



R.M.K. ENGINEERING COLLEGE (An Autonomous Institution)

R.S.M Nagar, Kavaraipettai, Gummidipoondi Taluk, Thiruvallur Dt- 601206.

(Affiliated to Anna University, Chennai/Approved by AICTE, New Delhi/ ISO 9001:2015 Certified Institution/
Accredited by NAAC with A+ Grade/ All the eligible UG Programs are accredited by NBA, New Delhi)



DEPARTMENT OF SCIENCE & HUMANITIES

Course Outcomes – Odd semester - 2022 -23

B.E., - Civil Engineering – Odd semester

THEORY COURSES WITH LABORATORY COMPONENT			
S.No	Semester	Course code	Course Name
1	1	22MA101	Matrices and Calculus
2	1	22PH101	Physics for Civil Engineering
3	1	22CS101	Problem Solving using C++
4	1	22CS102	Software Development Practices
5	1	22EE101	Basic Electrical, Electronics and Instrumentation Engineering
6	1	22HS101	Professional Communication
LABORATORY COURSES			
7	1	22ME111	Product Development Lab - I
MANDATORY COURSES			
8	1	22CH104	Environmental Sciences and Sustainability (Non Credit)
9	1		Induction Program (Non Credit)

First Semester B.E., / CE

22MA101 - Matrices and Calculus	
COs	Course Outcomes: After the successful completion of the course, the student will be able to:
CO1	use the matrix algebra methods to diagonalize the matrix.
CO2	determine the evolute of the curve.
CO3	apply differential calculus ideas on the function of several variables.
CO4	evaluate the area and volume by applying the concept of multiple integration .
CO5	utilize the concept of vector calculus in evaluating integrals.

22PH101- Physics for Civil Engineering	
COs	Course Outcomes: On completion of this course, the students will be able to
CO1	Explain the different forms of waves and the different types of oscillations
CO2	Describe the thermal concepts and its applications
CO3	Explain sound absorption coefficient, factors affecting acoustics of buildings, noise and sound insulation methods
CO4	Interpret the properties of various nano and novel Engineering materials and their applications
CO5	Associate the properties of magnetic and super conducting materials and their applications

22CS101 - Problem Solving using C++	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Solve problems using basic constructs in C.
CO2	Implement C programs using pointers and functions.
CO3	Apply object-oriented concepts and solve real world problems.
CO4	Develop C++ programs using operator overloading and polymorphism.
CO5	Implement C++ programs using Files and exceptions.

22CS102- Software Development Practices	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Apply agile development methods in software development practices.
CO2	Set up and create a GitHub repository.
CO3	Develop static and dynamic webpages using HTML.
CO4	Design interactive personal or professional webpages using CSS.
CO5	Develop web pages using Java script with event-handling mechanism.

22EE101-Basic Electrical, Electronics and Instrumentation Engineering	
COs	Course Outcomes: After the completion of the course, students should be able to:
CO1	Understand concept of DC and AC electric circuits
CO2	Identify appropriate machine for a given application
CO3	Understand the working of electron devices
CO4	Demonstrate the concept of digital logic circuits
CO5	Choose appropriate transducers for specific application
CO6	Choose appropriate instruments for given application

22HS101- Professional Communication	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Comprehend conversations and short talks delivered in English
CO2	Participate efficiently in informal conversations and develop an awareness of the self and apply well-defined techniques
CO3	Read articles of a general kind in magazines and newspapers efficiently
CO4	Write short general essays, personal letters and E-mails in English
CO5	Develop vocabulary of a general kind by enriching reading skills

Laboratory Courses

22ME111 - Product Development Lab - I	
COs	Course Outcomes: After successful completion of the course the students will be able to do
CO1	Understand the concept of manufacturing processes.
CO2	Describe the working of the machine element.
CO3	Discuss the various applications of engineering materials
CO4	Summarize the basics of core engineering concepts.
CO5	Describe the process for converting ideas into products

Mandatory Courses

22CH104 - Environmental Sciences and Sustainability	
COs	Course Outcomes: Upon completion of the course, the students will be able to
CO1	Investigate and use conservational practices to protect natural resources.
CO2	Identify the causes of pollutants and illustrate suitable methods for pollution abatement.
CO3	Adapt the values of biodiversity and its conservation methods.
CO4	Recognize suitable sustainable development practices and apply it in day-to-day life.
CO5	Assess the impacts of human population and suggest suitable solutions.

