2. Charles Gilmore, "Microprocessors: Principles and Application", McGrifill.         3. Mazidi, "Programming, Interfacing and Design using 8086".         Course Objective:       To acquaint the students with the organization, programming and application microprocessor-based systems         Course Learning Outcome       CLO Statement       PLO       Bl         CLO-1:       Introduction to microprocessor and microcontrollers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor       PLO-1       Architecture, programming and interfacing of microprocessor         CLO-2:       Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor       PLO-5         CLO-3:       Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools       PLO-5         Topics covered in the course and level of coverage:       Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system       6 hours architecture, introduction to microprocessor based system         *       Introduction to Microprocessor system and Microcontroller and its architecture, introduction to microprocessor based system       6 hours architecture, introduction to microprocessor based system         *       Introduction to Microprocessor system and Microcontroller and its architecture, introduction to microprocessor based system       12 hour writing programs, Program Control Instructions	Course Number and Title:	EE- 211 Micro Processor Systems								
Instructor (s):       Dr. Syed Azhar Ali Zaidi         Lab Engineer:       Engr. Zunaira Huma         Compulsory/Elective:       Compulsory         If Elective: Depth Core/ Breadth Core:       Compulsory         Breadth Core:       3 hours/week         Course Schedule:       Lecture:         Lab:       3 hours/week         Office hours:       4 hours/week         Office hours:       2         Quizzes:       2         Course Assessment:       Assignments:         Quizzes:       2         Course project:       1         Lab work:       10%         Kasignments:       10%         Assignments:       10%         Kasignments:       10%         Lab work:       20%         End-Semester:       20%         End-Semester:       40%         Text Book:       Douglas V. Hall, "Microprocessors By Barry B.Brey, Latest Edition         Course Objective:       To acquain the students with the organization, programming and application", McGr Hill.         Course Learning Outcome       CLo-1:         Introduction to microprocessor and microcontrollers, ALU, timing and sequencing, memory and 1/O Interfacing, PLO-1         Architecture, programming and interfacing of microprocessor	Credit Hours:	•								
Instructor (s):       Dr. Syed Azhar Ali Zaidi         Lab Engineer:       Engr. Zunaira Huma         Compulsory/Flective:       Compulsory         If Elective: Depth Core/ Breadth Core:       Compulsory         Breadth Core:       3 hours/week         Course Schedule:       Lecture:         Lab:       3 hours/week         Office hours:       4 hours/week         Course Assessment:       Assignments:         Quizzes:       2         Course project:       1         Lab work:       14 experiments         Exams:       10%         Assignments:       10%         Assignments:       10%         Assignments:       10%         Lab work:       20%         End-Semester:       20%         End-Semester:       20%         End-Semester:       20%         Text Book:       Douglas V. Hall, "Microprocessors By Barry B.Brey, Latest Edition         2.       Charles Gilmore, "Microprocessors: Principles and Application", McGr Hill.         3.       Mazidi, "Programming, Interfacing and Design using 8086".         Course Objective:       To acquain the students with the organization, programming and application", Architecture, posair on and microcontrollers, ALU, timing and sequencing, memory and 1/O Int	Pre Requisite									
Compulsory/Elective:         Compulsory           If Elective: Depth Core/ Breadth Core:         If Elective: Depth Core/ Endth Core:         3 hours/week           Course Schedule:         Lecture:         3 hours/week           Office hours:         4 hours/week           Office hours:         2           Quizzes:         2           Course Assessment:         Quizzes:         2           Quizzes:         2           Course project:         1         Lab work:         14 experiments           Exams:         Mid-semester and Final         Mid-semester and Final         Mid-semester:           Grading Policy:         Quizzes:         10%	Instructor (s):									
