Roll No. .....

(05/16-I)

5176

B.A./B.Sc. EXAMINATION

(Second Semester)

COMPUTER SCIENCE

Second Paper

Logical Organisation of Computer

Time : Three Hours *Maximum Marks :* B.Sc. : 30, B.A. : 20

Note : Attempt *one* question from each Unit. Q. No. **1** is compulsory. All questions carry equal marks. (For B.Sc. students, each question carries 6 marks and for B.A. students, each question carries 4 marks.)

1. **Note :** B.Sc. students attempt all the six parts in this question and B.A. students attempt any *four* parts. Each part carries 1 mark.

(a) Explain the characteristics of sequential circuit.

(b) Define flip-flop.

(c) Define PIPO register.

(d) Define flash memory.

(e) Define preset and clear pulse in a flip-flop operation.

(f) Define ROM.

Unit I

2. What do you mean by race around condition ? How does a master slave flip-flop overcome it ?

3. (a) Differentiate between combinational circuit and sequential circuit.

(b) Define state table and state diagram using a suitable example.

Unit II

4. (a) Define counters and its various types.

(b) Differentiate between synchronous and asynchronous counters.

5. What do you mean by shift register ? What are various other types of registers ?

Unit III

6. Write a note on SRAM, DRAM and ROM.

7. (a) What are various secondary storage memories ?

(b) Differentiate between Cashe memory and flash memory, random access memory and sequential access memory.

Unit IV

8. Define Bus and its types, various instruction types and instruction formats.

9. Write a detailed note on various data transfer modes.