Induction Program	
COs	Course Outcomes: After successful completion of the Students Induction Program (SIP), the students will be able to
CO1	facilitate a smooth transition from their school environment into the college environment, and have a better understanding of their peers and faculty members.
CO2	approach faculty mentors when facing any academic, financial, and psychological problems through the well-structured Mentor Mentee network.
CO3	feel comfortable in the new environment and adjust to the customs and practices of the college and instil the ideas, practices and spirit of the college and its unique features.
CO4	understand the different aspects (SAGE) of Socializing, Associating, Governing and Experiencing.
CO5	get an idea of 21 st century technical education and career opportunities, through various talks and industrial experts.



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DEPARTMENT OF SCIENCE & HUMANITIES

Course Outcomes – Odd semester - 2022 -23

B.E., - Computer Science Engineering – Odd semester

THEORY COURSES WITH LABORATORY COMPONENT			
S.No	Semester	Course code	Course Name
1	1	22MA101	Matrices and Calculus
2	1	22CH101	Engineering Chemistry
3	1	22CS101	Problem Solving using C++
4	1	22CS102	Software Development Practices
5	1	22EC101	Digital Principles and System Design
LABORATORY COURSES WITH THEORY COMPONENT			
6	1	22ME202	Computer Aided Engineering Graphics
LABORATORY COURSES			
7	1	22ME111	Product Development Lab-1
MANDATORY COURSES			
8	1		Induction Program (Non Credit)

First Semester B.E., / CSE

22MA101 - Matrices and Calculus	
COs	Course Outcomes: After the successful completion of the course, the student will be able to:
CO1	use the matrix algebra methods to diagonalize the matrix.
CO2	determine the evolute of the curve.
CO3	apply differential calculus ideas on the function of several variables.
CO4	evaluate the area and volume by applying the concept of multiple integration .
CO5	utilize the concept of vector calculus in evaluating integrals.

22CH101- Engineering Chemistry	
COs	Course Outcomes: On successful completion of this course, the students will be able to
CO1	Interpret the water quality parameters and explain the various water treatment methods.
CO2	Construct the electro chemical cells and sensors.
CO3	Compare different energy storage devices and predict their relevance in electric vehicles.
CO4	Classify different types of smart materials, their properties and applications in Engineering and Technology.
CO5	Integrate the concepts of nano chemistry and enumerate its applications in various fields.

22CS101 - Problem Solving using C++	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Solve problems using basic constructs in C.
CO2	Implement C programs using pointers and functions.
CO3	Apply object-oriented concepts and solve real world problems.
CO4	Develop C++ programs using operator overloading and polymorphism.
CO5	Implement C++ programs using Files and exceptions.

22CS102- Software Development Practices	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Apply agile development methods in software development practices.
CO2	Set up and create a GitHub repository.
CO3	Develop static and dynamic webpages using HTML.
CO4	Design interactive personal or professional webpages using CSS.
CO5	Develop web pages using Java script with event-handling mechanism.

22EC101- Digital Principles and System Design	
COs	Course Outcomes: On successful completion of this course, the student will be able to
CO1	Implement digital circuits using simplified Boolean functions.
CO2	Realize Combinational circuits for a given function using logic gates.
CO3	Demonstrate the operation of various counters and shift registers using Flip Flops.
CO4	Analyze Synchronous Sequential circuits.
CO5	Summarize the various types of memory devices.
CO6	Design the Combinational circuits using Programmable Logic Devices.
CO7	Perform practical exercises as an individual and / or team member to manage the task in time.
CO8	Express the experimental results with effective presentation and report.

Laboratory Courses with Theory Component

22ME202 - Computer Aided Engineering Graphics	
COs	Course Outcomes: After successful completion of the course, the students will be able to
CO1	Explain the various engineering standards required for drafting and explore knowledge in conic sections.
CO2	Draw the orthographic views of 3D primitive objects.
CO3	Describe the projection of plane surfaces by the rotating plane method.
CO4	Apply the projection concepts and drafting tools to draw projections of solids.
CO5	Sketch the pictorial views of the objects using CAD tools.

