C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name: Computer Organization & Architecture

Subject Code: 4TE04COA1 Branch: B.Tech (CE)

Date: 22/04/2019 Semester: 4 Time: 02:30 To 05:30 **Marks**: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

| Q-1 | | Attempt the following questions: | (14) |
|-------|------------|--|------------|
| _ | a) | Define Pseudoinstruction. | (1) |
| | b) | Define Register. | (1) |
| | c) | What is Address symbol table? | (1) |
| | d) | What is Micro operation? | (1) |
| | e) | What is two-address Instruction? | (1) |
| | f) | Define Assembler. | (1) |
| | g) | If the instruction code format is 0111011101010101 then its belongs to which | (1) |
| | G, | instruction category? | |
| | h) | What is superscalar processor? | (1) |
| | i) | Define shift micro-operation. | (1) |
| | j) | Define Vector Processing. | (1) |
| | k) | What is parallel processing? | (1) |
| | 1) | What is Effective Address? | (1) |
| | m) | What is RTL? | (1) |
| | n) | What is SKI instruction? | (1) |
| Atten | npt any f | Cour questions from Q-2 to Q-8 | ` / |
| Q-2 | | Attempt all questions | (14) |
| | (a) | Explain the Common Bus System using basic register with its diagram. | (7) |
| | (b) | Explain Basic Computer Instruction format with example. | (7) |
| | | | ` , |
| Q-3 | | Attempt all questions | (14) |
| | (a) | Explain 4-bit Arithmetic Circuit with its Function Table. | (7) |
| | (b) | Explain all Memory Reference Instruction in detail. | (7) |

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| Q-4 | | Attempt all questions | (14) |
|-----|------------|---|-------------|
| | (a) | Explain different types of Addressing Modes in detail. | (7) |
| | (b) | Explain the design of Accumulator Logic with block diagram. | (7) |
| Q-5 | | Attempt all questions | (14) |
| | (a) | Explain the basic working principle of the Control Unit of basic computer using Diagram. | (7) |
| | (b) | Explain Register Stack and Memory Stack with block diagram. | (7) |
| Q-6 | | Attempt all questions | (14) |
| | (a) | Draw and Explain working of 1 pass of assembler. | (7) |
| | (b) | Explain ZERO,ONE,TWO,THREE address instruction in details | (7) |
| Q-7 | | Attempt all questions | (14) |
| | (a) | Write a short note on (1).Interrupt (2). RISC Vs. CISC. | (7) |
| | (b) | Write a short note on (1)Pipeline conflicts (2) Application of Vector processing | (7) |
| Q-8 | | Attempt all questions | (14) |
| | (a) | Write short not on (1) Memory interleaving (2) Four segment instruction pipeline | (7) |
| | (b) | What is the importance of status bits for program control? Which types of status bits are stored in status register? Explain it with block diagram. | (7) |