Compulsory/Elective:         Compulsory           If Elective: Depth Core/ Breadth Core:         Image: Course Schedule:         Image: Course Schedule:         Image: Schedule:           Course Schedule:         Lecture:         3 hours/week         Image: Schedule:         Image: Schedule:           Course Assessment:         Assignments:         2         Image: Schedule:         Image: Schedule:           Course Assessment:         Quizzes:         2         Image: Schedule:         Image: Schedule:           Grading Policy:         Quizzes:         10%         Image: Schedule:         Image: Schedule:           Text Book:         Douglas V. Hall, "Microprocessors By Barry B. Brey, Latest Edition         Image: Schedule:         Image: Schedule:           Course Objective:         To acquaint the students with the organization, programming and application "incroprocessor sched systems         PLO-1         Image: Schedule:         Image: Schedule:           Course Objective:         To acquaint the students with the organization, programming	Lab Engineer:									
If Elective: Depth Core/ Breadth Core:       Image: Course Schedule:       Image: Lecture:       3 hours/week         Course Schedule:       Lab:       3 hours/week       Image: Course Course Course Course Course Course Course Course Course Project:       1         Course Assessment:       Assignments:       2       2         Quizzes:       2       1         Course project:       1       Image: Course C		6								
Breadth Core:       Image: Course Schedule:       Image: Lecture:       3 hours/week         Course Schedule:       Lab:       3 hours/week         Course Assessment:       Assignments:       2         Quizzes:       2       Course project:       1         Lab work:       14 experiments       2         Course project:       1       14 experiments         Exams:       10%       Assignments:       10%         Lab work:       20%       Mid-semester and Final       Mid-semester:         Grading Policy:       Quizzes:       10%       Mid-semester:       20%         Mid-Semester:       20%       Mid-semester:       20%       Mid-semester:       20%         Text Book:       Douglas V. Hall, "Microprocessors By Barry B.Brey, Latest Edition       2.       Course Charles Gilmore, "Microprocessors: Principles and Application", McGr Hill.         3.       Mazidi, "Programming, Interfacing and Design using 8086".       Mid.Semester:       PLO       Bit         Course Objective:       To acquaint the students with the organization, programming and application microprocessor-based systems       PLO       Bit         Course Learning Outcome       CLO-1:       Introduction to microprocessor and microcontrollers, Architecture, pasic concepts, control unit, internal registers, ALU, ining and sequencing, me										
Lab:         3 hours/week           Office hours:         4 hours/week           Course Assessment:         Assignments:         2           Quizzes:         2           Course project:         1           Lab work:         14 experiments           Exams:         Mid-semester and Final           Grading Policy:         Quizzes:         10%           Assignments:         10%           Lab work:         20%           Mid-Semester:         20%           Mid-Semester:         20%           End-Semester:         20%           End-Semester:         20%           Course Dook(s):         1. The Intel Microprocessors By Barry B.Brey, Latest Edition           2. Charles Gilmore, "Microprocessors: Principles and Application", McGr           Hill.         3. Mazidi, "Programming, Interfacing and Design using 8086".           Course Objective:         To acquaint the students with the organization, programming and application microprocessor-based systems           Course Learning Outcome         CLO Statement           CLO-1:         Introduction to microprocessor and microprocessor           Microprocessor reserver         PLO-1           Microprocessor design based on the knowledge of microprocessor           CLO-2:         Microproces										
Lab:         3 hours/week           Office hours:         4 hours/week           Course Assessment:         Assignments:         2           Quizzes:         2           Course project:         1           Lab work:         14 experiments           Exams:         Mid-semester and Final           Grading Policy:         Quizzes:         10%           Assignments:         10%           Lab work:         20%           Mid-Semester:         20%           Mid-Semester:         20%           End-Semester:         20%           End-Semester:         20%           Course Dook(s):         1. The Intel Microprocessors By Barry B.Brey, Latest Edition           2. Charles Gilmore, "Microprocessors: Principles and Application", McGr           Hill.         3. Mazidi, "Programming, Interfacing and Design using 8086".           Course Objective:         To acquaint the students with the organization, programming and application microprocessor-based systems           Course Learning Outcome         CLO Statement           CLO-1:         Introduction to microprocessor and microprocessor           Microprocessor reserver         PLO-1           Microprocessor design based on the knowledge of microprocessor           CLO-2:         Microproces										