Laboratory Courses

22ME111 - Product Development Lab - I	
COs	Course Outcomes: After successful completion of the course the students will be able to do
CO1	Understand the concept of manufacturing processes.
CO2	Describe the working of the machine element.
CO3	Discuss the various applications of engineering materials
CO4	Summarize the basics of core engineering concepts.
CO5	Describe the process for converting ideas into products

Mandatory Courses

Induction Program	
COs	Course Outcomes: After successful completion of the Students Induction Program (SIP), the students will be able to
CO1	facilitate a smooth transition from their school environment into the college environment, and have a better understanding of their peers and faculty members.
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DEPARTMENT OF SCIENCE & HUMANITIES

Course Outcomes – Odd semester - 2022 -23

B.E., - Electrical and Electronics Engineering – Odd semester

THEORY COURSES WITH LABORATORY COMPONENT			
S.No	Semester	Course code	Course Name
1	1	22MA101	Matrices and Calculus
2	1	22PH102	Physics for Electronics Engineering
3	1	22CS101	Problem Solving using C++
4	1	22CS102	Software Development Practices
5	1	22EE103	Basics of Electrical Engineering
6	1	22HS101	Professional Communication
LABORATORY COURSES			
7	1	22ME111	Product Development Lab - I
MANDATORY COURSES			
8	1	22CH104	Environmental Sciences and Sustainability (Non Credit)
9	1		Induction Program (Non Credit)

First Semester B.E., / EEE

22MA101 - Matrices and Calculus	
COs	Course Outcomes: After the successful completion of the course, the student will be able to:
CO1	use the matrix algebra methods to diagonalize the matrix.
CO2	determine the evolute of the curve.
CO3	apply differential calculus ideas on the function of several variables.
CO4	evaluate the area and volume by applying the concept of multiple integration .
CO5	utilize the concept of vector calculus in evaluating integrals.

22PH102- Physics for Electronics Engineering	
COs	Course Outcomes: On completion of this course, the students will be able to
CO1	Discuss the basic principles of working of laser and their applications in fibre optic communication
CO2	Summarize the classical and quantum electron theories and energy band structures
CO3	Describe the conductivity in intrinsic and extrinsic semiconductors and importance of Hall effect measurements
CO4	Associate the properties of nanoscale materials and their applications in quantum computing
CO5	Explain the concepts of photovoltaic technology and its applications.

22CS101 - Problem Solving using C++	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Solve problems using basic constructs in C.
CO2	Implement C programs using pointers and functions.
CO3	Apply object-oriented concepts and solve real world problems.
CO4	Develop C++ programs using operator overloading and polymorphism.
CO5	Implement C++ programs using Files and exceptions.

22CS102- Software Development Practices	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Apply agile development methods in software development practices.
CO2	Set up and create a GitHub repository.
CO3	Develop static and dynamic webpages using HTML.
CO4	Design interactive personal or professional webpages using CSS.
CO5	Develop web pages using Java script with event-handling mechanism.

22EE103- Basics of Electrical Engineering	
COs	Course Outcomes: At the end of the course, students will be able to:
CO1	Apply the knowledge of basic circuits and domestic wiring
CO2	Understand magnetic circuits and its parameters
CO3	Apply the laws governing electromagnetic and wave equations
CO4	Describe the working principle of measuring instruments
CO5	Understand the power generation systems
CO6	Understand the structure of power system and various distribution systems

22HS101- Professional Communication	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Comprehend conversations and short talks delivered in English
CO2	Participate efficiently in informal conversations and develop an awareness of the self and apply well-defined techniques
CO3	Read articles of a general kind in magazines and newspapers efficiently
CO4	Write short general essays, personal letters and E-mails in English
CO5	Develop vocabulary of a general kind by enriching reading skills

Laboratory Courses

22ME111 - Product Development Lab - I	
COs	Course Outcomes: After successful completion of the course the students will be able to do
CO1	Understand the concept of manufacturing processes.
CO2	Describe the working of the machine element.
CO3	Discuss the various applications of engineering materials
CO4	Summarize the basics of core engineering concepts.
CO5	Describe the process for converting ideas into products

Mandatory Courses

22CH104 - Environmental Sciences and Sustainability	
COs	Course Outcomes: Upon completion of the course, the students will be able to
CO1	Investigate and use conservational practices to protect natural resources.
CO2	Identify the causes of pollutants and illustrate suitable methods for pollution abatement.
CO3	Adapt the values of biodiversity and its conservation methods.
CO4	Recognize suitable sustainable development practices and apply it in day-to-day life.
CO5	Assess the impacts of human population and suggest suitable solutions.

