RAMAIAH
College of Arts, Science & Commerce

जैव प्रौद्योगिकी विभाग
Department of Biotechnology
Ministry of Science & Technology
Government of India

ಎಮ್ ಎಸ್ ರಾಮಯ್ಯ ಕಲಾ, ವಿಜ್ಞಾನ ಮತ್ತು ವಾಣಿಜ್ಯ ಕಾಲೇಜು
M S Ramaiah College of Arts, Science and Commerce
Re-accredited 'A' by NAAC, Permanently Affiliated to Bengaluru City University.
Approved by Government of Karnataka. Approved by A.I.C.T.E. New Delhi.
Recognized by UGC under 2f & 12B of UGC act 1956

Value added course on "Microprocessors-8085"

(Under DBT star College Scheme)

23/10/2023 to 30/12/2023

BSc ECs 5th SEMESTER students

Organized by:

Department of Electronics

M S Ramaiah college of Arts, Science and Commerce,
Bangalore - 560054

About M S R C A S C

Dr. M S Ramaiah, a visionary and philanthropist established "Gokula Education Foundation (GEF)", in the year 1962, to deliver education and healthcare for the betterment of mankind. Under the tutelage of GEF, Ramaiah college of Arts, Science and Commerce (RCASC) was established in 1994. RCASC is Re-accredited with "A" Grade by NAAC, permanently affiliated to Bangalore University (BU) and Bengaluru Central University, and approved by AICTE.

Department of Electronics

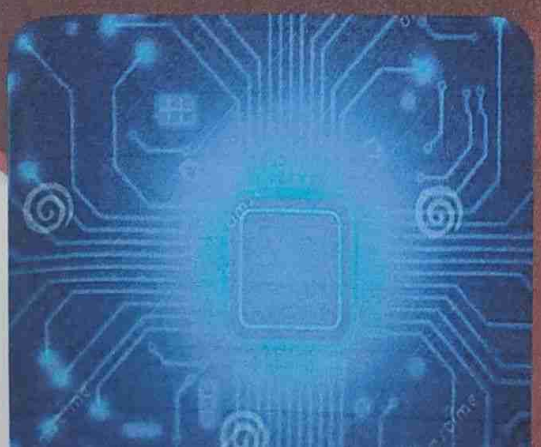
The department was conventional in the year 2008, now offering under graduate course BSc in Electronics. The has well established spacious laboratories with advanced Electronic calibration systems with qualified faculties to provide good lab facility. The course syllabus followed BOS Electronics prescribed by the Bengaluru City University. Department is recognized under **DBT star college scheme-2020**, under this scheme the capacity building skill classes, Career guidance's and various activities are engaged in every year to prepare individuals who are technically strong and capable of fitting into the modern IT and Electronics environment in the present industry scenario.

Objective

- To know the internal architecture of 8085 microprocessors.
- To understand the instruction SET of 8085 microprocessors
- To acquire the knowledge about Assembly level programs using 8085 microprocessors kit

PATRONS

Dr. M.R.Janakiram, Director - GEF
Sri.M.R.Kodandaram, Director - GEF)
Sri.B. S. Ramaprasad, Chief Executive, Gen Sc - GEF
Sri.G.Ramachandra, Chief of Finance, E &Gen Sc. - GEF
Dr Vathsala , Principal – MSRCASC
Dr. Pushpa H, Vice Principal - MSRCASC



Program co coordinator

Dr. Naveen kumar. R
Assistant Professor & HOD
Electronics Department
MSRCASC

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MSRCASC/ELE_VAC/2023-24/01

Date: 16/10/2023

CIRCULAR

The Department of Electronics is conducting value added program on **"Microprocessors-8085"** for 5th Semester BSc[ECs] from 23/10/2023. Students are requested to register your names in the Electronics department.

