

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

COURSE OUTCOME

SEMESTER - III

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|-------------------------|---|---------|
| SEMESTER | III | CLASS | SE |
| COURSE NO. | EEC301 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Applied Mathematics-III | | |
| NAME OF FACULTY | PROF. JAYESH JAIN | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC301.1 | | Student will be able to demonstrate basic knowledge of Laplace Transform, Fourier series, Bessel Functions, Vector Algebra and Complex Variable | |
| EEC301.2 | | Student will be able to identify and Model the problems of the field of Electrical Engineering and solve it | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|------------------------------------|---|---------|
| SEMESTER | III | CLASS | SE |
| COURSE NO. | EEC302 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Electronic Devices and Circuits | | |
| NAME OF FACULTY | PROF. BHUSHAN SAVE | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC302.1 | Diode | Student will be able to Identify the different types of diodes and their applications in electronic circuits | |
| EEC302.2 | Bipolar Junction Transistor | Student will be able to analyze the dc and ac parameters of BJT JFET, and differential amplifiers | |
| EEC302.3 | Field Effect Transistor | Student will be able to demonstrate and analyze the effects of various parameters on performance of BJT and JFET amplifier. | |
| EEC302.4 | Feedback Amplifier | Student will be able to analyze the effects of negative feedback in BJT and JFET amplifiers | |
| EEC302.5 | Cascade amplifiers | Student will be able to identify the effects of cascading in BJT and JFET amplifiers | |
| EEC302.6 | Oscillators | Student will be able to analyze the different types of oscillators | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---|--|---------|
| SEMESTER | III | CLASS | SE |
| COURSE NO. | EEC303 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Conventional and Non-conventional Power Generation | | |
| NAME OF FACULTY | PROF. CHITRALEKHA VANGALA | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC303.1 | Conventional and Non- Conventional sources of energy | Student will be able to analyse the economics of power generation | |
| EEC303.2 | Thermal power plant | Student will be able to illustrate, the operation of thermal power plant | |
| EEC303.3 | Hydro power plant | Student will be able to describe, the classification of hydro power plant and significance of hydrograph | |
| EEC303.4 | Nuclear power plant | Student will be able to illustrate, the operation of nuclear power plant | |
| EEC303.5 | Gas turbine and Diesel power plant | Student will be able to compare the operation of Diesel and Gas Turbine power plant | |
| EEC303.6 | Power Generation using non-conventional energy sources | Student will be able to illustrate operation of various Non-Conventional Energy sources | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|--|---------|
| SEMESTER | III | CLASS | SE |
| COURSE NO. | EEC304 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Electrical and Electronics Measurement | | |
| NAME OF FACULTY | PROF. BHAVITA PATIL | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC304.1 | Principles of Analog Instruments | Student will be able to illustrate the working principle of measurement instruments. | |
| EEC304.2 | Principles of Digital Instruments | Student will be able to analyse the working of various analog and digital instruments in electrical measurements | |
| EEC304.3 | Measurement of Resistance | Student will be able to analyse the concept of extension of range of meters used in electrical measurements | |
| EEC304.4 | Measurement of Inductance & Capacitance | Student will be able to analyse the performance of bridges used in electrical measurement process | |
| EEC304.5 | Potentiometer | Student will be able to illustrate the need for calibration process in instruments | |
| EEC304.6 | Transducers | Student will be able to analyse the performance of transducers involved in electrical measurement | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|--|---------|
| SEMESTER | III | CLASS | SE |
| COURSE NO. | EEC305 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Electrical Machine-I | | |
| NAME OF FACULTY | PROF. MUKESHKUMAR MISHRA | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC305.1 | Basics of Magnetism | Student will be able to analyze series parallel magnetic circuits to determine circuit parameters and losses | |
| EEC305.2 | Electromechanical Energy Conversion | Student will be able to illustrate principle of energy conversion in single and double excited machines | |
| EEC305.3 | DC Machines | Student will be able to understand the performance parameters of dc machines | |
| EEC305.4 | DC Motor | Student will be able to analyze the effect of performance parameters and application of dc motors | |