Induction Program	
COs	Course Outcomes: After successful completion of the Students Induction Program (SIP), the students will be able to
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DEPARTMENT OF SCIENCE & HUMANITIES

Course Outcomes – Odd semester - 2022 -23

B.E., - Electronics and Communication Engineering – Odd semester

THEORY COURSES WITH LABORATORY COMPONENT			
S.No	Semester	Course code	Course Name
1	1	22MA101	Matrices and Calculus
2	1	22PH102	Physics for Electronics Engineering
3	1	22CS101	Problem Solving using C++
4	1	22CS102	Software Development Practices
5	1	22EC101	Digital Principles and System Design
6	1	22HS101	Professional Communication
LABORATORY COURSES			
7	1	22ME111	Product Development Lab - I
MANDATORY COURSES			
8	1	22CH104	Environmental Sciences and Sustainability (Non Credit)
9	1		Induction Program (Non Credit)

First Semester B.E., / ECE

22MA101 - Matrices and Calculus	
COs	Course Outcomes: After the successful completion of the course, the student will be able to:
CO1	use the matrix algebra methods to diagonalize the matrix.
CO2	determine the evolute of the curve.
CO3	apply differential calculus ideas on the function of several variables.
CO4	evaluate the area and volume by applying the concept of multiple integration .
CO5	utilize the concept of vector calculus in evaluating integrals.

22PH102- Physics for Electronics Engineering	
COs	Course Outcomes: On completion of this course, the students will be able to
CO1	Discuss the basic principles of working of laser and their applications in fibre optic communication
CO2	Summarize the classical and quantum electron theories and energy band structures
CO3	Describe the conductivity in intrinsic and extrinsic semiconductors and importance of Hall effect measurements
CO4	Associate the properties of nanoscale materials and their applications in quantum computing
CO5	Explain the concepts of photovoltaic technology and its applications.

22CS101 - Problem Solving using C++	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Solve problems using basic constructs in C.
CO2	Implement C programs using pointers and functions.
CO3	Apply object-oriented concepts and solve real world problems.
CO4	Develop C++ programs using operator overloading and polymorphism.
CO5	Implement C++ programs using Files and exceptions.

22CS102- Software Development Practices	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Apply agile development methods in software development practices.
CO2	Set up and create a GitHub repository.
CO3	Develop static and dynamic webpages using HTML.
CO4	Design interactive personal or professional webpages using CSS.
CO5	Develop web pages using Java script with event-handling mechanism.

22EC101- Digital Principles and System Design	
COs	Course Outcomes: On successful completion of this course, the student will be able to
CO1	Implement digital circuits using simplified Boolean functions.
CO2	Realize Combinational circuits for a given function using logic gates.
CO3	Demonstrate the operation of various counters and shift registers using Flip Flops.
CO4	Analyze Synchronous Sequential circuits.
CO5	Summarize the various types of memory devices.
CO6	Design the Combinational circuits using Programmable Logic Devices.
CO7	Perform practical exercises as an individual and / or team member to manage the task in time.
CO8	Express the experimental results with effective presentation and report.

22HS101- Professional Communication	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Comprehend conversations and short talks delivered in English
CO2	Participate efficiently in informal conversations and develop an awareness of the self and apply well-defined techniques
CO3	Read articles of a general kind in magazines and newspapers efficiently
CO4	Write short general essays, personal letters and E-mails in English
CO5	Develop vocabulary of a general kind by enriching reading skills

Laboratory Courses

22ME111 - Product Development Lab - I	
COs	Course Outcomes: After successful completion of the course the students will be able to do
CO1	Understand the concept of manufacturing processes.
CO2	Describe the working of the machine element.
CO3	Discuss the various applications of engineering materials
CO4	Summarize the basics of core engineering concepts.
CO5	Describe the process for converting ideas into products

Mandatory Courses

22CH104 - Environmental Sciences and Sustainability	
COs	Course Outcomes: Upon completion of the course, the students will be able to
CO1	Investigate and use conservational practices to protect natural resources.
CO2	Identify the causes of pollutants and illustrate suitable methods for pollution abatement.
CO3	Adapt the values of biodiversity and its conservation methods.
CO4	Recognize suitable sustainable development practices and apply it in day-to-day life.
CO5	Assess the impacts of human population and suggest suitable solutions.

Induction Program	
COs	Course Outcomes: After successful completion of the Students Induction Program (SIP), the students will be able to
CO1	facilitate a smooth transition from their school environment into the college environment, and have a better understanding of their peers and faculty members.
CO2	approach faculty mentors when facing any academic, financial, and psychological problems through the well-structured Mentor Mentee network.
CO3	feel comfortable in the new environment and adjust to the customs and practices of the college and instil the ideas, practices and spirit of the college and its unique features.
CO4	understand the different aspects (SAGE) of Socializing, Associating, Governing and Experiencing.
CO5	get an idea of 21 st century technical education and career opportunities, through various talks and industrial experts.



