U-3/2114
COMPUTER SYSTEM ORGANIZATION AND
ARCHITECTURE-213
Semester-III

Time Allowed : Three Hours] [Maximum Marks : 75

Note:— Attempt five questions in all by selecting at least two questions each from the Sections A and B. Section C is compulsory. All questions carry equal marks.

SECTION-A

1. Briefly explain the instruction cycle and discuss the various types of instructions in detail.

2. Explain the various characteristics of RISC architecture in detail.

3. Define Cache Memory. Explain the different modes of address mapping in Cache Memory.

4. Explain the various instruction formats for expression evaluation, using the following expression: A+B*C*D.

SECTION-B

5. Draw a neat diagram of arithmetic logic shift unit and discuss its working.
6. Define and distinguish between the following:
   (a) I/O bus and memory bus
   (b) Isolated I/O and memory-mapped I/O.

7. What is asynchronous data transfer? Briefly discuss and compare strobe control and handshaking methods of data transfer.

8. What are the various modes of data transfer? Briefly discuss each scheme.

SECTION-C

9. Explain brief notes on the following:
   (a) What are error-correcting codes?
   (b) What is the difference between a direct and indirect instruction?
   (c) What are priority interrupts?
   (d) What is the difference between logical shift, circular shift and arithmetic shift? Give suitable example.
   (e) What is the difference between Programmed I/O and Interrupt controlled I/O?