| EEC305.5 | Testing of DC Motor | Student will be able to analyze the performance of dc machines by conducting various test | |
| EEC305.6 | Stepper Motor | Student will be able to illustrate the principle of operation and applications of stepper motors | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|--|---------|
| SEMESTER | III | CLASS | SE |
| COURSE NO. | EEL301 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Electrical and Electronics Measurement Lab | | |
| NAME OF FACULTY | PROF. BHAVITA PATIL | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL301.1 | | Student will be able to illustrate the working principle of bridges | |
| EEL301.2 | | Student will be able to do measurement of various electrical circuit parameters | |
| EEL301.3 | | Student will be able to calibrate various electrical measuring instruments | |
| EEL301.4 | | Student will be able to illustrate the concept of extension of range of meters used in electrical measurements | |
| EEL301.5 | | Student will be able to do the measurement of various process parameters | |
| EEL301.6 | | Student will be able to illustrate the working principle of sensors | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---|---|---------|
| SEMESTER | III | CLASS | SE |
| COURSE NO. | EEL302 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Object Oriented Programming and Methodology Lab | | |
| NAME OF FACULTY | PROF. SANIKET KUDOO | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL302.1 | OO Concepts | Student will be able to apply fundamental programming constructs | |
| EEL302.2 | Classes, Object and Packages | Student will be able to illustrate the concept of packages, classes and objects | |
| EEL302.3 | Array, String and Vector | Student will be able to elaborate the concept of strings, arrays and vectors | |
| EEL302.4 | Inheritance and Interface | Student will be able to implement the concept of inheritance and interfaces | |
| EEL302.5 | Exception Handling and Multithreading | Student will be able to implement the notion of exception handling and multithreading | |
| EEL302.6 | GUI programming in JAVA | Student will be able to develop GUI based application | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--------------------|---|---------|
| SEMESTER | III | CLASS | SE |
| COURSE NO. | EEL303 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Electronics Lab-I | | |
| NAME OF FACULTY | PROF. BHUSHAN SAVE | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL302.1 | | Student will be able to identify the different types of semiconductor devices and demonstrate their applications in electronic circuits | |
| EEL302.2 | | Student will be able to determine the dc and ac parameters of semiconductor devices and differential amplifiers | |
| EEL302.3 | | Student will be able to analyze the performance of different types of rectifier with and without filter | |
| EEL302.4 | | Student will be able to plot frequency response of BJT and JFET amplifier | |
| EEL302.5 | | Student will be able to analyze effect of feedback on the performance of amplifier | |
| EEL302.6 | | Student will be able to analyze the performance of different type of oscillators | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--------------------------|--|---------|
| SEMESTER | III | CLASS | SE |
| COURSE NO. | EEL304 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Electrical Machine Lab-I | | |
| NAME OF FACULTY | PROF. MUKESHKUMAR MISHRA | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL304.1 | | Student will be able to demonstrate different speed control methods of dc motors | |
| EEL304.2 | | Student will be able to illustrate and analyze the performance of dc motors | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

SEMESTER - IV

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|-----------------------------|---|---------|
| SEMESTER | IV | CLASS | SE |
| COURSE NO. | EEC401 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | APPLIED MATHEMATICS IV | | |
| NAME OF FACULTY | PROF. RAMASHANKAR PRAJAPATI | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC401.1 | | Students will be able to develop the proactive approach towards the selection of methods to a solution of engineering problems. | |
| EEC402.2 | | Students will be able to identify different probability distribution, learn sampling technique, compute Eigen values and Eigen vectors and evaluate complex integrals and use their application in Electrical Engineering problems. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---|---|-----------|
| SEMESTER | IV | CLASS | S.E |
| COURSE NO. | EEC402 | ACADEMIC YEAR | 2018-2019 |
| COURSE NAME | Power system -1 | | |
| NAME OF FACULTY | Prof. CHITRALEKHA VANGALA | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC402.1 | Introduction | Student will be able to illustrate the general structure of power system. | |