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DEPARTMENT OF SCIENCE & HUMANITIES

Course Outcomes – Odd semester - 2022 -23

B.E., - Mechanical Engineering – Odd semester

THEORY COURSES WITH LABORATORY COMPONENT			
S.No	Semester	Course code	Course Name
1	1	22MA101	Matrices and Calculus
2	1	22PH103	Physics for Mechanical Engineering
3	1	22CS101	Problem Solving using C++
4	1	22CS102	Software Development Practices
5	1	22EE101	Basic Electrical, Electronics and Instrumentation Engineering
6	1	22HS101	Professional Communication
		LABORATORY COURSES	
7	1	22ME111	Product Development Lab - I
		MANDATORY COURSES	
8	1	22CH104	Environmental Sciences and Sustainability (Non Credit)
9	1		Induction Program (Non Credit)

First Semester B.E., / MECH

22MA101 - Matrices and Calculus	
COs	Course Outcomes: After the successful completion of the course, the student will be able to:
CO1	use the matrix algebra methods to diagonalize the matrix.
CO2	determine the evolute of the curve.
CO3	apply differential calculus ideas on the function of several variables.
CO4	evaluate the area and volume by applying the concept of multiple integration .
CO5	utilize the concept of vector calculus in evaluating integrals.

22PH103- Physics for Mechanical Engineering	
COs	Course Outcomes: On completion of this course, the students will be able to
CO1	Discuss the basic principles of working of laser and their applications to material processing
CO2	Comprehend the mechanical properties of matter and its measurement techniques
CO3	Describe the principles of working of various sensors and transducers
CO4	Explain the fundamentals of quantum mechanics and applications of Schrodinger's equations
CO5	Understand the basic properties of various materials and apply those knowledge on various applications thereby help in finding the solution for specific needs by design.

22CS101 - Problem Solving using C++	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Solve problems using basic constructs in C.
CO2	Implement C programs using pointers and functions.
CO3	Apply object-oriented concepts and solve real world problems.
CO4	Develop C++ programs using operator overloading and polymorphism.
CO5	Implement C++ programs using Files and exceptions.

22CS102- Software Development Practices	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Apply agile development methods in software development practices.
CO2	Set up and create a GitHub repository.
CO3	Develop static and dynamic webpages using HTML.
CO4	Design interactive personal or professional webpages using CSS.
CO5	Develop web pages using Java script with event-handling mechanism.

22EE101-Basic Electrical, Electronics and Instrumentation Engineering	
COs	Course Outcomes: After the completion of the course, students should be able to:
CO1	Understand concept of DC and AC electric circuits
CO2	Identify appropriate machine for a given application
CO3	Understand the working of electron devices
CO4	Demonstrate the concept of digital logic circuits
CO5	Choose appropriate transducers for specific application
CO6	Choose appropriate instruments for given application

22HS101- Professional Communication	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Comprehend conversations and short talks delivered in English
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CO4	Write short general essays, personal letters and E-mails in English
CO5	Develop vocabulary of a general kind by enriching reading skills

Laboratory Courses

22ME111 - Product Development Lab - I	
COs	Course Outcomes: After successful completion of the course the students will be able to do
CO1	Understand the concept of manufacturing processes.
CO2	Describe the working of the machine element.
CO3	Discuss the various applications of engineering materials
CO4	Summarize the basics of core engineering concepts.
CO5	Describe the process for converting ideas into products

Mandatory Courses

22CH104 - Environmental Sciences and Sustainability	
COs	Course Outcomes: Upon completion of the course, the students will be able to
CO1	Investigate and use conservational practices to protect natural resources.
CO2	Identify the causes of pollutants and illustrate suitable methods for pollution abatement.
CO3	Adapt the values of biodiversity and its conservation methods.
CO4	Recognize suitable sustainable development practices and apply it in day-to-day life.
CO5	Assess the impacts of human population and suggest suitable solutions.

Induction Program	
COs	Course Outcomes: After successful completion of the Students Induction Program (SIP), the students will be able to
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DEPARTMENT OF SCIENCE & HUMANITIES

Course Outcomes – Odd semester - 2022 -23

B.E., - Computer Science and Design – Odd semester

THEORY COURSES WITH LABORATORY COMPONENT			
S.No	Semester	Course code	Course Name
1	1	22MA101	Matrices and Calculus
2	1	22CH101	Engineering Chemistry
3	1	22CS101	Problem Solving using C++
4	1	22CS102	Software Development Practices
5	1	22EC101	Digital Principles and System Design
LABORATORY COURSES WITH THEORY COMPONENT			
6	1	22ME202	Computer Aided Engineering Graphics
LABORATORY COURSES			
7	1	22ME111	Product Development Lab-1
MANDATORY COURSES			
8	1		Induction Program (Non Credit)

First Semester B.E., / CSD

22MA101 - Matrices and Calculus	
COs	Course Outcomes: After the successful completion of the course, the student will be able to:
CO1	use the matrix algebra methods to diagonalize the matrix.
CO2	determine the evolute of the curve.
CO3	apply differential calculus ideas on the function of several variables.
CO4	evaluate the area and volume by applying the concept of multiple integration .
CO5	utilize the concept of vector calculus in evaluating integrals.