Lab:         3 hours/week           Office hours:         4 hours/week           Course Assessment:         Assignments:         2           Quizzes:         2           Course project:         1           Lab work:         14 experiments           Exams:         Mid-semester and Final           Grading Policy:         Quizzes:         10%           Assignments:         10%           Lab work:         20%           Mid-Semester:         20%           Mid-Semester:         20%           End-Semester:         20%           End-Semester:         20%           Course Dook(s):         1. The Intel Microprocessors By Barry B.Brey, Latest Edition           2. Charles Gilmore, "Microprocessors: Principles and Application", McGr           Hill.         3. Mazidi, "Programming, Interfacing and Design using 8086".           Course Objective:         To acquaint the students with the organization, programming and application microprocessor-based systems           Course Learning Outcome         CLO Statement           CLO-1:         Introduction to microprocessor and microprocessor           Microprocessor reserver         PLO-1           Microprocessor design based on the knowledge of microprocessor           CLO-2:         Microproces	Course Schedule:	Lecture: 3 hours/week								
Office hours:         4 hours/week           Course Assessment:         Assignments:         2           Quizzes:         2           Course project:         1           Lab work:         14 experiments           Exams:         Mid-semester and Final           Grading Policy:         Quizzes:         10%           Assignments:         10%           Lab work:         20%           Mid-Semester:         20%           Mid-Semester:         20%           Mid-Semester:         40%           Text Book:         Douglas V. Hall, "Microprocessors By Barry B.Brey, Latest Edition           Charles Gilmore, "Microprocessors: Principles and Application", McGr           Hill.         3.           Mazidi, "Programming, Interfacing and Design using 8086".           Course Objective:         To acquaint the students with the organization, programming and application", Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor           CLO-2:         Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor system.           Topics covered in the course and level of coverage:         Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor system.           Topi										
Course Assessment:       Assignments:       2         Quizzes:       2         Course project:       1         Lab work:       14 experiments         Exams:       Mid-semester and Final         Grading Policy:       Quizzes:         Assignments:       10%         Lab work:       20%         Mid-Semester:       20%         End-Semester:       20%         Text Book:       Douglas V. Hall, "Microprocessors By Barry B.Brey, Latest Edition         2.       Charles Gilmore, "Microprocessors: Principles and Application", McGn Hill.         3.       Mazidi, "Programming, Interfacing and Design using 8086".         Course Objective:       To acquaint the students with the organization, programming and application microprocessor and microcontrollers, Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and 1/O Interfacing, Programming of Microprocessor         CLO-2:       Microprocessor system design based on the knowledge of Architecture, programming of Microprocessor         CLO-3:       Reinforce the concepts of the microprocessor system using PLO-5 microprocessor system using programming and interfacing of microprocessor         Topics covered in the course and level of coverage: <ul> <li>Microprocessor and Microcontroller programming and idesigning tools</li> <li>Introduction to Microprocessor and Microcontroller and its architecture, introduction</li></ul>										
Quizzes:         2           Course project:         1           Lab work:         14 experiments           Exams:         Mid-semester and Final           Grading Policy:         Quizzes:           Quizzes:         10%           Assignments:         10%           Lab work:         20%           Mid-Semester:         20%           End-Semester:         20%           End-Semester:         20%           Text Book:         Douglas V. Hall, "Microprocessor and Interfacing", Tata McGraw-Hill.           Reference Book(s):         1. The Intel Microprocessors By Barry B.Brey, Latest Edition           2. Charles Gilmore, "Microprocessors: Principles and Application", McGri Hill.           3. Mazidi, "Programming, Interfacing and Design using 8086".           Course Objective:         To acquaint the students with the organization, programming and application microprocessor-based systems           Course Learning Outcome         CLO Statement           CLO-1:         Introduction to microprocessor and microcontrollers, Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor           CLO-2:         Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor system using microprocessor emulator and microcontroller programming and designing too										