| EEC402.2 | Mechanical Design of Overhead lines | Student will be able to illustrate purpose of different mechanical components of overhead transmission lines. | |
| EEC402.3 | Transmission Line Parameters | Student will be able to determine transmission line parameters for different configurations. | |
| EEC402.4 | Representation of power system components | Student will be able to analyze the performance of short, medium and Long transmission lines. | |
| EEC402.5 | Performance of Transmission Line | Student will be able to analyze the performance of transmission line for different loading conditions. | |
| EEC402.6 | Underground Cable and Power System Earthing: Underground Cable | Student will be able to illustrate safety norms and regulations related to underground cables and grounding techniques. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|--|-----------|
| SEMESTER | IV | CLASS | S.E |
| COURSE NO. | EEC403 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Electrical Machine – II | | |
| NAME OF FACULTY | Prof. Kavita Mhaskar | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC403.1 | Single phase Transformer | Student will be able to illustrate the working principle of single phase and three phase transformer | |
| EEC403.2 | Autotransformer | Student will be able to illustrate the working principle of auto-transformer | |
| EEC403.3 | Three Phase Transformers | Student will be able to analyse various type of connections of three phase transformer. | |
| EEC403.4 | Introduction to machine design | Student will be able to analyse performance of transformer under various operating conditions | |
| EEC403.5 | Performance measurement of Transformers | Student will be able to illustrate various design aspects of transformer. | |
| EEC403.6 | Current Transformers | Student will be able to analyse the characteristics of CT and VT. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|---|---------|
| SEMESTER | IV | CLASS | SE |
| COURSE NO. | EEC404 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | ELECTROMAGNETIC FIELDS AND WAVES | | |
| NAME OF FACULTY | PROF. BHAVITA PATIL | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC404.1 | Vector Basics | Student will be able to apply knowledge of mathematics & physics in electrical engineering field. | |
| EEC404.2 | Static Electric Fields | Student will be able to analyse electrostatics and static magnetic fields. | |
| EEC404.3 | Static Magnetic Fields | Student will be able to analyse the effect of material medium on electric & magnetic fields. | |
| EEC404.4 | Electric and Magnetic Fields in Materials | Student will be able to analyse & formulate time varying electric & magnetic fields. | |
| EEC404.5 | Time varying Electric and Magnetic Fields | Student will be able to analyse wave generation and its propagation in different media. | |
| EEC404.6 | Wave theory | Student will be able to analyse static magnetic field & electrostatic field distribution using software tool. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|---|-----------|
| SEMESTER | IV | CLASS | S.E |
| COURSE NO. | EEC405 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Analog and Digital Integrated Circuits | | |
| NAME OF FACULTY | Prof. Bhushan Save | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC405.1 | Operational Amplifiers: Fundamentals | Student will be able to illustrate various performance parameters and characteristics of operational amplifier. | |
| EEC405.2 | Application of Operational Amplifiers | Student will be able to illustrate various linear and non-linear application of operational amplifiers. | |
| EEC405.3 | Linear Voltage Regulators | Student will be able to design and analyse linear voltage regulators and multivibrators. | |
| EEC405.4 | Logic families | Student will be able to do various conversion of number systems and illustrate logic families. | |
| EEC405.5 | Combinational Logic Circuit | Student will be able to build, design and analyse combinational circuits. | |
| EEC405.6 | Sequential Logic Circuits | Student will be able to build, design and analyse sequential circuits. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|---|-----------|
| SEMESTER | IV | CLASS | S.E |
| COURSE NO. | EEC406 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Electrical Networks | | |
| NAME OF FACULTY | Prof. MUKESHKUMAR MISHRA | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC406.1 | Solution of Network | Student will be able to analyze electrical network using different Network theorems. | |
| EEC406.2 | Graph Theory and Network Topology | Student will be able to analyze electrical network using Graph theory. | |
| EEC406.3 | First Order and Second Order Differential Equations | Student will be able to analyze the effect of switching conditions on Electrical networks using Differential equations. | |
