

Code: CS7T4D

**IV B.Tech - I Semester – Regular/Supplementary Examinations
October - 2018**

**ADVANCED COMPUTER ARCHITECTURE
(COMPUTER SCIENCE & ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22 M

1.

- a) Explain the concept of the Pipelining.
- b) Define Instruction Pipeline.
- c) What are the applications of Array processing?
- d) Write the Add/Subtract rule for floating point numbers.
- e) Write the Axiomatic definition of Boolean algebra.
- f) Define MIPS.
- g) Define SIMD Processor.
- h) Analyze the Shared Memory Multiprocessors.
- i) Define Vector Processing.
- j) Define RISC Scalar processor.
- k) Define Efficiency.

PART – B

Answer any **THREE** questions. All questions carry equal marks.
3 x 16 = 48 M

2. a) Outline the concept of Arithmetic Pipelining. 6 M
- b) Explain the Parallel Processing using Flynn's Classification with their applications. 10 M
3. a) Explain the hardware implementation of Addition and Subtraction Algorithm. 8 M
- b) Describe briefly about Floating Point Arithmetic Operations. 8 M
4. a) Explain the Parallel Processing Computer Architecture with neat diagram. 8 M
- b) Describe the UMA model for Multiprocessor System. 8 M
5. Distinguish between RISC scalar processor and CISC scalar processor using the terms floating point unit, integer unit and instruction set. 16 M
6. a) How the Schedule Optimization can be performed on linear pipeline processor? Explain. 10 M
- b) Define the terms:
i) Speed up ii) Efficiency iii) Throughput. 6 M