Quizzes:         2           Course project:         1           Lab work:         14 experiments           Exams:         Mid-semester and Final           Grading Policy:         Quizzes:           Quizzes:         10%           Assignments:         10%           Lab work:         20%           Mid-Semester:         20%           End-Semester:         20%           End-Semester:         20%           Text Book:         Douglas V. Hall, "Microprocessor and Interfacing", Tata McGraw-Hill.           Reference Book(s):         1. The Intel Microprocessors By Barry B.Brey, Latest Edition           2. Charles Gilmore, "Microprocessors: Principles and Application", McGri Hill.           3. Mazidi, "Programming, Interfacing and Design using 8086".           Course Objective:         To acquaint the students with the organization, programming and application microprocessor-based systems           Course Learning Outcome         CLO Statement           CLO-1:         Introduction to microprocessor and microcontrollers, Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor           CLO-2:         Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor system using microprocessor emulator and microcontroller programming and designing too	Course Assessment:	Assignments: 2								
Course project:         1           Lab work:         14 experiments           Exams:         Mid-semester and Final           Grading Policy:         Quizzes:           Quizzes:         10%           Lab work:         20%           Mid-Semester:         20%           End-Semester:         20%           End-Semester:         40%           Text Book:         Douglas V. Hall, "Microprocessors and Interfacing", Tata McGraw-Hill.           Reference Book(s):         1. The Intel Microprocessors By Barry B.Brey, Latest Edition           2. Charles Gilmore, "Microprocessors: Principles and Application", McGraw-Hill.           3. Mazidi, "Programming, Interfacing and Design using 8086".           Course Objective:         To acquaint the students with the organization, programming and application microprocessor-based systems           Course Learning Outcome         CLO Statement         PLO           CLO-1:         Introduction to microprocessor and microcontrollers, Architecture, basic concepts, control unit, interfacing, Programming of Microprocessor         PLO-1           Architecture, programming and interfacing microprocessor system using microprocessor system using microprocessor system using microprocessor emulator and microcontroller programming and designing tools         PLO-3           CluO-3:         Reinforce the concepts of the microprocessor system using microprocessor emulator and micr		0								
Lab work:         14 experiments           Exams:         Mid-semester and Final           Grading Policy:         Quizzes:           Assignments:         10%           Lab work:         20%           Mid-Semester:         20%           End-Semester:         40%           Text Book:         Douglas V. Hall, "Microprocessor and Interfacing", Tata McGraw-Hill.           Reference Book(s):         1. The Intel Microprocessors By Barry B.Brey, Latest Edition           2. Charles Gilmore, "Microprocessors: Principles and Application", McGra Hill.           3. Mazidi, "Programming, Interfacing and Design using 8086".           Course Objective:         To acquain the students with the organization, programming and application microprocessor-based systems           Course Learning Outcome         CLO Statement         PLO         Bi           CLO-1:         Introduction to microprocessor and microcontrollers, Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor         PLO-1           CLO-2:         Microprocessor system design based on the knowledge of Architecture, programming and design interfacing of microprocessor system using microprocessor system design based on the knowledge of Architecture, programming of Microprocessor system using microprocessor system design based on the knowledge of Architecture, programming and designing tools           Topics covered in the cour		· · · · · · · · · · · · · · · · · · ·								
Exams:       Mid-semester and Final         Grading Policy:       Quizzes:       10%         Assignments:       10%         Lab work:       20%         Mid-Semester:       20%         End-Semester:       20%         Text Book:       Douglas V. Hall, "Microprocessors and Interfacing", Tata McGraw-Hill.         Reference Book(s):       1. The Intel Microprocessors By Barry B.Brey, Latest Edition         2. Charles Gilmore, "Microprocessors: Principles and Application", McGratili, "Brogramming, Interfacing and Design using 8086".         Course Objective:       To acquaint the students with the organization, programming and application microprocessor-based systems         Course Learning Outcome       CLO Statement         PLO-1       Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and 1/O Interfacing, Programming of Microprocessor         CLO-2:       Microprocessor system design based on the knowledge of PLO-3         CLO-3:       Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools         Topics covered in the course and level of coverage: <ul> <li>Mitroduction to Microprocessor and Microcontroller and its achitecture, introduction to microprocessor based system</li> <li>CLO-3:</li> <li>Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller and its achitecture, introduction to micropr</li></ul>		* *								