| EEC405.4 | The Laplace Transform | Student will be able to analyze the effect of switching conditions on Electrical networks using Laplace Transform. | |
| EEC406.5 | Two port parameters | Student will be able to develop transfer function model of system using two port network parameters. | |
| EEC406.6 | Network Functions; Poles and Zeros | Student will be able to analyze time domain behavior from pole zero plot | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---------------------|---|-----------|
| COURSE NO. | EEL401 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Simulation Lab-I | | |
| NAME OF FACULTY | Prof. Bhavita Patil | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL401.1 | | Student will be able to simulates electrical circuits for their performance analysis. | |
| EEL401.2 | | Student will be able to develop algorithms for electrical circuits for their performance analysis | |
| EEL401.3 | | Student will be able to analyze the effect of switching conditions on Electrical networks using Differential equations. | |
| EEL401.4 | | Student will be able to develop algorithms for electronic circuits for their performance analysis. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---------------------------|---|-----------|
| COURSE NO. | EEL402 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Electrical Machine Lab-II | | |
| NAME OF FACULTY | Prof. Kavita Mhaskar | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL402.1 | | Student will be able to demonstrate the working principle of single phase and three phase transformer | |
| EEL402.2 | | Student will be able to demonstrate the working principle of auto-transformer | |
| EEL402.3 | | Student will be able to analyse various type of connections of three phase transformer. | |
| EEL402.4 | | Student will be able to analyse performance of transformer under various operating conditions | |
| EEL402.5 | | Student will be able to analyse the characteristics of CT and VT. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---------------------|--|-----------|
| COURSE NO. | EEL403 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Electronics Lab-II | | |
| NAME OF FACULTY | Prof. Bhushan Save. | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL403.1 | | Student will be able to demonstrate various performance parameters and characteristics of operational amplifier. | |
| EEL403.2 | | Student will be able to demonstrate various linear and non-linear application of operational amplifiers | |
| EEL403.3 | | Student will be able to build, design, and analyse linear voltage regulators and multi vibrators | |
| EEL403.4 | | Student will be able to build, design and analyse combinational circuits | |
| EEL403.5 | | Student will be able to build, design and analyse sequential circuits | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|--|-----------|
| COURSE NO. | EEL404 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Electrical Workshop | | |
| NAME OF FACULTY | Prof. Mukeshkumar Mishra | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL404.1 | Introduction of lab equipment's and electrical elements | Student will be able to demonstrate various electrical and electronic measuring equipment's. | |
| EEL404.2 | Introduction to different electronic components | Student will be able to identify various electrical and power electronic components | |
| EEL404.3 | Commonly used ICs | Student will be able to repair and do maintenance of households appliances | |
| EEL404.4 | Hardware implementation of Electronics circuits | Student will be able to identify and use different low voltage protective switchgears | |
| EEL404.5 | Residential/ Industrial Wiring | Student will be able to identify and use different wiring accessories and tools | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

SEMESTER - V

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|-------------------------------------|--|---------|
| SEMESTER | V | CLASS | T.E |
| COURSE NO. | EEC501 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Power System-II | | |
| NAME OF FACULTY | PROF. PRATIK MAHALE | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC501.1 | Symmetrical Fault Analysis | Students will be able to understand different kind of faults on transmission line. | |
| EEC501.2 | Symmetrical Components | Students will be able to analyse symmetrical fault | |
| EEC501.3 | Unsymmetrical Fault Analysis | Students will be able to analyse symmetrical components and unsymmetrical faults | |
| EEC501.4 | Power System Transients | Students will be able to illustrate and analyse power system transients . | |
| EEC501.5 | Insulation Coordination | Students will be able to understand insulation co-ordination in power system | |
| EEC501.6 | Corona | Students will be able to understand and analyse corona on transmission line. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---|--|-----------|
