Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **16CA2003** | **Duration :** | **3hrs** |
| **Sub. Name :** | **COMPUTER ORGANIZATION AND ARCHITECTURE** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | Elaborate the common bus systems that connects various registers in detail through suitable diagram. | CO1 | 20 |
| (OR) | | | | |
| 2. |  | Discuss the different parts of a Computer Instruction with suitable diagram. | CO1 | 20 |
|  |  |  |  |  |
| 3. | a. | Explain the control unit of a basic computer with relevant diagrams. | CO1 | 10 |
| b. | List and explain the different types of Instructions and the symbols associated with it. | CO1 | 10 |
| (OR) | | | | |
| 4. |  | Discuss the working of memory reference instructions with symbolic description. | CO3 | 20 |
|  |  |  |  |  |
| 5. | a. | Distinguish between hardwired control and micro-programmed control. | CO1 | 6 |
| b. | Briefly explain the register organization with necessary diagrams. | CO1 | 14 |
| (OR) | | | | |
| 6. | a. | Elaborate the operations of Control Unit. | CO3 | 10 |
| b. | Solve the arithmetic expression using reverse polish notation:  (6 × 8) + (4 × 9) | CO2 | 10 |
|  |  |  |  |  |
| 7. | a. | Briefly explain how addition and subtraction is performed with signed-magnitude Data. | CO2 | 10 |
| b. | Discuss in detail the Booth algorithm for multiplication through suitable examples. | CO2 | 10 |
| (OR) | | | | |
| 8. |  | Perform addition and subtraction with signed 2’s complement data for all possible combinations. | CO2 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Write short notes on auxiliary memory. | CO3 | 10 |
| b. | Discuss the role of cache memory. | CO3 | 10 |