Registration no: | | | | | | | | | | |

Total Number of Pages: 02 **MCA**
MCC102

3rd Semester Regular Examination 2016-17
MICROPROCESSOR AND ASSEMBLY LANGUAGE PROGRAMMING

BRANCH: MCA
Time: 3 Hours
Max Marks: 70
Q.CODE: Y569

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 **Answer the following questions:** **(2 x 10)**

a) Why the PC and SP registers are 16-bit in 8085 microprocessor?

b) Which gates are called universal logic gates and why?

c) Which flip-flop is called as transparent latch?

d) Convert the decimal number 38 into hexadecimal ?

e) What is the meaning of ADC B instruction?

f) How many T-states are there in Opcode Fetch machine cycle?

g) What is the difference between a buffer and tri-state buffer?

h) Write an instruction to initialize stack with the address 1000H.

i) Which port of 8255 PPI can be devided into two parts and what is its use?

j) Write the truth table of JK Flip-flop.

Q2 **a)** Draw and explain the architecture of 8085 microprocessor with the help of necessary block diagram. **(5)**

b) Explain the different possible register pairs and 16-bit registers availbe in 8085 microprocessor. **(5)**

Q3 **a)** What are the different addressing modes of 8085 microprocessor? Explain with examples. **(5)**

b) Write an assembly language program in order to arrange a series of data in descending order. Assume that the data are available from **(5)**

2000H onwards.

Q4 **a)** Draw the timing diagram of LDA 4500H instruction **(7)**

b) How to handle the I/O devices with 8085 microprocessor? Explain the necessary instruction for this purpose. **(3)**

Q5 **a)** Perform 45 + (- 30) using 2's complement arithmetic . **(5)**

b) What is subroutine.Describe with an example how to call a subroutine having starting address 4500H. **(2+3)**

Q6 **a)** Describe the Min and Max mode of 8086 microprocessor with pin diagram **(5)**

b) Explain the I/O control word of 8255 PPI. Write the control word to make all the ports of 8255 as input port. **(3+2)**

Q7 **a)** Draw the Flag register of 8085 microprocessor. Add the two data A=10101100 , B=11001100 and find the status of different flags. **(5)**

b) Draw the block diagram of 8257 DMA controller and write how it works. **(5)**

Q8 **Write short notes on any TWO:** **(5 x 2)**

a) Memory Interfacing

b) USART

c) Instruction cycle

d) Encoder