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MCA (Sem. - 1st)

COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE

SUBJECT CODE : MCA-103 (2012 & Onward)

Paper ID : [B0130]

Time : 03 Hours

Maximum Marks :100

Instruction to Candidates:

- 1) Attempt one Question from each Section A,B,C,D. Each questions carry 20 marks.
- 2) Section E is compulsory consisting of Ten questions carry Two marks each.

Section - A

Q1) Discuss the stored program organization and major types of buses used for designing computer organization.

Q2) What are the factors considered for designing CPU? Discuss stack organization of CPU.

Section - B

- Q3)** a) What are the features of pipeline and vector processing? Explain them in detail.
b) Discuss the advantages of parallel processing.

- Q4)** Differentiate the following:
a) Isolated and Memory mapped I/O
b) Interrupt initiated I/O and DMA

Section - C

Q5) Discuss the following types of Memory organization:

- a) Associative memory b) Cache memory

Q6) Describe the following page replacement algorithm:

- a) Optimal b) LRU

Section - D

Q7) What are the salient characteristics of interconnection structures? Explain hypercube interconnection structure.

Q8) Discuss the following addressing modes:

- a) Relative addressing mode b) Indexed addressing mode

Section - E

Q9) a) Compare one address and two addressing instructions.

- b) What is the significance of interrupts?
- c) Explain the concept of array processor.
- d) What is the role I/O processor?
- e) What is the use of virtual memory?
- f) Compare segmentation and paging.
- g) List the shift instruction of assembly language.
- h) Compare ADD and SUBTRACT instruction.
- i) Write a short note on RISC architecture.
- j) Write a short note on handshaking.

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