M.Sc. (Applied Electronics) Third Semester (New) (CBS)

15043 - 3 AE 5 Elective – II
Computer Organization

P. Pages : 2 | AR - 2549

Time : Three Hours | Max. Marks : 80

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Notes : 1. Answer **three** question from Section "A" and **Three** question from Section "B".
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data whenever necessary.
4. Illustrate your answer necessary with the help of neat sketches.
5. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

1.	a)	What are important computer components? Draw the block diagram illustrating the top level view of computer components and also explain each component.	**7**
	b)	Explain the benefits of using a multiple-bus architecture as compared to a single-bus architecture.	**6**
		OR	
2.		Describe brief history of computers including the first, second, third and later generations.	**13**
3.	a)	Explain the architecture of selector type of I/O channel with the aid of a neat block diagram.	**7**
	b)	Explain the nature of an external device with the help of a schematic diagram.	**7**
		OR	
4.	a)	List and briefly explain the key services provided by an operating system in different areas.	**7**
	b)	Explain the importance of swapping in memory management.	**7**
5.	a)	What are the typical elements of a machine instruction? Explain.	**7**
	b)	Explain different types of addressing modes.	**6**
		OR	
6.	a)	Draw and explain a simplified view of a CPU with the help of a neat schematic diagram.	**7**
	b)	What general roles are performed by CPU registers?	**6**

SECTION - B

7.	a)	Differentiate between characteristics of CISC and RISC machines.	6
	b)	What are common characteristics of Reduced Instruction set Architectures? Explain.	7

OR

8.	a)	Explain the concept of RISC-based pipelining.	6
	b)	Describe the organization of power PC 620.	7
9.	a)	Explain a three-step process that leads to a characterization of the control unit.	6
	b)	What basic tasks do a control unit perform?	7

OR

10.	a)	List and explain typical inputs and outputs of a control unit.	7
	b)	Explain what is meant by micro-program control.	6
11.	a)	What are the characteristics of an SMP? Explain each briefly.	7
	b)	Explain various types of computer system organizations according to Flynn.	7

OR

12.	a)	Explain a tightly coupled multi-processer with the aid of a neat block-diagram.	7
	b)	What are the potential advantages of an SMP as compared with a uniprocessor? Explain in detail.	7

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