| SEMESTER | V | CLASS | T.E |
| COURSE NO. | EEC502 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Electrical Machine – III | | |
| NAME OF FACULTY | Prof. ANOJKUMAR YADAV | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC502.1 | Three Phase Induction Motors | Students will be able to illustrate the working principle of three phase induction motor | |
| EEC502.2 | Three Phase Induction Motors: Speed Control and Starting | Students will be able to analyse and evaluate performance of three phase induction motors under various operating conditions | |
| EEC502.3 | Single phase Induction Motor | Students will be able to illustrate various speed control and starting methods of three phase induction motor | |
| EEC502.4 | Types of Single phase Induction Motor & its Applications | Students will be able to illustrate the working principle of single phase induction motor | |
| EEC502.5 | Design of Three phase Induction motors | Students will be able to analyse the performance of single phase induction motor. | |
| EEC502.6 | Performance Measurement of Three Phase Induction Motors | Students will be able to design three phase induction motor | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|---|-----------|
| SEMESTER | V | CLASS | T.E |
| COURSE NO. | EEC503 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Control System -I | | |
| NAME OF FACULTY | Prof. CHITRALEKHA VANGALA | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC503.1 | Mathematical Model of Physical System | Students will be familiar with model electrical and electromechanical system using transfer function. | |
| EEC503.2 | Time domain Analysis | Student will be familiar with Illustration methodology for simplification of system | |
| EEC503.3 | State Variable Analysis | Students will be able to model and analyse given system in state space . | |
| EEC503.4 | Root locus techniques | Students will be familiar to analyse steady state condition of given system | |
| EEC503.5 | Frequency Domain Analysis | Students will be familiar to analyse the transient and stability conditions of physical system | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|------------------------------------|---|-----------|
| SEMESTER | V | CLASS | T.E |
| COURSE NO. | EEC504 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | POWER ELECTRONICS | | |
| NAME OF FACULTY | SUSHANT KUMAR | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC504.1 | Thyristors | Students will be able to select and design power electronic converter topologies for a broad range of energy conversion applications. . | |
| EEC504.2 | Power semiconductor devices | Students will be able to analyse and simulate the performance of power electronic conversion systems. | |
| EEC504.3 | Controlled Rectifiers | Students will be able to analyse various single phase and three phase power converter circuits and understand their applications. . | |
| EEC504.4 | Inverter | Students will be able to analyse various single phase and three phase power converter circuits and understand their applications. . | |
| EEC504.5 | DC to DC Converter | Students will be able to apply the basic concepts of power electronics to design the circuits in the fields of AC and DC drives, power generation and transmission and energy conversion, industrial applications | |
| EEC504.6 | AC voltage controllers | Students will be able to identify and describe various auxiliary circuits and requirements in power electronics applications such as Gate driver circuit, and snubber circuits along with electrical isolation and heat sinks . | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---|--|-----------|
| SEMESTER | V | CLASS | T.E |
| COURSE NO. | EEDLO5013 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Utilization of Electrical Energy | | |
| NAME OF FACULTY | PROF. Kavita Mhaskar | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEDLO5013.1 | Power Factor | Students will be familiar to understand and analyse the power factor for improving the quality of supply. | |
| EEDLO5013.2 | Electric Traction | Students will be familiar to analyse different type of traction systems | |
| EEDLO5013.3 | Electric Traction Motors and Controls | Students will be able to understand modern tools to control electric traction motors | |
| EEDLO5013.4 | Electric Heating | Students will be familiar to understand concept of electrical heating and welding and their application. | |
| EEDLO5013.5 | Electric Welding | Students will be familiar to understand concept of electrical heating and welding and their application | |
| EEDLO5013.6 | Other application of Electrical Energy | Students will be able to understand different methods of cooling systems used in domestic electric appliances. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|--|-----------|
| SEMESTER | V | CLASS | T.E |
