



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION - COMPUTER SC.

FIRST SEMESTER – NOVEMBER 2011

CS 1814 - ADVANCED COMPUTER ARCHITECTURE

Date : 09-11-2011
Time : 1:00 - 4:00

Dept. No.

Max. : 100 Marks

PART-A

Answer All the Questions.

10 X 2=20

1. Give an example for ALU instruction.
2. Write the difference between RTN and SRC
3. Write the Flynn's classification of computers.
4. What is super pipeline?
5. Define cache memory.
6. What is temporal locality and spatial locality?
7. Define cycle stealing.
8. List out the types of I/O techniques.
9. What is an array processor?
10. Define vectorization.

PART- B

Answer All the Questions

5 X 8=40

11 a) Write the characteristics of SRC.

OR

b) Write 4-address and 0-address instruction format and draw the required machine cycle.

12 a) What is interrupt? Explain the type of interrupt with an example.

OR

b) What is pipeline processing? Explain it with an example.

13 a) Compare the concepts in cache memory and main memory.

OR

b) Define the following.

Hit rate

Miss rate

Cycle count

Memory board

14 a) Explain the design issue in I/O system

OR

b) (i) Write the commands used in I/O subsystem.

(ii) Draw and explain the structure of I/O module.

15 a) Explain the vector instructions Gather, Scatter and masking.

OR

b) Give common model to evaluate different SIMD machines.

PART-C

Answer any TWO

2 X20=40

- 16 a) Discuss common addressing modes
b) Explain the hazards of pipeline processing.
- 17 a) Explain the super scalar architecture with neat diagram.
b) Discuss mappings in cache memory with neat diagram.
- 18 a) Compare the programmed I/O and interrupt driven I/O .
b) Draw and explain SIMD configurations of array processors.