Grading Policy:       Quizzes:       10%         Assignments:       10%         Lab work:       20%         Mid-Semester:       20%         End-Semester:       20%         Text Book:       Douglas V. Hall, "Microprocessors and Interfacing", Tata McGraw-Hill.         Reference Book(s):       1. The Intel Microprocessors By Barry B.Brey, Latest Edition         2. Charles Gilmore, "Microprocessors: Principles and Application", McGra Hill.         3. Mazidi, "Programming, Interfacing and Design using 8086".         Course Objective:       To acquaint the students with the organization, programming and application microprocessor-based systems         Course Learning Outcome       CLO Statement         CLO-1:       Introduction to microprocessor and microcontrollers, Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor         CLO-2:       Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor system using microprocessor system using microprocessor system design based on the knowledge of Architecture, programming and microcontroller programming and designing tools         Topics covered in the course and level of coverage: <ul> <li>Antiotictor to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system</li> <li>Control unit, ALU and addressing modes, Machine Code Construction writing programs, Program Control Instructi</li></ul>										
Assignments:       10%         Lab work:       20%         Mid-Semester:       20%         End-Semester:       40%         Text Book:       Douglas V. Hall, "Microprocessor and Interfacing", Tata McGraw-Hill.         Reference Book(s):       1. The Intel Microprocessors By Barry B.Brey, Latest Edition         2. Charles Gilmore, "Microprocessors: Principles and Application", McGr Hill.         3. Mazidi, "Programming, Interfacing and Design using 8086".         Course Objective:       To acquaint the students with the organization, programming and application microprocessor-based systems         Course Learning Outcome       CLO Statement         CLO-1:       Introduction to microprocessor and microcontrollers, Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor         CLO-2:       Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor         CLO-3:       Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools         *       Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system         *       Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system         *       Introduction to Microprocessor and Microcontroller and		Exams. Ivito-semester and Final								
Assignments:       10%         Lab work:       20%         Mid-Semester:       20%         End-Semester:       40%         Text Book:       Douglas V. Hall, "Microprocessor and Interfacing", Tata McGraw-Hill.         Reference Book(s):       1. The Intel Microprocessors By Barry B.Brey, Latest Edition         2. Charles Gilmore, "Microprocessors: Principles and Application", McGr Hill.         3. Mazidi, "Programming, Interfacing and Design using 8086".         Course Objective:       To acquaint the students with the organization, programming and application microprocessor-based systems         Course Learning Outcome       CLO Statement         CLO-1:       Introduction to microprocessor and microcontrollers, Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor         CLO-2:       Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor         CLO-3:       Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools         *       Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system         *       Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system         *       Introduction to Microprocessor and Microcontroller and	Grading Policy:									
