20P166 Name: ...……...…………….

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2020
(CBCSS-PG)

(Regular/Supplementary/improvement)

CC19P CSS1 C05 - COMPUTER ORGANIZATION AND ARCHITECTURE
(Computer Science)

(2019 Admission onwards)

Time: Three Hours   Maximum: 30 Weightage

Part A
Answer any *four* questions. Each question carries 2 weightage.

1. What is D Flip flop?

2. Sate and Prove any one De Morgan's Theorem

3. What is a branch instruction? How it is executed?

4. Explain the term instruction cycle.

5. Draw the flowchart for unsigned binary multiplication

6. What is virtual memory?

7. List the data transfer instructions available in 8086?

(4 x 2 = 8 Weightage)

Part B
Answer any *four* questions. Each question carries 3 weightage.

8. Simplify the following Boolean function in sum of product form using K-Map

   F (U, V, X, W) =$\sum$(1,2,4,6,8,9,10,11)

9. What is a bus in computer architecture? Using proper diagram explain the common bus system?

10. How a floating point number addition and subtraction is performed?

11. Explain with an example signed multiplication using booths algorithm.

12. Write short notes on

    a) Programmed I/O   b) Interrupt I/O

13. What is the importance of DMA? Write short note on DMA

14. Draw the functional block diagram of 8086.

(4 x 3 = 12 Weightage)

Part C
Answer any *two* questions. Each question carries 5 weightage.

15. Explain in detail the architecture of 8085 microprocessors.

16. Explain the concepts

    a) Counter   b) Multiplexer

17. Explain different mapping used in cache memory?

18. What is the use of microcontroller? Using a proper diagram explain 8051 microcontroller.

(2 x 5 = 10 Weightage)

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