Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Parner

Tal. Parner, Dist. Ahmednagar - 414 302 (Maharashtra)

Course Outcome

Faculty of Science

Contents

Course Outcomes

1. B. Voc. Renewable Energy

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RET-1-1: Introduction to Renewable Energy Sources

After the completion of this course students will be able to

CO 1: List the energy sources.
CO 2: Learn the conventional and non-conventional energy resources.
CO 3: Classify the energy sources.
CO 4: Identify the societal need of renewable energy.

RET-1-2: Basic Electronics

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Define circuits.
CO 3: Learn the components.
CO 4: Learn the AC and Dc circuits.
CO 5: Find applications of semiconductors.

RET-1-3: Basic Mechanical Engineering

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Learn the different types of forces
CO 3: Learn the engineering drawing.
CO 4: Learn the fluid mechanics.

RET-2-1: Sustainable Development and Energy

After the completion of this course students will be able to

CO 1: List the energy sources.
CO 2: Learn the conventional and non-conventional energy resources.
CO 3: Classify the energy sources.
CO 4: Identify the societal need of renewable energy.
CO 5: Think of the sustainable development and opportunities in sustainable practices.

RET-2-2: Applications of Solar Energy

After the completion of this course students will be able to

CO 1: Learn the energy spectrum.
CO 2: Note the applications of solar energy.
CO 3: Learn the photovoltaic system.
CO 4: Know photothermic applications of solar energy.

RET-2-3: Bio-Energy

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Learn the energy spectrum.
CO 3: Note the applications of bio energy.
CO 4: Learn the photovoltaic system.
CO 5: Know the concept of bioenergy and applications of bioenergy.

REP-1-4: Practical – I (Life Skills and Software Tools)

After the completion of this course students will be able to

CO 1: List the computer softwares.
CO 2: Develop the soft skills.
CO 3: Learn to use computer softwares.
CO 4: List the applications and advantages.

. REP-1-5: Practical – II (Based on Theory)

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Prepare the circuits.
CO 3: Verify the laws.
CO 4: Develop the soft skills.
CO 5: Write lab reports.

REP-2-4: Practical – III (Industrial Training & Field Work)

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Develop the soft skills.
CO 3: Learn to approach industries.
CO 4: Undertake a designing of solar panels.
CO 5: Learn to use computer softwares.
CO 6: Get employment in industries.
CO 7: Prepare a report.

. REP-2-5: Practical – IV (Based on Theory)

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Prepare the circuits.
CO 3: Verify the laws.
CO 4: Develop the soft skills.
CO 5: Write lab reports.
CO 6: Correlation between experiments and theory.

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RET -3-1: Soft Skills and Communications
After the completion of this course students will be able to

CO 1: Define the terms involved.
CO 2: Learn the various types of skills.
CO 3: Acquire the communicative skills and proficiency in English skills.
CO 4: Develop his/her communicative competence.

RET-3-2: Wind Energy
After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Identify the types of energy.
CO 3: Learn the concepts in designing of horizontal and vertical axis wind machine.
CO 4: Install and troubleshoot the Wind machine.
CO 5: Set up of wind power plant
CO 6: Make an energy audit.

RET-3-3: Solar Cell Technology & Its applications
After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Identify the applications of energy.
CO 3: Learn the concept of solar cells.
CO 4: Learn the solar cell technology.
CO 5: Make an energy audit.

RET-4-1: Components of Photovoltaic Systems
After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Learn the concept of solar cells.
CO 3: Learn the solar cell technology.
CO 4: Learn the components of solar Grid and solar panel.

RET-4-2: Solar Photovoltaic Systems: Design & Integration
After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Learn the concept of solar cells.
CO 3: Learn the solar cell technology.
CO 4: Learn the components of solar Grid and solar panel.
CO 5: Learn the designing and applications of solar photovoltaic system
CO 6: To provide detailed knowledge of Types of Solar PV System

RET -4-3: Solar Photovoltaic Systems: Installation & Maintenance
After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Learn the components of solar Grid and solar panel.
CO 3: Learn the designing and applications of solar photovoltaic system
CO 4: Learn the programming language.
CO 5: Maintenance of solar photovoltaic cell.

REP-3-4: Practical – V (Based on Soft Skills and Communication)

After the completion of this course students will be able to

CO 1: Define the terms involved.
CO 2: Learn the various types of skills.
CO 3: Acquire the communicative skills and proficiency in English skills.
CO 4: Develop his/her business communication skills

. REP-3-5: Practical – VI (Based on Theory)

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Correlate the terms.
CO 3: Participate in industrial visit.
CO 4: Write a report on visit.

REP-4-4: Practical – VII (Industrial training & Field Work)

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Correlate the terms.
CO 3: Participate in industrial visit.
CO 4: Write a report on visit.

