

**JYOTI NIVAS COLLEGE AUTONOMOUS
SYLLABUS FOR 2018 BATCH AND THEREAFTER**

Programme: B.C.A

Semester: I

**ASSEMBLY LANGUAGE PROGRAMMING AND DIGITAL
ELECTRONICS-LAB**

Course Code: 18BCAIP2

No. of Hours: 60

COURSE OBJECTIVES:

- To understand the simplification techniques to design Digital Circuits.
- To analyze logic processes and implement logical operations using combinational logic circuits and Sequential Logic circuits.
- To understand The Architecture 8085 Microprocessor.
- To understand the Assembly Language Programming skills.

LEARNING OUTCOMES:

- Develop digital logic circuits and to apply in real time applications.
- Analyze, design and implement combinational logic circuits.
- Analyze, design and implement sequential logic circuits.
- Write assembly language program for microprocessors.
- Prepare the technical report on the experiments carried.
- Be proficient in use of IDE's for designing, testing and debugging microprocessor

PART A

1. To perform addition and subtraction of two 8 bit numbers.
2. To perform addition of two 16 bit numbers
3. To perform subtraction of two 16 bit numbers.
4. Finding the number of zero's and one's in the given data.
5. Multiplication of two 8-bit numbers.
6. To find the smallest of 'n' numbers.
7. To simulate a bcd counter.
8. To find the sum of digits of a bcd number.

PART B

1. IC 7400-Realisation of AND, OR, NOT, NOR and X-NOR gates.
2. Construction of Half Adder and Half Subtractor (Using NAND gates)

3. Construction of Full Adder using IC 7486,7408 and IC 7432
4. Binary to Gray code and vice versa using IC 7486
5. Study of Multiplexer using IC 74151 & Study of De-Multiplexer using IC 74154
6. Clocked RS, D and T Flip-Flops.
7. Study of 4-bit binary ripple counter using IC 7490(or equivalent).