| COURSE NO. | EEL501 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Business Communication & Ethics | | |
| NAME OF FACULTY | PROF. TRUPTI PATIL | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL501.1 | Report Writing | Design a technical document using precise language, suitable vocabulary and apt style. | |
| EEL501.2 | Technical Proposals | Design a technical document using precise language, suitable vocabulary and apt style. | |
| EEL501.3 | Introduction to Interpersonal Skills | Develop the life skills/ interpersonal skills to progress professionally by building stronger relationships | |
| EEL501.4 | Meetings and Documentation | Demonstrate awareness of contemporary issues knowledge of professional and ethical responsibilities. | |
| EEL501.5 | Introduction to Corporate Ethics and etiquettes | Apply the traits of a suitable candidate for a job/higher education, upon being trained in the techniques of holding a group discussion, facing interviews and writing resume/SOP. . | |
| EEL501.6 | Employment Skills | Deliver formal presentations effectively implementing the verbal and non-verbal skills. . | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---------------------------|---|-----------|
| SEMESTER | V | CLASS | T.E |
| COURSE NO. | EEL502 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Control System Lab | | |
| NAME OF FACULTY | PROF. CHITRALEKHA VANGALA | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL502.1 | | Students will be able to illustrate the functioning of various components of control system. | |
| EEL502.2 | | Students will be able to analyse the response of physical system for various inputs. | |
| EEL502.3 | | Students will be able to analyse the stability of the system using time domain and frequency domain techniques by simulation. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|------------------------------|--|-----------|
| SEMESTER | V | CLASS | T.E |
| COURSE NO. | EEL503 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Electrical Machines Lab -III | | |
| NAME OF FACULTY | PROF. ANOJKUMAR YADAV | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL503.1 | | Students will be able to evaluate performance of single phase and three phase induction motor by carrying load test. | |
| EEL503.2 | | Students will be able to analyse performance of single phase and three phase induction motor by carrying no load and blocked rotor test. | |
| EEL503.3 | | Students will be able to illustrate the operation of various type of starters. | |
| EEL503.4 | | Students will be able to illustrate different methods of speed control for three phase induction motor. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|-----------------------|---|-----------|
| SEMESTER | V | CLASS | T.E |
| COURSE NO. | EEL504 | ACADEMIC YEAR | 2018-2019 |
| COURSE NAME | Power Electronics Lab | | |
| NAME OF FACULTY | PROF. SUSHANTKUMAR | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL504.1 | | Students will be able to draw V-I characteristics of power electronic devices. | |
| EEL504.2 | | Students will be able to simulate the performance of power electronic conversion systems. | |
| EEL504.3 | | Students will be able to analyse various single phase and three phase power converter circuits and understand their applications. | |
| EEL504.4 | | Students will be able to apply the basic concepts of power electronics to design the circuits in the fields of AC and DC drives, power generation and transmission and energy conversion, industrial applications. | |
| EEL504.5 | | Students will be able to identify and describe various auxiliary circuits and requirements in power electronics applications such as Gate driver circuit, and snubber circuits along with electrical isolation and heat sinks | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

SEMESTER – VI

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|---|---------|
| SEMESTER | VI | CLASS | TE |
| COURSE NO. | EEC601 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Protection and Switchgear Engineering | | |
| NAME OF FACULTY | PROF. SUNIL SUKNALE | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC601.1 | Substation Equipment and switching devices | Students should be able to select the appropriate switching/protecting device for substations. | |
| EEC601.2 | Circuit Breakers and Fuses | Students should be able to discriminate between the application of circuit breaker and fuses as a protective device. | |
| EEC601.3 | Introduction to Protective relaying | Students should be able to understand the basic concept of relay, types of relay and their applications in power system. | |
| EEC601.4 | Protection Schemes Provided for major Apparatus | Students should be able to select the specific protection required for different components of power system according to the type of fault. | |
