

**U.G. 4th Semester Examination - 2022****BCA****[HONOURS]****Course Code : BBCACCHC 402****Course Title: Microprocessor-8085**

Full Marks : 30

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **ten** questions: 1×10=10
- a) Why data base is bidirectional?
  - b) If clock frequency of 8085 microprocessor is 3MHz. Then how much time is required to execute 'ADD B' instruction?
  - c) If 23H is subtracted from 17H, then what will be the value of Accumulator and what is the status of carry flag?
  - d) Through which pins can 8085  $\mu$ p communicates with serial devices?
  - e) What are the control signal necessary for memory mapped I/O?

- f) Suppose content of accumulator is 97 H, then what will be the content of accumulator if RLC instruction is executed?
- g) Which interrupt signal has the highest priority in 8085 microprocessor?
- h) Differentiate between 'XRA A' and 'MVI A, 00H'.
- i) Why program counter is a 16 bit long register?
- j) How many machine cycles are required by 'LDA' instruction?
- k) "8085 micro-processor is called 8 bit micro processor"—Why?
- l) How many memory locations can be addressed in 8085 microprocessor?
- m) Specify the content of S and Z flag after executing all the following instruction:  

MVI A, A9H  
MVI B, 57H  
ADD B  
ORA A
- n) Define the purpose of CLK signal in 8085  $\mu$ p.
- o) Write the instruction of RST 7.5 flip-flop.

2. Answer any **five** questions:  $2 \times 5 = 10$
- Write the names of control, status signals of 8085 microprocessor? What is the purpose  $S_1$  and  $S_0$  signal?
  - Write the name of the addressing mode of the following instructions:
    - POP D and ii) LDAX D
  - What is the output at PORT 1 when the following instructions are executed?
 

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MVI    A, 8F H
ADI    72 H
JC     LOOP
OUT    PORT1
HLT
LOOP:  XRA A
      OUT PORT1
      HLT
      
```
  - Define addressing mode. Give example of register indirect addressing mode.
  - How does microprocessor differentiate between data and instruction code?
  - If the clock frequency is 4mHz, how much time is required to execute LDA 2050H?

- Write down the differences between JUMP and CALL instruction.
- Where auxiliary carry flag is used in 8085 microprocessor?

3. Answer any **two** questions:  $5 \times 2 = 10$

- Write an assembly language program to find a given 8 bit number, which is stored in XX30H memory location, is odd or even.
    - What is the use of DI instruction?  $4+1=5$
  - Draw the timing diagram for the following instruction:
 

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LDA 2420H
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      - Define peripheral mapped I/O.  $4+1=5$
- Sixteen bytes of data are stored in memory locations at XX20H to XX2FH. Write an assembly language program in 8085  $\mu$ p to transfer the entire block of data to new memory locations starting at XXA0H.