2008-HIMACHAL PRADESH UNIVERSITY

B.TECH IV SEMESTER DEGREE EXAMINATION
SYSTEM SOFTWARE
(COMPUTER SCIENCE & ENGINEERING, ELECTRONICS COMMUNICATION & ENGINEERING)

TIME-3 HOUR
MARK-100

NOTE: ANSWER ALL QUESTIONS

SECTION-A[10*8=80]

1.(a) The IEEE format for single precision 32 bit number is shown below:- 8 bit 23 bit S Excess 127 Mantissa Exponent The S stands for sign.

(i) What is the range of floating point number?

(ii) What is the representation for floating point zero

(b) What do you understand by privileged instructions of machine? Give an example for the same.

(c) What do you understand by stack addressing mode? What are its advantages?

2. Write a program in 'C' language to add first 10 integers. What is the role of pointers?

3. (a) Draw the flowchart for pass one pass two of assembler and describe it.

4. (a) What is the difference between positional argument and keyword argument in a macro call?

(b) How and when is the content of ALA updated?

(c) How does a macro call within a macro expand? Describe it with an example.

5. (a) What is the need of transfer vector in a loader?

(b) Describe the structure and usage of Relocation and Linkage directory.

(c) What do you understand by

(i) Dynamic loading.

(ii) Overlaying?

6. (a) What is the relationship between GEST, ESD and RLd? Give an example to demonstrate the relation.

(b)What is the difference between binding and linking?

7. (a) Differentiate between Hardware and Software interrupts. Discuss the structure of interrupt vector table.

(b) What do you understand by BIOS? Explain.

8. Write short notes on

(a) Memory resident programs.

(b) Interrupt calls from C.

SECTION-B[10*2=20]

9. Fill in the blanks:

(i) Intel Pentium is _____ bit machine.

(ii) Instruction of the stack machine has _____ operators.

(iii) PC/IP contains the address of _____ instructions.

(iv) The relocation bit _____ support for relocation.

(v) In a paged memory system binding is done at the time of _____ the program.

(vi) Page has _____ size.

(vii) Sub-routines and a routine are _____.

(viii) ALA is used by _____.

(ix) The transfer vector _____ object code length.

(x) The overlay structure can be employed in dynamic loading only for _____ subroutines.