LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

U.G. DEGREE EXAMINATION – **ALLIED**

SECOND SEMESTER – **APRIL 2023**

UCA 2301 – MICROPROCESSOR

Date: 10-05-2023   Dept. No.   Max. : 100 Marks
Time: 01:00 PM - 04:00 PM

	SECTION A - K1 (CO1)	
	Answer ALL the Questions	**(10 x 1 = 10)**
1.	**Answer the following**	
a)	What is Microprocessor?	
b)	State the use of program counter.	
c)	List the control signals of 8085.	
d)	What is a counter?	
e)	Define advanced subroutine.	
2.	**MCQ**	
a)	A computer with a microprocessor as its CPU. i. Microprocessor ii Microcontroller iii.Microcomputer iv.None	
b)	There are _____ flags in the flag register. i. 5 ii 6 iii.4 iv.8	
c)	The value of S0 and S1 to perform opcode fetch is _____ i. 0 , 0 ii 0, 1 iii. 1, 0 iv. 1 , 1	
d)	The status flag that is used to check the sign of negative number is _____ i. Zero flag ii. Parity flag iii. Sign flag iv. Carry flag	
e)	As the data words onto the stack is poped, the stack pointer is _____ i. incremented by 1 ii. decremented by 1 iii. incremented by 2 iv. decremented by 2	

Answer ALL the Questions **(10 x 1 = 10)**

3.	**Fill in the blanks**
a)	A _____ is a group of wires/lines that carry similar information.
b)	_____ signal is used to demultiplex address and data.
c)	In _____ Machine Cycle, processor places the contents of the Program Counter on the address lines, reads the opcode of the instruction.
d)	_____ instructions are used to execute the given instructions for number of times.
e)	CD-ROM is an optical device that uses _____ to store digital information.
4.	**True or False**
a)	Microprocessor is a programmable device.
b)	In an Immediate Addressing Modes of 8085 Microprocessor, data can be specified as a part of instruction.
c)	S_1 and S_0 together indicates read, write, opcode fetch, machine cycle operation, or it is in HALT state.
d)	Data transfer instruction transfer the program to the specified location when certain condition is satisfied.
e)	Subroutine is used to avoid the repetition of smaller programs.

SECTION B - K3 (CO2)

Answer any TWO of the following in 100 words **(2 x 10 = 20)**

5.	Illustrate the Instruction format of microprocessor.
6.	Explain the different bus systems used in 8085
7.	Explain I/O write machine cycle with a neat diagram.
8.	Illustrate the use of stack with an example

SECTION C – K4 (CO3)

Answer any TWO of the following in 100 words **(2 x 10 = 20)**

9.	Explain the generation of control signals with necessary diagram.
10.	Explain the usage of ALE in demultiplexing AD0-AD7.
11.	Illustrate the time delay in loop within a loop with an example
12.	Explain CALL and RETURN instructions with an example.

SECTION D – K5 (CO4)

Answer any ONE of the following in 250 words **(1 x 20 = 20)**

13.	Explain the Pin configuration of 8085.
14.	Summarize the following with example a. Data Transfer instructions (12 marks) b. Logic instructions (8 marks)

SECTION E – K6 (CO5)

Answer any ONE of the following in 250 words **(1 x 20 = 20)**

15.	a. Integrate the different components of 8085. (15 marks) b. Distinguish the different flags of flag register. (5 marks)
16.	Express the following with Block diagram a. Opcode Fetch Cycle b. Memory Read Cycle

###########