16/10/23

HOD

HEAD OF THE DEPARTMENT
Department of Electronics
M. S. Ramaiah College of
Arts, Science & Commerce
M.S.R. Nagar, Bangalore-560 054

DBT Star College Scheme

coordinator

CO-ORDINATOR
DBT-STAR COLLEGE SCHEME
M.S. Ramaiah College of Arts, Science & Commerce
MSRIT Post, MSR Nagar, Bangalore - 560 054

Principal

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Value added course on

"Microprocessors-8085"

Date: 23/10/2023 to 30/12/2023

COURSE: BSc ECs 5th SEMESTER.

Resource person: Dr. Naveen Kumar R

Venue: Electronics Lab

Faculty in charge: Mrs Asharani R

Objectives:

- **To know the internal architecture of 8085 microprocessors.**
- **To understand the instruction SET of 8085 microprocessors**
- **To acquire the knowledge about Assembly level programs using 8085 microprocessors kit**

Department of Electronics conducted value added course on 8085 microprocessors from 23/10/2023 to 30/12/2023 As a part of value added Course on 8085 microprocessors, students are sensitized to study the internal structure of microprocessor the following contents are discussed in the course.

The 8085 microprocessor is an 8-bit microprocessor introduced by Intel in 1976. It was one of the most popular microprocessors of its time and played a significant role in the early development of personal computers and embedded systems. Here are some key features and characteristics of the 8085 microprocessor:

Architecture: The 8085 microprocessor is based on the Von Neumann architecture, which means that both data and instructions share the same memory space.

Data Bus: It has an 8-bit data bus, which means it can transfer 8 bits of data at a time.

Address Bus: The 8085 has a 16-bit address bus, allowing it to address up to 64KB of memory.

Registers: The 8085 has several registers including:

Accumulator (A)

General-purpose registers (B, C, D, E, H, L)

Stack Pointer (SP)

Program Counter (PC)

Flag register (F)

Clock Speed: The original 8085 microprocessor operated at a clock speed of 3 MHz.

Instruction Set: The 8085 instruction set consists of around 74 instructions, including data transfer, arithmetic, logical, branch, and control instructions.

Interrupts: The 8085 supports five interrupt signals: TRAP, RST 7.5, RST 6.5, RST 5.5, and INTR.

Power Supply: The 8085 typically operates with a single +5V power supply.

Peripheral Interface: It requires additional peripheral chips for interfacing with devices such as memory, input/output ports, and timers.

Operating Modes: The 8085 microprocessor supports three operating modes: Minimum mode, Maximum mode, and Multiprocessor mode.

Package: The 8085 was commonly available in a 40-pin dual in-line package (DIP).

The 8085 microprocessor was widely used in various applications, including industrial control systems, automotive electronics, home appliances, and early personal computers. Despite being an older architecture, it still finds applications in legacy systems and educational environments for teaching the fundamentals of microprocessor systems and assembly language programming.

The Minimax kit serves as an effective tool for teaching microprocessor architecture, assembly language programming, and interfacing techniques. It provides a hands-on approach to learning, allowing users to experiment with real hardware and observe the behaviour of the microprocessor in different scenarios. These kits are commonly used in educational institutions, electronics labs, and hobbyist projects. The execution of the assembly level program is by using The Minimax kit.

The list of the programs given below are executed to understand the working of microprocessor to enhance the programming knowledge.

- Addition of Two Numbers: A program to add two numbers stored in memory locations and store the result in another memory location.
- Subtraction of Two Numbers: Similar to addition, but performing subtraction.
- Multiplication of Two Numbers: Multiply two numbers stored in memory locations and store the result in another memory location.

- Division of Two Numbers: Divide two numbers stored in memory locations and store the quotient and remainder in other memory locations.
- Factorial of a Number: Calculate the factorial of a number using loops and conditional statements.
- Sum of Series: Calculate the sum of a series of numbers stored in memory.
- Finding Maximum or Minimum Number: Find the maximum or minimum number in a list of numbers stored in memory.
- Counting Number of Ones or Zeros: Count the number of ones or zeros in a binary number stored in memory.
- Binary to Decimal Conversion: Convert a binary number stored in memory to its decimal equivalent.
- Decimal to Binary Conversion: Convert a decimal number stored in memory to its binary equivalent.

