# Science College, Congress Nagar, Nagpur
## First Term Exam -2021-22
## Subject-Computer Science (D9) Paper-II

**Time:3.00 Hrs.**　　　　　**Class: XII**　　　　　**Marks:50**

**Q.1 A) Select correct alternative and rewrite the following.**　　　　　**(4)**

a) The program counter is a 16-bit storage area reserved for_____.

　i) Addresses　　ii) Instruction　　iii) Data　　iv) None of these

b) _____bits of flag register of 8085 Microprocessor are unused.

　i) 1　　　ii) 2　　　iii) 3　　　iv) 4

c) The first byte of an 8085 instruction always contains _____.

　i) Opcode　　ii) Data　　iii) Address　　iv) None of these.

d) In CPU, the register which keeps the track of address of next instruction to be fetched is called_____.

　i) Instruction Register　ii) Program Counter　iii) Stack Pointer　iv) Accumulator

**B) Attempt any Two of the following.**　　　　　**(6)**

a) What is Microprocessor? List its functions.

b) Explain the function of the following pins of Intel 8085:

　i) SOD　　ii) READY　　iii) HLDA

c) State any three Arithmetical Instruction of 8085 MPU.

**Q.2 A) Answer any Two of the following.**　　　　　**(6)**

a) Write a function of following functional units of 8085 Microprocessor:

　i) Address Bus　ii) Data Bus　iii) Status Register.

b) State any six applications of Microcontroller.

c) Differentiate between Micro-controller and Micro-Processor.

**B) Answer any one of the following.**　　　　　**(4)**

a) Draw the functional block diagram of Intel 8085.

b) Explain Any four Data Transfer Instruction.

**Q.3 A) Answer any two of the following.**　　　　　**(6)**

a) Explain any three Addressing Mode of 8085 with example.

b) Draw and explain functional block diagram of ALU.

c) Explain following unit of 8085 Microprocessor:

　i) Temporary Register　ii) Serial I/O Control　iii) Interrupt Control

**B) Answer any one of the following.** (4)

a) Explain any four flags of 8085, giving example.

b) Explain memory map of intel 8051 Microcontroller with help of diagram.

**Q.4 A) Answer any two of the following.** (6)

a) Differentiate between PUSH and POP,

b) Explain Machine Cycle with help of diagram.

c) What is interrupt? Also explain Serial I/O.

**B) Answer any one of the following.** (4)

a) Explain any four instructions of logical group of 8085 Microprocessor.

b) Explain Register Array of 8085 Microprocessor.

**Q.5 Answer any two of the following.** (10)

a) Write an assembly language program to add BCD numbers stored at locations 3500H and 3501H.Place the BCD result in locations 3502H and onward starting LSB.

b) Write an assembly language program to subtract the number stored in memory location 3601H from the number stored in memory location 3600H.Store the positive result at location 3602H.

c) Write a program in assembly language to shift a 16-bit number stored in memory location C000 and C001 to left by 2 bits and store the result in C002H and C003H.

**OR**

**Q.5 Answer any two of the following.** (10)

a) Write a program in assembly language to get the decimal sum of a series of numbers whose length is stored in C000 and the series itself starts from C001 Store the result in C050 and C051.

b) Write an assembly language program to generate the Fibonacci's series for first eight numbers. Store the series in a memory block starting from C100H. (Note: The first eight hex numbers of series are 00,01,01,02,03,05,08, OD)

c) Write an assembly language program to count the occurrence of the data 9CH in a memory block starting from 4000H to 400FH.Store the count at memory location 4500H.