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B.E V Semester Examination

BE-V/12(A)

233924

COMP. ENGG

Course No. COM 506

(Computer org. & Architecture)

(New Syllabus)

Time Allowed- 3Hours

Maximum Marks-100

Note: Five questions have to be attempted at least two questions from each section.

SECTION - A

1. a) Describe the essential features of Mini - Computer Micro Computer and Mainframe Computer. (10)
b) Describe the working principle of Stack based CPU Org. (10)
2. a) Define Instruction? Explain in detail about Instruction Cycle (10)
b) Compute the expression : - $Y = [(A+B)*(C+D)] / [(A-B)*(C*D)]$ Using One, Two & Three address formate (10)
3. a) Define control Unit? Compare & Contrast Hardwired & Micro programmed control unit. (15)
b) Define Micro Operation ? Discuss its types (5)
4. a) What is I/ O data transfer ? Discuss various modes of I/O Data transfer (10)

- b) Discuss about I/O Processor? Explain its working principle (10)

SECTION - B

5. a) Differentiate RAM & ROM ? Describe various characteristics of Memory System. (10)
- b) A Digital computer has a memory unit of 64K*16 and a Cache memory of 4K words The Cache uses direct mapping with a block size of 8 words. (10)
- i) How many Bits are there in Tag, Index, Block and Word fields of the address format?
- ii) How many Blocks can the Cache accommodated?
6. a) Define Cache Memory? What was the disadvantage of Direct Mapping approach which got overcome using set - Associative Mapping approach (12)
- b) Discuss the working procedure of Segmentation? (8)
7. a) What is a parallel processor? Discuss various types of Parallel processors (10)
- b) Differentiate Instruction & Arithmetic pipeline with example (10)
8. Write Short notes about (4×5=20)
- i) Sap Machines
- ii) Pipelined processor
- iii) Interrupt vs Exceptions
- iv) Registers