| EEC601.5 | Protection of Transmission Lines | Students should be able to apply the specific protection provided for different types of transmission lines. | |
| EEC601.6 | Introduction to Static & Numerical Relays | Students should be able to understand the basic concept of relay, types of relay and their applications in power system. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---|--|---------|
| SEMESTER | VI | CLASS | TE |
| COURSE NO. | EEC602 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Electrical Machines -IV | | |
| NAME OF FACULTY | Prof. Piyali Mondal | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC602.1 | Synchronous Generator | Students should be able to determine the performance parameters of synchronous machines graphically and analytically by conducting different test. | |
| EEC602.2 | Performance of Synchronous Generator | Students should be able to analyse the performance parameters of synchronous machines. | |
| EEC602.3 | Salient pole synchronous generator | Students should be able to understand the concept of direct and quadrature axis parameters of synchronous machines. | |
| EEC602.4 | Synchronous Motor | Students should be able to understand and analyse the operation of synchronous motor. | |
| EEC602.5 | Theory of Synchronous Machines | Students should be able to analyse abc to dq0 transformation and steady state operation of synchronous machine. | |
| EEC602.6 | BLDC Motor | Students should be able understand the operation and analyse control of BLDC motors. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|---|---------|
| SEMESTER | VI | CLASS | TE |
| COURSE NO. | EEC603 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Signal Processing | | |
| NAME OF FACULTY | PROF. CHITRALEKHA VANGALA | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC603.1 | Classification of Signal and System | Student should have ability to discriminate continuous and discrete time signals and systems. | |
| EEC603.2 | Z-Transform | Student should able to understand the transformation of discrete time signal to Z domain.. | |
| EEC603.3 | Frequency Response | Student should able to analyse frequency response of systems using Z domain. | |
| EEC603.4 | Discrete and Fast Fourier Transform | Student should be able to understand discrete and fast Fourier transform. | |
| EEC603.5 | Design of FIR System | Student should have ability to design FIR system. | |
| EEC603.6 | Design of IIR System | Student should able to design IIR System. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---|---|---------|
| SEMESTER | VI | CLASS | TE |
| COURSE NO. | EEC604 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Microcontroller and its Applications | | |
| NAME OF FACULTY | PROF. ASHWINI HARYAN | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC604.1 | Introduction to Microcontroller | Students should be able to understand the features and architecture of PIC 18 microcontroller. | |
| EEC604.2 | PIC18F Programming Model and Instruction Set | Students should be able to understand the instructional set and apply to basic arithmetic and logical operations. | |
| EEC604.3 | PIC 18 Support Devices | Students should be able to understand the supportive devices of PIC 18 microcontrollers. | |
| EEC604.4 | Parallel Ports and Serial Communication | Students should be able to understand the interfacing of PIC 18 microcontroller and it's peripheral. | |
| EEC604.5 | PIC Programming in C | Students should be able to understand the coding of PIC 18 microcontroller using C language. | |
| EEC604.6 | Microcontroller Applications | Students should be able to design general purpose applications of PIC 18 microcontroller. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|---|---------|
| SEMESTER | VI | CLASS | TE |
| COURSE NO. | EEC605 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Control System –II | | |
| NAME OF FACULTY | PROF. SUSHANTKUMAR | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC605.1 | Introduction to the Compensator | Students will be able to understand the basic design of various compensators. | |
| EEC605.2 | Design of Compensators using Root Locus Technique | Students will be able to design compensators using root locus techniques. | |
| EEC605.3 | Design of Compensators using Frequency response Technique (Bode Plot) | Students will be able to design compensators using frequency response techniques. | |
| EEC605.4 | Design of Compensators using State variable approach | Students will be able to design compensators using state variable approach. | |
| EEC605.5 | Digital control System | Students will be able to illustrate basics of digital control system. | |
| EEC605.6 | Design of Digital Compensators | Students will be able to design digital compensators. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|---|---------|
| SEMESTER | VI | CLASS | TE |
| COURSE NO. | EEDLO6022 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Micro-Grid | | |
