H

TCS-802

B. TECH. (CSE) (EIGHTH SEMESTER) MID SEMESTER EXAMINATION, 2018

ADVANCED COMPUTER ARCHITECTURE

Time : 1 : 30 Hours

Maximum Marks : 50

Note : (i) This question paper contains two Sections.

(ii) Both Sections are compulsory.

Section—A

1. Fill in the blanks/True-False : (1×5=5 Marks)

   (a) A computer program that converts an entire program into machine language at one time is called ....

   (b) CISC stand for Coded Instruction Set Computer.

   (c) A computer gathers data, processes it, outputs the data or information and stores the data or information.

   (d) A string of ten 0s and 1s is called a byte.

(e) The Performance gain that can be obtained by improving some portion of computer can be calculated using Amdahl's law

2. Attempt any *five* parts : (3×5=15 Marks)
(Define/Short Numerical/Short Programming/Draw)

(a) Define Clock rate.

(b) Differentiate between multiprocessors and multicomputer.

(c) Define CPU time.

(d) Explain COMA model.

(e) What is the problem of cache coherence ?

(f) Explain Exception handling.

Section—B

3. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)

(a) What is Shore's classification ?

(b) Suppose that we want to enhance the processor used for web serving. The new processor is 20 times faster on computation in web serving application then the original processor. Assuming that the original processor is busy with computation 40% of the time and is waiting for I/O 60% of the time, what is the overall speedup gained ', by incorporating the enhancement ?

(c) Differentiate between CISC & RISC Computers.

4. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)

(a) What is Flynn's classification of computers ?

(b) Explain in detail elements of Modern Computer.

(c) Define Amdahl's law. What is speedup using Amdahl's law ?

5. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)

(a) Explain Arithmetic Pipelining and Instruction Pipelining.

(b) What are Data hazards and control hazards ?

(c) Explain the concept of pipelining. What are its advantages ?