Lab work:         20%           Mid-Semester:         20%           End-Semester:         40%           Text Book:         Douglas V. Hall, "Microprocessor and Interfacing", Tata McGraw-Hill.           Reference Book(s):         1. The Intel Microprocessors By Barry B.Brey, Latest Edition           2. Charles Gilmore, "Microprocessors: Principles and Application", McGr           Hill.         3. Mazidi, "Programming, Interfacing and Design using 8086".           Course Objective:         To acquaint the students with the organization, programming and application microprocessor-based systems           Course Learning Outcome         CLO Statement         PLO           CLO-1:         Introduction to microprocessor and microcontrollers, ALL, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor         PLO-1           CLO-2:         Microprocessor system design based on the knowledge of Architecture, programming and microprocessor         PLO-5           CLO-3:         Reinforce the concepts of the microprocessor system using microprocessor system using programming and interfacing of microprocessor         PLO-5           Topics covered in the course and level of coverage:         Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system         6 hours architecture, introduction to microprocessor based system           Topics covered in the course and level of coverage:         Introduction to Microprocessor and Mic	Grading Folicy.	``````````````````````````````````````								
Mid-Semester:         20%           End-Semester:         40%           Text Book:         Douglas V. Hall, "Microprocessor and Interfacing", Tata McGraw-Hill.           Reference Book(s):         1. The Intel Microprocessors By Barry B.Brey, Latest Edition           2. Charles Gilmore, "Microprocessors: Principles and Application", McGr Hill.           3. Mazidi, "Programming, Interfacing and Design using 8086".           Course Objective:         To acquaint the students with the organization, programming and application microprocessor-based systems           Course Learning Outcome         CLO Statement         PLO         Bl           CLO-1:         Introduction to microprocessor and microcontrollers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor         PLO-1         Bl           CLO-2:         Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor         PLO-5         Enforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools         PLO-5         Microprocessor based system         6 hours architecture, introduction to microprocessor based system           Topics covered in the course and level of coverage:         * Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system         6 hours architecture, introduction to microprocessor based system           * Control unit, ALU and addressing modes, Machine		6								
End-Semester:       40%         Text Book:       Douglas V. Hall, "Microprocessor and Interfacing", Tata McGraw-Hill.         Reference Book(s):       1. The Intel Microprocessors By Barry B.Brey, Latest Edition         2. Charles Gilmore, "Microprocessors: Principles and Application", McGr Hill.         3. Mazidi, "Programming, Interfacing and Design using 8086".         Course Objective:       To acquaint the students with the organization, programming and application microprocessor-based systems         Course Learning Outcome       CLO Statement       PLO       Bl         CLO-1:       Introduction to microprocessor and microcontrollers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor       PLO-1       Microprocessor         CLO-3:       Reinforce the concepts of the microprocessor system using microprocessor system design based on the knowledge of Architecture, programming and microcontroller programming and designing tools       PLO-5       Microprocessor         Topics covered in the course and level of coverage:       Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system       6 hours construction         *       Introduction to Microprocessor, Systematic method of uriting programs, Program Control Instructions       12 hour writing programs, Program Control Instructions       12 hour writing programs, Program Control Instructions										
Text Book:       Douglas V. Hall, "Microprocessor and Interfacing", Tata McGraw-Hill.         Reference Book(s):       1. The Intel Microprocessors By Barry B.Brey, Latest Edition         2. Charles Gilmore, "Microprocessors: Principles and Application", McGr Hill.         3. Mazidi, "Programming, Interfacing and Design using 8086".         Course Objective:       To acquaint the students with the organization, programming and application microprocessor-based systems         Course Learning Outcome       CLO Statement       PLO         CLO-1:       Introduction to microprocessor and microcontrollers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor       PLO-1         Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools       PLO-5         Topics covered in the course and level of coverage: <ul> <li>* Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system</li> <li>* Control unit, ALU and addressing modes, Machine Code Construction set of 8086 microprocessor, Systematic method of I2 hour writing programs, Program Control Instructions</li> </ul>										
