

Roll Number: _____

Thapar Institute of Engineering & Technology, Patiala

Computer Science & Engineering Department

END SEMESTER EXAMINATION

B. E (CSBS): Semester-III
(Computer Science & Business System)

Course Code: UCT302

Course Name: Computer Organization & Architecture

Date: 01/02/2021

Timing: 11:00 A.M

Time: 2 Hours, M. Marks: 50

Name of Faculty: Ms. Tanya Garg

Note: Attempt any Five questions out of Seven.

Assume missing data, if any, suitably

Q.1	Differentiate between: a. Computer Architecture & Computer Organization. b. Hardwired & Microprogrammed Control Unit c. Direct and Indirect Addressing Mode d. Programmed I/O Mode & Interrupt Initiated I/O Mode	(2.5*4=10)
Q.2	With neat block diagram, explain how DMA controller is initialized for DMA data transfer?	(10)
Q.3	Show the contents of registers AC, QR using Booth's multiplication during the process of multiplication of two binary numbers where BR= 10111 (multiplicand), QR= 10011 (multiplier).	(10)
Q.4	a. Explain the IEEE 754 Floating Point Formats with suitable example b. Explain ASCII Code Conversion by taking your own Name as an example.	(5) (5)
Q.5	Why K-Maps are used? Explain its Need and types. Minimize the following Boolean function- $F(A, B, C, D) = \sum m(0, 1, 2, 5, 7, 8, 9, 10, 13, 15)$	(10)
Q.6	a. Explain the Memory Hierarchy in Detail. b. Explain the types of Registers available in Basic Computer	(6) (4)
Q.7.	a. Describe the Block Diagram of Typical Control Unit. b. Explain various Addressing Modes	(6) (4)