Computer Organization & Architecture (CSIT- 404)

Assignment # 1   **Date of Submission: 15 April 2024**

I.   Design a common bus system using multiplexer. Discuss each component of the system?

II. Explain Instruction format?

III. Explain the stack organization with 64 word register?

IV. Explain computer registers.

V.   Draw the flow chart of instruction cycle and explain it?

VI. Differentiate hardwired and micro-programmed control unit?

VII. Draw and discuss general purpose register organization.

VIII. Explain Booth's Algorithm? Solve the following question

   a. 6 * 3   c. 14 * 12
   b. 11 * -8   d. -9 * -13

IX. Explain Division Algorithm? Solve the following question

   a. 11 / 3   c. -7 / -3
   b. 7 / -3   d. -7 / 3

X.   Why DMA is considered as fastest mode of data transfer? Evaluate the whole process of DMA with the help of interfacing and handshaking signals in between DMA controller, I/Os and CPU.

XI. Compare serial and parallel mode of data transfer?

XII. Compare synchronous and asynchronous data transfer?

XIII. Explain PCI bus, SCSI Bus, USB with a suitable labeled diagram.