Reference Book(s):       1. The Intel Microprocessors By Barry B.Brey, Latest Edition         2. Charles Gilmore, "Microprocessors: Principles and Application", McGri Hill,         3. Mazidi, "Programming, Interfacing and Design using 8086".         Course Objective:       To acquaint the students with the organization, programming and application microprocessor-based systems         Course Learning Outcome       CLO Statement       PLO       BI         CLO-1:       Introduction to microprocessor and microcontrollers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor       PLO-1       Microprocessor         CLO-2:       Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor       PLO-5       Microprocessor system using microprocessor system using microprocessor emulator and microcontroller programming and designing tools       PLO-5       Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor       PLO-5       Microprocessor system using microprocessor system using microprocessor emulator and microcontroller programming and designing tools       PLO-5       Microprocessor based system         Topics covered in the course and level of coverage: <ul> <li>Control unit, ALU and addressing modes, Machine Code Construction</li> <li>Construction set of 8086 microprocessor, Systematic method of U2 hour writing programs, Program Control Instructions</li> <li>Instruction set of 8086 microprocessor, Systematic method of U2 hour writing programs, Program Control Instructi</li></ul>		Enu-Semester: 40%								
Hill.       3. Mazidi, "Programming, Interfacing and Design using 8086".         Course Objective:       To acquaint the students with the organization, programming and application microprocessor-based systems         Course Learning Outcome       CLO Statement       PLO       Bil         CLO-1:       Introduction to microprocessor and microcontrollers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor       PLO-1       Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor       PLO-3         CLO-2:       Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor       PLO-5         CLO-3:       Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools       PLO-5         Topics covered in the course and level of coverage:       Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system       6 hours architecture, introduction to microprocessor based system         *       Construction       *       Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions       12 hour writing programs, Program Control Instructions	Reference Book(s):			111.						
microprocessor-based systems         Course Learning Outcome       CLO Statement       PLO       Bl         CLO-1:       Introduction to microprocessor and microcontrollers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor       PLO-1       Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor       PLO-3         CLO-2:       Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor       PLO-3         CLO-3:       Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools       PLO-5         Topics covered in the course and level of coverage: <ul> <li> <li>Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system</li> <li> <li>Construction to Microprocessor, Systematic method of writing programs, Program Control Instructions</li> <li> </li></li></li></ul> <ul> <li>Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions</li> <li> </li></ul>		2. Charles Gilmore, "Microprocessors: Principles and Application", McGraw- Hill.								
CLO-1:       Introduction to microprocessor and microcontrollers, Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor       PLO-1         CLO-2:       Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor       PLO-3         CLO-3:       Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools       PLO-5         Topics covered in the course and level of coverage: <ul> <li>Control unit, ALU and addressing modes, Machine Code Construction</li> <li>Construction</li> <li>Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions</li> <li>12 hour writing programs, Program Control Instructions</li> </ul>	Course Objective:		mming and	applica	tions of					
CLO-1:       Introduction to microprocessor and microcontrollers, Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor       PLO-1         CLO-2:       Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor       PLO-3         CLO-3:       Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools       PLO-5         Topics covered in the course and level of coverage: <ul> <li>Control unit, ALU and addressing modes, Machine Code Construction</li> <li>Construction</li> <li>Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions</li> <li>12 hour writing programs, Program Control Instructions</li> </ul>	Course Learning Outcome	CLO Statement		DI O	Bloom					
Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing, Programming of Microprocessor         CLO-2:       Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor       PLO-3         CLO-3:       Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools       PLO-5         Topics covered in the course and level of coverage:       Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system       6 hours         *       Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions       12 hour					C1					
