BTS(C) – V – 10 – 050 – D

B. Tech Degree V Semester Examination November 2010

IT/CS 502 SYSTEM PROGRAMMING
(2006 Scheme)

Time : 3 Hours   Maximum Marks : 100

PART - A
(Answer _ALL_ questions)

(8 x 5 = 40)

I.   (a)   Define
            (i)   Literals
            (ii)   Symbol defining statements
            (iii) Expressions
            (iv)   Program Blocks
            (v)   Control section and program linking
     (b)   Explain MASM assembler.
     (c)   Define
            (i)   Linking
            (ii)   Loading
            (iii) Relocation
            (iv)   Absolute loader
            (v)   Linking loader
     (d)   Briefly explain bootstrap loader.
     (e)   Briefly explain with an example working of a MACRO.
     (f)   Explain conditional MACRO expansion with example.
     (g)   Explain -
            (i)   Run time environment
            (ii)   Hierarchical Operating System Structure.
     (h)   Explain multiprocessor operating system.

PART – B

(4 x 15= 60)

II.   Explain one pass assembler and describe how referencing is handled.   (15)
                                        OR
III.   Using appropriate algorithms explain 2-pass assembler.   (15)

IV.   (a)   Explain how linkage editors differ with linking loader.   (7 ½)
      (b)   Describe dynamic linking and compare with static linking.   (7 ½)
                                        OR
V.   (a)   Explain
             (i)   Relocation
             (ii)   How Program linking is done?   (2 x 5 = 10)
      (b)   List the data structures used for linking loader and explain the content of these
            data structures in each of pass 1 and pass 2.   (5)

VI.   Describe machine independent MACRO features.   (15)
                                        OR
VII.   Explain design of a MACRO processor with suitable example.   (15)

VIII.   Explain -
            (i)   Network Operating System
            (ii)   Distributed Operating System
            (iii) Object Oriented Operating Systems   (3 x 5 = 15)
                                        OR
IX.   (a)   Explain 4 machine-independent feature of operating system.   (12)
      (b)   Write short note on process scheduling.   (3)

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