Code No: NR310506 **NR**

III B.Tech I Semester Supplementary Examinations, November 2005
SYSTEMS PROGRAMMING
(Common to Computer Science & Engineering and Computer Science & Systems Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Write about internal memory of a processor .
   (b) Explain about segments.
   (c) Provide the two's complement of the following binary numbers.
      i. 001100110
      ii. 0011101101
      iii. 111111111
      iv. 00111101

   [6+6+4]

2. Define three separate related tables that contain the following data:
   (a) item numbers 06, 10, 14, 21 and 24
   (b) item descriptions of videotape, receivers, modems, keyboards and diskettes
   (c) item prices 93.95, 82.25, 90.67, 85.80 and 13.85.Using the description table code the following:
      i. a routine that moves the contents of the table to another (empty) table
      ii. a routine that sorts the contents of this new table into ascending sequence by description.

   [4+4+8]

3. Explain Sorting of Entries in a given Table with an Example? [16]

4. Write a macro definition name DIVIDE that generates a routine to perform division by successive subtraction . [16]

5. (a) What is the BIOS memory location of the keyboard buffer?
   (b) What is its size in bytes?
   (c) How many keyboard characters can it contain?

   [6+5+5]

6. (a) Explain the following terms with respect to a disk.
      i. Track
      ii. Sector

iii. Cylinder
iv. Cluster

(b) What is the purpose of a disk controller ? Explain briefly.

[8+8]

7. (a) You are given with memory address SECTIN, drive A, head 0, track 8, and sector 4. Use this data to write instructions for BIOS 13H to read one sector.

(b) Explain briefly which functions of INT 13H carry out the following operations on disk.

i. Initialize Drive
ii. Seek Cylinder
iii. Get Disk Type
iv. Set Diskette Type

[8+8]

8. Draw the flowchart of pass 1 and pass 2 of a 2-pass assembler? Explain. [16]

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