CLO-2:       Microprocessor system design based on the knowledge of Architecture, programming and interfacing of microprocessor       PLO-3         CLO-3:       Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools       PLO-5         Topics covered in the course and level of coverage:       Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system       6 hours         Control unit, ALU and addressing modes, Machine Code Construction       6 hours       12 hour writing programs, Program Control Instructions	CLO-1.	Architecture, basic concepts, control unit, internal registers, ALU, timing and sequencing, memory and I/O Interfacing,								
CLO-3:       Reinforce the concepts of the microprocessor system using microprocessor emulator and microcontroller programming and designing tools       PLO-5         Topics covered in the course and level of coverage: <ul> <li>Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system</li> <li>Control unit, ALU and addressing modes, Machine Code Construction</li> <li>Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions</li> </ul> <ul> <li>Instructions</li> <li>Instructions</li> </ul> <ul> <li>Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions</li> <li>Instructions</li> </ul> <ul> <li>Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions</li> <li>Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions</li> </ul>	CLO-2:		PLO-3	C4						
Topics covered in the course and level of coverage:       Introduction to Microprocessor and Microcontroller and its architecture, introduction to microprocessor based system       6 hours         Control unit, ALU and addressing modes, Machine Code Construction       6 hours         Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions       12 hour	CLO-3:	n using	PLO-5	C3						
and level of coverage:       architecture, introduction to microprocessor based system										
<ul> <li>❖ Control unit, ALU and addressing modes, Machine Code Construction</li> <li>❖ Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions</li> </ul>	-				6 hours					
Construction       Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions       12 hour	and level of coverage:									
<ul> <li>Instruction set of 8086 microprocessor, Systematic method of writing programs, Program Control Instructions</li> </ul>			Code	6 hours						
writing programs, Program Control Instructions										
♦ 8086/8088 hardware specifications Maximum and minimum 3 hours				12 hours						
• • • • • • • • • • • • • • • • • • •		✤ 8086/8088 hardware specifications, Maximum and minimum 3 hours								

					mode										
	<ul> <li>Types of Memories and their interface</li> </ul>										6 hours		ours		
			İ	<ul> <li>Basic I/O interface</li> </ul>								6 hours		ours	
	<ul> <li>Mechanism and Types of Interrupt</li> </ul>									6 ho		ours			
				*	Micropro	cessor ba	ased syste	em design	l			3 h		ours	
Program								l Contents					CLO	PLO	
and how			by									C	LO-1	PLO-1	
specific c	course ou	tcomes:			Memory and I/O system, Internal microprocessor architecture										
				Control unit, Arithmetic and logic unit, Data Addressing								CLO-1		PLO-1	
					modes, register addressing, direct addressing, indirect										
					addressing, immediate addressing, Stack addressing,										
			ŀ		Machine Code Construction for 8086           ✤ Data movement instructions, PUSH/POP instructions,         CLO-1									PLO-1	
					<ul> <li>Data movement instructions, PUSH/POP instructions, string data instructions, Load effective address,</li> </ul>							C	LO-1	PLO-1	
								r instruction			rol				
								ons, proc			.101				
								instruction							
			İ	*	8086/808	8 hardwa	are specif	fications, 1	Pin funct	ions, cloo	ck	С	LO-2	PLO-3	
								d latching							
						,		naximum							
			<ul> <li>Memory interfacing, memory devices, address decoding, 8086/8088 memory interfacing</li> <li>CLO-2</li> <li>PLO-3</li> </ul>												
			Ī												
					port addr	essing m	odes, Pro	grammab	le periph	eral					
					interface(8255), Interfacing 8086 to different I/O devices.										
														PLO-3	
					8254 programmable interval timer, programmable interrupt										
			controller(8259),cascading multiple 8259, programming of												
		-		8259 Miananna	and a h	and anot	am dasian				C	LO-2	PLO-3		
			Microprocessor based system design using microprocessor emulator and microcontroller programming and designing							CLO-2 CLO-3		PLO-3 PLO-5			
					tools							20 5	1105		
												I		1	
Mapping	of CLOs	s with PL	.Os a	and B	loom's T	axonomy	, Cognitiv	ve Levels	:						
PLO	1	2		3	4	5	6	7	8	9	10		11	12	
CLO-1	C1 C2														
CLO-2		C4						1			1				
CLO-3			(	C3											
Mapping			sess	sment											
CLO	Os/Asses		[	CLO-1				CLO-2				CLO-3			
	Quizz			1	N										
		Lab wo													
		l-Semest													
	Enc	l-Semest	er:		1	N			N						