22CH101- Engineering Chemistry	
COs	Course Outcomes: On successful completion of this course, the students will be able to
CO1	Interpret the water quality parameters and explain the various water treatment methods.
CO2	Construct the electro chemical cells and sensors.
CO3	Compare different energy storage devices and predict their relevance in electric vehicles.
CO4	Classify different types of smart materials, their properties and applications in Engineering and Technology.
CO5	Integrate the concepts of nano chemistry and enumerate its applications in various fields.

22CS101 - Problem Solving using C++	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Solve problems using basic constructs in C.
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CO3	Apply object-oriented concepts and solve real world problems.
CO4	Develop C++ programs using operator overloading and polymorphism.
CO5	Implement C++ programs using Files and exceptions.

22CS102- Software Development Practices	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Apply agile development methods in software development practices.
CO2	Set up and create a GitHub repository.
CO3	Develop static and dynamic webpages using HTML.
CO4	Design interactive personal or professional webpages using CSS.
CO5	Develop web pages using Java script with event-handling mechanism.

22EC101- Digital Principles and System Design	
COs	Course Outcomes: On successful completion of this course, the student will be able to
CO1	Implement digital circuits using simplified Boolean functions.
CO2	Realize Combinational circuits for a given function using logic gates.
CO3	Demonstrate the operation of various counters and shift registers using Flip Flops.
CO4	Analyze Synchronous Sequential circuits.
CO5	Summarize the various types of memory devices.
CO6	Design the Combinational circuits using Programmable Logic Devices.
CO7	Perform practical exercises as an individual and / or team member to manage the task in time.
CO8	Express the experimental results with effective presentation and report.

Laboratory Courses with Theory Component

22ME202 - Computer Aided Engineering Graphics	
COs	Course Outcomes: After successful completion of the course, the students will be able to.
CO1	Explain the various engineering standards required for drafting and explore knowledge in conic sections.
CO2	Draw the orthographic views of 3D primitive objects.
CO3	Describe the projection of plane surfaces by the rotating plane method.
CO4	Apply the projection concepts and drafting tools to draw projections of solids.
CO5	Sketch the pictorial views of the objects using CAD tools.

Laboratory Courses

22ME111 - Product Development Lab - I	
COs	Course Outcomes: After successful completion of the course the students will be able to do
CO1	Understand the concept of manufacturing processes.
CO2	Describe the working of the machine element.
CO3	Discuss the various applications of engineering materials
CO4	Summarize the basics of core engineering concepts.
CO5	Describe the process for converting ideas into products

Mandatory Courses

Induction Program	
COs	Course Outcomes: After successful completion of the Students Induction Program (SIP), the students will be able to
CO1	facilitate a smooth transition from their school environment into the college environment, and have a better understanding of their peers and faculty members.
CO2	approach faculty mentors when facing any academic, financial, and psychological problems through the well-structured Mentor Mentee network.
CO3	feel comfortable in the new environment and adjust to the customs and practices of the college and instil the ideas, practices and spirit of the college and its unique features.
CO4	understand the different aspects (SAGE) of Socializing, Associating, Governing and Experiencing.
CO5	get an idea of 21 st century technical education and career opportunities, through various talks and industrial experts.



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DEPARTMENT OF SCIENCE & HUMANITIES

Course Outcomes – Odd semester - 2022 -23

B.Tech. - Artificial Intelligence & Data Science – Odd semester

THEORY COURSES WITH LABORATORY COMPONENT			
S.No	Semester	Course code	Course Name
1	1	22MA101	Matrices and Calculus
2	1	22CH101	Engineering Chemistry
3	1	22CS101	Problem Solving using C++
4	1	22CS102	Software Development Practices
5	1	22EC101	Digital Principles and System Design
LABORATORY COURSES WITH THEORY COMPONENT			
6	1	22ME202	Computer Aided Engineering Graphics
LABORATORY COURSES			
7	1	22ME111	Product Development Lab-1
MANDATORY COURSES			
8	1		Induction Program (Non Credit)

First Semester B.Tech. / ADS

22MA101 - Matrices and Calculus	
COs	Course Outcomes: After the successful completion of the course, the student will be able to:
CO1	use the matrix algebra methods to diagonalize the matrix.
CO2	determine the evolute of the curve.
CO3	apply differential calculus ideas on the function of several variables.
CO4	evaluate the area and volume by applying the concept of multiple integration .
CO5	utilize the concept of vector calculus in evaluating integrals.

