 algorithms for linking loader.   (10)

VI.   Explain data structures and algorithms for single pass macro processor.   (10)

OR

VII. (a) Explain advantages of dynamic binding with an example.   (6)
      (b) Explain conditional macro expansion with suitable example.   (4)

VIII. Explain the different types of operating system with neat diagram.   (10)

OR

IX.   Explain
      (a) User Interface   (3)
      (b) Run-time environment.   (3)
      (c) Hierarchical structures.   (4)

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