. REP -4-5: Practical – VIII (Based on Theory)

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Correlate the terms.
CO 3: Participate in industrial visit.
CO 4: Write a report on visit.
CO 5: Correlate of Theory with Practical.

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RET-5-1: Roof Top & Grid Connected PV System

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Learn the solar rooftop system.
CO 3: Introduce on Grid solar system.
CO 4: Learn Grid connectivity configuration

CO 5: Make a list of components of Grid System.

RET-5-2: Net Metering Concept & Government Policies

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Learn the policies of government.
CO 3: Learn the Net Metering Concept.
CO 4: Concept of net metering.
CO 5: Identify various types of net metering system.

RET-5-3: Introduction to PV Software's

After the completion of this course students will be able to

CO 1: List the different softwares.
CO 2: Learn the softwares useful in designing solar photovoltaic plants.
CO 3: Learn PVSYST and PVSOL software.
CO 4: Use the softwares.

REP-5-4: Practical - IX (Based on Core & Professional Skills)

After the completion of this course students will be able to

CO 1: Correlate the terms.
CO 2: Correlate of Theory with Practical.
CO 3: Reading and Writing Skills, documentation skills,
CO 4: Write a lab report.

REP-5-5: Practical- X (Based on Theory)

After the completion of this course students will be able to

CO 1: Correlate the terms.
CO 2: Correlate of Theory with Practical.
CO 3: Reading and Writing Skills, documentation skills,
CO 4: Design small and large solar photovoltaic plants using softwares.
CO 5: Write a lab report.

RET-6-1: Operation and Maintenance

After the completion of this course students will be able to

CO 1: Learn to operate the plants.
CO 2: Repair the plants.
CO 3: Troubleshoot the problems.
CO 4: Prepare reports.

RET-6-2: Site Feasibility Report

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Learn the client requirements.

CO 3:   Prepare a site feasibility report

CO 4:   Estimate the capacity of solar PV power plant

CO 5:   Prepare Site Feasibility Study Report

RET-6-3: Entrepreneurship Skills

After the completion of this course students will be able to

CO 1:   Identify the skills.

CO 2:   Develop the skills.

CO 3:   Acquire the entrepreneurship skills.

CO 4:   Learn the policies and the setting up of plant.

CO 5:   Start the business.

CO 6:   Maintaining a business

REP-6-4: Practical –XI (Based on Project & Field Work)

After the completion of this course students will be able to

CO 1:   Undertake the visit.

CO 2:   Select a problem for project.

CO 3:   Prepare a report.

REP-6-5: Practical –X (Based on Theory)

After the completion of this course students will be able to

CO 1:   Undertake case study.

CO 2:   Prepare feasibility report.

CO 3:   Prepare a laboratory report.

2. B. Voc. Software Development

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SDT–21: Mathematics
After the completion of this course students will be able to

- **CO 1:** Define the mathematical terms.
- **CO 2:** Learn various concepts.
- **CO 3:** Think critically.
- **CO 4:** Learn the diverse cultures.
- **CO 5:** Solve the problems.

SDT–22: Hardware and Networking
After the completion of this course students will be able to

- **CO 1:** Define the terms.
- **CO 2:** Identify the hardwares and softwares.
- **CO 3:** List the hardwares and softwares.
- **CO 4:** Use softwares in IT development.

SDT–23: Introduction to C Programming-II
After the completion of this course students will be able to

- **CO 1:** Learn the programming languages.
- **CO 2:** List the programming languages.
- **CO 3:** Write a programme.
- **CO 4:** Develop problem-solving abilities.

SDT–24: Relational Database Management System
After the completion of this course students will be able to

- **CO 1:** Define the databases.
- **CO 2:** List the databases.
- **CO 3:** Write a programme.
- **CO 4:** Develop problem-solving abilities.
- **CO 5:** Learn the concept of frameworks and management Systems.
- **CO 6:** Examine techniques for database design practices.
- **CO 7:** Prepare various database tables and joins them using SQL commands.

SDP–25: Practical –I: Hardware and Networking
After the completion of this course students will be able to

- **CO 1:** Learn the computer peripherals.
- **CO 2:** Know their functions.
- **CO 3:** Assemble a personal computer.
- **CO 4:** Learn the partitioning of hard disk

CO 5: Install system and application software.
CO 6: Configure to protect the system from viruses.

SDP–26: Practical –II: C Programming
After the completion of this course students will be able to

CO 1: Learn a programming language.
CO 2: Learn problem-solving techniques.
CO 3: Write programs in C.
CO 4: Solve the problems.

SDP–27: Practical –III: Relational Database Management System
After the completion of this course students will be able to

CO 1: List the database programming languages.
CO 2: Use the language for database.
CO 3: Prepare the database.
CO 4: Use the languages SQL, PLSQL, NoSQL
CO 5: Prepare a report.

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SDT–41: Computer Networks -II
After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Learn the protocols.
CO 3: Identify deficiencies in existing protocols.
CO 4: Formulate new and better protocols.
CO 5: Identify the issues surrounding Mobile and Wireless Networks.

