

**B.Sc.(IT) Semester - 2 (CBCS) Examination**  
**March/April – 2023 (New Course)**  
**Computer Organization and Architecture (CORE)**

**Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
  2. Figures to the right indicate marks.
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**Q.1(A) Answer the following questions. (03)**

1. List Basic Gate.
2. List Combination of Gates in NOR.
3. What is Truth Table?

**Q.1(B) Answer the following questions. (Any Two) (06)**

1. Explain NAND and NOR implementation.
2. Explain De Morgan's theorem.
3. Explain block diagram of digital computer.
4. Explain Boolean algebra in Detail.

**Q.1(C) Answer the following questions. (Any One) (05)**

1. Explain Logic Gates With Truth Table.
2. Explain DON'T Condition with satiable example.

**Q.2(A) Answer the following questions. (03)**

1. Full name of SR Flip-Flop .....
2. What is State Table?
3. What is Clock pulse?

**Q.2(B) Answer the following questions. (Any Two) (06)**

1. Explain Half Adder in detail.
2. What Is State Diagram?
3. Explain JK Flip-Flop in detail.
4. Explain block diagram of combinational circuit.

**Q.2(C) Answer the following questions. (Any One) (05)**

1. List Sequential Circuit in detail.
2. What is Flip-Flop? List different types of Flip-Flop. Explain One in Detail.

**Q.3(A) Answer the following questions. (03)**

1. What is Multiplexer?
2. Full name of IC.
3. What is Register?

- Q.3(B) Answer the following questions. (Any Two) (06)**
1. Explain 4-bit Register.
  2. Explain 4\*1 Multiplexer in detail.
  3. Explain Shift Register.
  4. Explain 3\*8 line decoder.
- Q.3(C) Answer the following questions. (Any One) (05)**
1. Explain Octal to Binary encoder.
  2. Explain 4- bit binary counter with parallel load.
- Q.4(A) Answer the following questions. (03)**
1. CPU stands for.....
  2. What is Register?
  3. What Register Stack?
- Q.4(B) Answer the following questions. (Any Two) (06)**
1. Explain major component of CPU.
  2. Explain Memory Stack in Detail.
  3. What is Polish Notation?
  4. Explain General Register Organization in detail.
- Q.4(C) Answer the following questions. (Any One) (05)**
1. Explain Reverse Polish Notation With Example.
  2. What is Register? List types of Register. Explain One in Detail.
- Q.5(A) Answer the following questions. (03)**
1. DMA stands for .....
  2. Full name of RAM.
  3. What is Cache memory?
- Q.5(B) Answer the following questions. (Any Two) (06)**
1. Explain I/O Processing.
  2. Explain Main Memory in Computer System.
  3. Write a difference between RAM and ROM.
  4. Write a short note Block Diagram of Computer.
- Q.5(C) Answer the following questions. (Any One) (05)**
1. Explain Memory Hierarchy in Detail.
  2. Explain Direct Memory Access in Detail.

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