22CH101- Engineering Chemistry	
COs	Course Outcomes: On successful completion of this course, the students will be able to
CO1	Interpret the water quality parameters and explain the various water treatment methods.
CO2	Construct the electro chemical cells and sensors.
CO3	Compare different energy storage devices and predict their relevance in electric vehicles.
CO4	Classify different types of smart materials, their properties and applications in Engineering and Technology.
CO5	Integrate the concepts of nano chemistry and enumerate its applications in various fields.

22CS101 - Problem Solving using C++	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Solve problems using basic constructs in C.
CO2	Implement C programs using pointers and functions.
CO3	Apply object-oriented concepts and solve real world problems.
CO4	Develop C++ programs using operator overloading and polymorphism.
CO5	Implement C++ programs using Files and exceptions.

22CS102- Software Development Practices	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Apply agile development methods in software development practices.
CO2	Set up and create a GitHub repository.
CO3	Develop static and dynamic webpages using HTML.
CO4	Design interactive personal or professional webpages using CSS.
CO5	Develop web pages using Java script with event-handling mechanism.

22EC101- Digital Principles and System Design	
COs	Course Outcomes: On successful completion of this course, the student will be able to
CO1	Implement digital circuits using simplified Boolean functions.
CO2	Realize Combinational circuits for a given function using logic gates.
CO3	Demonstrate the operation of various counters and shift registers using Flip Flops.
CO4	Analyze Synchronous Sequential circuits.
CO5	Summarize the various types of memory devices.
CO6	Design the Combinational circuits using Programmable Logic Devices.
CO7	Perform practical exercises as an individual and / or team member to manage the task in time.
CO8	Express the experimental results with effective presentation and report.

Laboratory Courses with Theory Component

22ME202 - Computer Aided Engineering Graphics	
COs	Course Outcomes: After successful completion of the course, the students will be able to.
CO1	Explain the various engineering standards required for drafting and explore knowledge in conic sections.
CO2	Draw the orthographic views of 3D primitive objects.
CO3	Describe the projection of plane surfaces by the rotating plane method.
CO4	Apply the projection concepts and drafting tools to draw projections of solids.
CO5	Sketch the pictorial views of the objects using CAD tools.

Laboratory Courses

22ME111 - Product Development Lab - I	
COs	Course Outcomes: After successful completion of the course the students will be able to do
CO1	Understand the concept of manufacturing processes.
CO2	Describe the working of the machine element.
CO3	Discuss the various applications of engineering materials
CO4	Summarize the basics of core engineering concepts.
CO5	Describe the process for converting ideas into products

Mandatory Courses

Induction Program	
COs	Course Outcomes: After successful completion of the Students Induction Program (SIP), the students will be able to
CO1	facilitate a smooth transition from their school environment into the college environment, and have a better understanding of their peers and faculty members.
CO2	approach faculty mentors when facing any academic, financial, and psychological problems through the well-structured Mentor Mentee network.
CO3	feel comfortable in the new environment and adjust to the customs and practices of the college and instil the ideas, practices and spirit of the college and its unique features.
CO4	understand the different aspects (SAGE) of Socializing, Associating, Governing and Experiencing.
CO5	get an idea of 21 st century technical education and career opportunities, through various talks and industrial experts.



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DEPARTMENT OF SCIENCE & HUMANITIES

Course Outcomes – Odd semester - 2022 -23

B.Tech. - Computer Science and Business system – Odd semester

THEORY COURSES			
S.No	Semester	Course code	Course Name
1	1	22MA102	Discrete Mathematics
2	1	22MA103	Introduction to Statistics, Probability and Calculus
LAB INTEGRATED THEORY COURSES			
3	1	22CS101	Problem Solving using C++
4	1	22CS102	Software Development Practices
5	1	22EE102	Principles of Electrical Engineering
6	1	22PH104	Fundamentals of Physics
LABORATORY COURSES			
7	1	22ME111	Product Development Lab-1
MANDATORY COURSES			
8	1		Induction Program (Non Credit)

First Semester B.Tech. / CSBS

22MA102 - Discrete Mathematics	
COs	Course Outcomes: After the successful completion of the course, the student will be able to:
CO1	examine the validity of the arguments.
CO2	utilize the significance of Boolean algebra in computer science and engineering.
CO3	identify algebraic techniques to formulate and solve group theoretic problems.
CO4	demonstrate various proof techniques and application of principles.
CO5	apply graph theory techniques to solve real life problems.

