B.E.(with Credits)-Regular-Semester 2012 - Computer Science and Engineering Sem IV

CS 404 - System Programming

P. Pages : 2

Time : Three Hours

4005

Max. Marks : 80

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Notes : 1. All questions carry equal marks.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.

1. a) Describe the evolution of the components of a programming system. **8**

b) Define the following terms. **8**
i) Macro processor.   ii) Loader
iii) Assembler   iv) Compiler.

OR

2. a) Describe the function's performed by operating system. **8**

b) Explain Batch Operating System in detail. **8**

3. a) Define and explain with examples. **8**
i) Pseudo – opcode   ii) Literals
iii) Define storage   iv) Define constant.

b) With the help of block diagram of machine model, explain fundamental operation of CPU of Von - Neumann machines. **8**

OR

4. a) Draw the microflowchart for the subtract instruction Rx format of the IBM 360 instruction set. **8**

b) What type of data can be handled by IBM 360/370? How it is stored? **8**

5. a) Draw and explain flow chart for pass 1 on an assembler. **8**

b) Explain the format of MOT and POT of the assembler. **8**

OR

6. a) How does Assembler process DC Pseudo – op in pass – 1 and pass – 2? Explain in detail. **8**

b) Explain the implementation of macro calls within macro definition? Draw flow chart for one pass macro processor capable of handling macro calls within macro definitions. **8**

7. a) Define and explain the terms in Direct linking loader **8**
i) Global External Symbol Table (GEST)
ii) Local External Symbol Array (LESA)

	b)	With respect to relocation and linking, explain the significance of the following types of programs
		   i) Non – Relocatable Programs.
		   ii) Relocatable Programs.
		   iii) Self Relocatable.
			8

OR

8.	a)	What are the advantages & disadvantages of Dynamic linking.	**4**
	b)	What are the advantages of linking the loader into two separate programs. i) Binder ii) Module Loader	**8**
	c)	Explain Dynamic Loading with example.	**4**
9.	a)	Write short note on LEX. Explain how it is used?	**8**
	b)	Explain device drivers installation for Unix.	**8**

OR

10.	a)	What are different phases of compilation of high level language.	**8**
	b)	What are different databases and data structures used in Lexical Analysis phase of compiler?	**8**

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