Kadi Sarva Vishvavidyalaya, Gandhinagar
Bachelor of Engineering (Electrical Engineering Syllabus)

B.E Semester: Vth (EE)
Subject Name & Code: Microprocessor and Interfacing (EE-503)

Course Objective:

The educational objectives of this course are

- To understand basic of processor and microprocessor and interfacing with real world.
- To study basic of programming.

A. **Teaching / Examination Scheme**

SUBJECT		Teaching Scheme				Total Credit	Examination Scheme					Total Marks
		L	T	P	Total		THEORY		IE	CIA	PR. / VIVO	
CODE	NAME	Hrs	Hrs	Hrs	Hrs		Hrs	Marks	Marks	Marks	Marks	
EE-503	Microprocessor and Interfacing	4	0	2	6	5	3	70	30	20	30	150

Introduction to Microprocessor:

Microprocessorsystems with busorganization, Microprocessor Architecture &Operations, Memory, I/ODevice,MemoryandI/OOperations

Architecture of 8085:

Introduction to 8085 assembly language programming, 8085 Microprocessor Architecture and its operation, Address, Data And Control Buses, Pin Functions, Demultiplexing Of Buses, Generation Of Control Signals, Instruction Cycle, Machine Cycles, T-States, Memory Interfacing.

Programming Of 8085:

Assembly Language Programming Basics, Introduction to 8085 instructions, Addressing Modes, Writing, Assembling & Executing A Program, Debugging The Programs,Decision Making, Looping, Stack & Subroutines, Developing Counters And Time Delay Routines, Code Conversion, BCD Arithmetic And 16-Bit Data Operations.

Interfacing Concepts, Ports, Interfacing Of I/O Devices, Interrupts In 8085, Interfacing of Data Converters (D-To-A and A-To-D), Programmable Interfacing Devices Like 8255A PPI, 8253/8254 Timer, 8259A PIT, Serial I/O Concepts,SID And SOD, 8251A USART. Interfacing of above chips With 8085.

INSTRUCTIONAL METHOD AND PEDAGOGY (Continuous Internal Assessment (CIA) Scheme)

- At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
- Lecture may be conducted with the aid of multi-media projector, black board, OHP etc.
- Attendance is compulsory in lectures, practical's and Tutorial which carries 05 Marks.
- At regular intervals assignments is given. In all, a student should submit all assignments of 05 marks each.
- Classroom participation and involvement in solving the problems in Tutorial rooms carries 05 Marks.
- Viva Voce will be conducted at the end of the semester of 05 Marks.
- One internal exam of 30 marks is conducted as a part of mid semester evaluation.
- Experiments shall be performed in the laboratory related to course contents.
- The course includes a laboratory, where students have an opportunity to build an appreciation for the concept being taught in lectures.

B. **Lesson Planning**

SR No.	Lectures (Hours)	Weightage in % in Exam	Topic
1	06	10	**Introduction to Microprocessor:** Microprocessorsystems with busorganization, Microprocessor Architecture &Operations, Memory, I/ODevice,MemoryandI/OOperations
2	18	30	**Architecture of 8085:** Introduction to 8085 assembly language programming, 8085 Microprocessor Architecture and its operation, Address, Data And Control Buses, Pin Functions, Demultiplexing Of Buses, Generation Of Control Signals, Instruction Cycle, Machine Cycles, T-States, Memory Interfacing.
3	18	30	**Programming Of 8085:** Assembly Language Programming Basics, Introduction to 8085 instructions, Addressing Modes, Writing, Assembling & Executing A Program, Debugging The Programs,Decision Making, Looping, Stack & Subroutines, Developing Counters And Time Delay Routines, Code Conversion, BCD Arithmetic And 16-Bit Data Operations.

4	18	30	Interfacing Concepts, Ports, Interfacing Of I/O Devices, Interrupts In 8085, Interfacing of Data Converters (D-To-A and A-To-D), Programmable Interfacing Devices Like 8255A PPI, 8253/8254 Timer, 8259A PIT, Serial I/O Concepts,SID And SOD, 8251A USART. Interfacing of above chips With 8085.
	60	100	

C. **Instructional Method & Pedagogy**

- At the start of course, the course delivery pattern , prerequisite of the subject will be discussed
- Lecture may be conducted with the aid of multi-media projector, black board, OHP etc. & equal weight age should be given to all topics while teaching and conduction of all examinations.
- Attendance is compulsory in lectures, which may carries five marks in overall evaluation.
- One/Two internal exams may be conducted and total/average/best of the same may be converted to equivalent of 30 marks as a part of internal theory evaluation.
- Assignment based on course content will be given to the student for each unit/topic and will be evaluated at regular interval. It may carry an importance of ten marks in the overall internal evaluation.
- Surprise tests/Quizzes/Seminar/Tutorial may be conducted and having share of five marks in the overall internal evaluation.
- Experiments shall be performing in laboratory related to course contents.

Students Learning Outcomes

- On successful completion of the course, the student should be able to apply concepts of microprocessor for development of real world problems.

TEXT BOOK:

- Ramesh Gaonkar, 'Microprocessor Architecture, Programming & application with 8085', Fifth Edition, Penram Publications.

REFERENCE BOOKS:

1. B. Ram, 'Fundamentals of Microprocessors and Microcomputers', Dhanpat Rai Publications.
2. Microcomputers and Microprocessors: The 8080,8085 and Z-80 Programming, Interfacing and Troubleshooting by John E. Uffenbeck.