22MA103- Introduction to Statistics, Probability and Calculus	
COs	Course Outcomes: After the successful completion of the course, the student will be able to:
CO1	implement the concepts of basic statistics, find mean, median, mode, standard deviation, mean deviation, quartile deviation and range for a given data.
CO2	make use of probability concepts in problems of uncertainty.
CO3	identify and apply the discrete distributions concepts in real life problems.
CO4	apply the continuous distributions concepts by identifying in real life problems.
CO5	evaluate the problems using differentiation and integration.

LAB INTEGRATED THEORY COURSES

22CS101 - Problem Solving using C++	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Solve problems using basic constructs in C.
CO2	Implement C programs using pointers and functions.
CO3	Apply object-oriented concepts and solve real world problems.
CO4	Develop C++ programs using operator overloading and polymorphism.
CO5	Implement C++ programs using Files and exceptions.

22CS102- Software Development Practices	
COs	Course Outcomes: At the end of this course, the students will be able to:
CO1	Apply agile development methods in software development practices.
CO2	Set up and create a GitHub repository.
CO3	Develop static and dynamic webpages using HTML.
CO4	Design interactive personal or professional webpages using CSS.
CO5	Develop web pages using Java script with event-handling mechanism.

22EE102- Principles of Electrical Engineering	
COs	Course Outcomes: Upon completion of the course, the students will be able to:
CO1	Summarize the behavior electrical circuits
CO2	Solve the DC circuits using network theorems
CO3	Interpret the concepts of AC circuits
CO4	Discuss the electrostatic and magnetic fields with circuit laws and analyze the performance of transformers
CO5	Explain the various sensors and demonstrate electric wiring

22PH104 - Fundamentals of Physics	
COs	Course Outcomes: On completion of this course, the students will be able to
CO1	Obtain solution of the oscillator using differential equation.
CO2	Analyze the intensity variation of light due to Polarization and interference
CO3	Explain fundamentals of electromagnetism and quantum mechanics and apply it in engineering problems
CO4	Find solution to thermal and electrical problems faced in computer devices.
CO5	Analyze working principle of lasers and to summarize its applications

Laboratory Courses

22ME111 - Product Development Lab - I	
COs	Course Outcomes: After successful completion of the course the students will be able to do
CO1	Understand the concept of manufacturing processes.
CO2	Describe the working of the machine element.
CO3	Discuss the various applications of engineering materials
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Mandatory Courses

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DEPARTMENT OF SCIENCE & HUMANITIES

Course Outcomes – Odd semester - 2022 -23

B.Tech. - Information Technology – Odd semester

THEORY COURSES WITH LABORATORY COMPONENT			
S.No	Semester	Course code	Course Name
1	1	22MA101	Matrices and Calculus
2	1	22CH101	Engineering Chemistry
3	1	22CS101	Problem Solving using C++
4	1	22CS102	Software Development Practices
5	1	22EC101	Digital Principles and System Design
LABORATORY COURSES WITH THEORY COMPONENT			
6	1	22ME202	Computer Aided Engineering Graphics
LABORATORY COURSES			
7	1	22ME111	Product Development Lab-1
MANDATORY COURSES			
8	1		Induction Program (Non Credit)

First Semester B.Tech. / IT

22MA101 - Matrices and Calculus	
COs	Course Outcomes: After the successful completion of the course, the student will be able to:
CO1	use the matrix algebra methods to diagonalize the matrix.
CO2	determine the evolute of the curve.
CO3	apply differential calculus ideas on the function of several variables.
CO4	evaluate the area and volume by applying the concept of multiple integration .
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Laboratory Courses with Theory Component

22ME202 - Computer Aided Engineering Graphics	
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CO3	Describe the projection of plane surfaces by the rotating plane method.
CO4	Apply the projection concepts and drafting tools to draw projections of solids. CO5 Sketch the pictorial views of the objects using CAD tools.

Laboratory Courses

22ME111 - Product Development Lab - I	
COs	Course Outcomes: After successful completion of the course the students will be able to do
CO1	Understand the concept of manufacturing processes.
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