Outcome-:

- **Students learnt the internal architecture of 8085 microprocessors**
- **Students gain the knowledge about instruction set of 8085 microprocessors**
- **Capable to execute Assembly level programs using 8085 microprocessors kit**

Faculty in-charge:
(Dr. Naveen Kumar. R)

HOD

HEAD OF THE DEPARTMENT
Department of Electronics
M. S. Ramaiah College of
Arts, Science & Commerce
M.S.R. Nagar, Bangalore-560 054

DBT Star College Scheme Coordinator

CO-ORDINATOR
DBT-STAR COLLEGE SCHEME
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Value added course on "Microprocessors-8085"

Attendance sheet

Sl No:	Register Number	Student name	23/10	28/10	28/10	4/11	4/11	11/11	11/11	11/11	15/11	15/11	18/11	18/11	22/11	23/11	29/11	24/11	25/11	25/11	29/11	2/12	6/12	9/12	9/12	16/12	16/12	23/12	23/12	23/12	30/12	30/12	Total
1	U18EV21S0197	ABDULLA FAHMI	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A	A	A	P	P	P	P	P	P	P	A	25
2	U18EV21S0155	AMRITHA.S	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	P	P	P	P	P	26
3	U18EV21S0208	ANANYA VALLABHA.B.G	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30
4	U18EV21S0176	ANOOP.R	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30
5	U18EV21S0229	BHARATH.M.S	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	P	A	26
6	U18EV21S0237	GOUTHAM SINGH	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	27
7	U18EV21S0178	GURUPREET SINGH	P	P	P	P	A	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	26
8	U18EV21S0214	HARSH PRIYAM	P	P	P	A	A	A	P	P	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	A	A	A	22
9	U18EV21S0127	KAVERI SAHANI	P	P	P	P	P	P	A	P	P	A	P	P	P	P	A	P	P	A	A	P	P	P	P	P	P	A	P	P	A	P	23
10	U18EV21S0200	KIRAN.M	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	A	A	P	26
11	U18EV21S0232	LOKESH M.N	P	P	P	A	P	A	A	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	24
12	U18EV21S0184	MUHAMMED ASKAR.M	A	A	A	P	P	P	A	P	P	P	A	P	P	P	P	P	A	P	P	P	A	P	P	A	P	A	P	A	P	P	20

13	U18EV21S0213	PANKAJ.S	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	28
14	U18EV21S0166	PREKSHITH.H.V	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	30
15	U18EV21S0110	SAHANA.B.M	P	P	P	P	P	P	A	A	P	P	A	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	25
16	U18EV21S0103	SHREYA.U	P	P	P	P	P	P	P	A	A	A	A	P	P	P	P	A	A	A	P	P	P	P	P	P	P	P	A	P	P	P	28
17	U18EV21S0112	SUVEETHA.S.B	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	P	A	A	P	P	P	P	P	P	P		26
18	U18EV21S0223	TANMAY.M.MALLIK	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P	P		28
19	U18EV21S0114	VANDANA.G.A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P		27
20	U18EV21S0220	YOSHNA. S. SHETTY	P	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P	P	A	P	P	P	P	P	P	A	A	P	P	A	P	23
21	U18EV21S0207	ZUHA FATHIMA.N	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	P	P	P	P	P	P	P	P	P	A	A	24

Faculty in charge:
(Dr. Naveen Kumar. R)

HOD

DBT Star College Scheme Coordinator

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CERTIFICATE

Department of Electronics

This is to certify that _____ , _____ from _____ has Participated in Value Added Course on **"Microprocessors-8085"** from 23/10/2023 to 30/12/2023 organized by **Department of Electronics(under DBT Star college scheme), M S Ramaiah College of Arts, Science and Commerce, Bengaluru -54.**

Dr. Naveen Kumar R	**Dr. Naveen Kumar R**	**Dr. Vathsala**
Program Coordinator	**HOD, Dept. of Electronics**	**Principal (MSRCASC)**