SDT–42: Digital Electronics and Microprocessor
After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Learn the basic logic gates and digital logic circuits.
CO 3: Identify and design circuits.
CO 4: Test the performance and applications.
CO 5: Simulate and verify using computer simulation software.
CO 6: Verify the simulated circuit model.

SDT–43: Object Oriented Programming using C++
After the completion of this course students will be able to

CO 1: Learn the procedural and object-oriented paradigm with concepts of streams, classes, functions, data and objects
CO 2: Learn dynamic memory allocation techniques & different types of functions.
CO 3: Use the concept of constructor, destructor & operator overloading.
CO 4: Classify & implement inheritance.

CO 5: Implement the console I/O operations & templates

CO 6: Apply advanced techniques such as exception handling and file handling

SDT–44: PHP-II

After the completion of this course students will be able to

CO 1: Learn the terms.

CO 2: Create custom functions.

CO 3: Learn POST and GET in form submission.

CO 4: Receive and process data.

CO 5: Learn the security tips.

CO 6: Create a database in PHP.

CO 7: Read and process data in a MySQL database.

SDP–45: Practical –I: Digital Electronics and Microprocessor

After the completion of this course students will be able to

CO 1: Define the terms.

CO 2: Learn the number systems and its inter-conversions.

CO 3: Learn Boolean algebra and its different theorems.

CO 4: Construct the combinational circuits.

CO 5: Learn the sequential logic circuits and design of sequential circuits.

SDP–46: Practical –II: Object Oriented Programming using C++

After the completion of this course students will be able to

CO 1: Define the terms.

CO 2: Develop solutions for a range of problems using objects and classes.

CO 3: Use algorithms to solve simple problems.

CO 4: Demonstrate the implementation of constructors, destructors and operator overloading.

CO 5: Apply fundamental algorithmic problems.

CO 6: Implement console I/ O operations &templates.

CO 7: Design & implement applications using file and Exception handling.

SDP–47: Practical –III: PHP-II & Mini Project

After the completion of this course students will be able to

CO 1: Write PHP scripts to handle HTML forms.

CO 2: Write regular expressions including modifiers, operators, and meta-characters.

CO 3: Create PHP programs that use various PHP library functions, and that manipulate files and directories.

CO 4: Analyze and solve various database tasks using the PHP language.

CO 5: Analyze and solve common Web application tasks by writing PHP programs.

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SDT-51: System Programming and Operating System

After the completion of this course students will be able to

CO 1: Define the terms.
CO 2: Learn the concepts.
CO 3: Learn the systems programming and operating systems.
CO 4: Formulate the Problem and develop the solution for same.
CO 5: Compare and analyze the different implementation approaches of system programming and operating system abstractions.
CO 6: Interpret various OS functions used in Linux / Ubuntu.

SDT-52: Core JAVA

After the completion of this course students will be able to

CO 1: Write, compile, run, and test simple object-oriented Java programs.
CO 2: Make elementary modifications to Java programs.
CO 3: Validate input in a Java program.
CO 4: Identify and fix defects and common security issues in code.
CO 5: Write a Java program using Java document.
CO 6: Use a version control system to track source code in a project.

SDT-53: C# .NET

After the completion of this course students will be able to

CO 1: Learn the structure and model of the programming language C #.
CO 2: Use the programming language C# for various programming technologies.
CO 3: Develop software in C #.
CO 4: Evaluate user requirements for software functionality.

SDT–54: Python

After the completion of this course students will be able to

CO 1: Explain basics principles of Python programming language.
CO 2: Implement object-oriented concepts.
CO 3: Design and implement GUI applications and how to handle exceptions and files.
CO 4: Demonstrate the use of built-in data structures "lists" and "dictionary".
CO 5: Design and implement a program to solve a real-world problem.
CO 6: Make database connectivity in python programming language.

SDP–55: Practical I: Core JAVA

After the completion of this course students will be able to

CO 1: Implement Object Oriented programming concept using basic syntaxes.
CO 2: Identify classes, objects, members and the relationships to the problem.
CO 3: Demonstrate how to achieve reusability.
CO 4: Demonstrate use of different exception handling mechanisms and concepts.

CO 5: Identify common abstract user interface components to design GUI in Java.

CO 6: Identify, Design & develop complex Graphical user interfaces.

SDP–56: Practical II: C# .NET

After the completion of this course students will be able to

CO 1: Create user interactive web pages using ASP.NET.

CO 2: Create simple data binding applications using ADO.NET connectivity.

CO 3: Perform Database operations for Windows Form and web applications.

SDP–57: Practical III: Python

After the completion of this course students will be able to

CO 1: Define the terms.

CO 2: Learn the python.

CO 3: Describe the numbers, math functions, strings, lists, tuples and dictionaries.

CO 4: Write decision-making statements and functions.