| NAME OF FACULTY | Prof. ANOJKUMAR YADAV | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEDLO6022.1 | Introduction to Microgrid | Students should be able to understand the projects and project management. | |
| EEDLO6022.2 | Microgrid Sources and Power Electronic Interfaces | Students should be able to analyze the selection of the project and Appraisal. | |
| EEDLO6022.3 | Control and Design of Power Electronic Interfaces | Students should be able to plan how project planning is executed. | |
| EEDLO6022.4 | Communication Infrastructure | Students should be able to impart the execution of the project by monitoring and controlling. | |
| EEDLO6022.5 | Operation of Microgrid and Microgrid Protection | Students should be able to decide the termination and closure of the project. | |
| EEDLO6022.6 | Microgrid Standards and Deployment | Students should be able to understand types of contract management. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---------------------------|---|-----------|
| SEMESTER | VI | CLASS | T.E |
| COURSE NO. | EEL601 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Electrical Protection Lab | | |
| NAME OF FACULTY | PROF. SUNIL SUKNALE | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL601.1 | | Students will be able to understand the concept of various over current protection scheme and its applications in power system. | |
| EEL601.2 | | Students will be able to understand the concept of various over/under voltage, over/under frequency and temperature protection scheme and its applications. | |
| EEL601.3 | | Students will be able to understand the working principle of various protective devices. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|-----------------------------|--|-----------|
| SEMESTER | VI | CLASS | T.E |
| COURSE NO. | EEL602 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Electrical Machines Lab –IV | | |
| NAME OF FACULTY | PROF. PIYALI MONDAL | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL602.1 | | Students will be able to analyse the operation of synchronous machines. | |
| EEL602.2 | | Students will be able to analyse the voltage regulation of synchronous machines. | |
| EEL602.3 | | Students will be able to analyse the synchronization or parallel operation of synchronous machine. | |
| EEL603.3 | | Students will be able to determine the parameters of synchronous machines for its analysis. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|----------------------|---|-----------|
| SEMESTER | VI | CLASS | T.E |
| COURSE NO. | EEL603 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Microcontroller Lab | | |
| NAME OF FACULTY | PROF. ASHWINI HARYAN | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL603.1 | | Students will be able to program simple arithmetic and logical operations using PIC 18 microcontroller. | |
| EEL603.2 | | Students will be able to program timer and ADC of PIC 18 microcontroller for different applications. | |
| EEL603.3 | | Students will be able to interface different IO devices with PIC 18 microcontroller. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---------------------|---|-----------|
| SEMESTER | VI | CLASS | T.E |
| COURSE NO. | EEL604 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Simulation Lab-II | | |
| NAME OF FACULTY | PROF. BHAVITA PATIL | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL604.1 | | Students will be able to code or simulate signal systems for its analysis. | |
| EEL604.2 | | Students will be able to code or simulate power system for its analysis. | |
| EEL604.3 | | Students will be able to code or simulate power electronics converter for its analysis. | |
| EEL604.4 | | Students will be able to code or simulate electrical machines for its analysis. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

SEMESTER – VII

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|-----------------------------------|---|-----------|
| SEMESTER | VII | CLASS | BE |
| COURSE NO. | EEC701 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Power system operations & control | | |
| NAME OF FACULTY | Prof. KAVITA MHASKAR | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC701.1 | | Students will be able to analyze power system problem and find out its solutions | |
| EEC701.2 | | Students will be able to identify and analyze the dynamics of power systems and methods to improve stability of system. | |
| EEC701.3 | | Students will be able to study different methods of load flow solutions. | |
| EEC701.4 | | Students will be able to application of optimization methods for task like economic load dispatch | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---|---|-----------|
| SEMESTER | VII | CLASS | B.E |
| COURSE NO. | EEC702 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Drives and Control | | |
| NAME OF FACULTY | Prof. PIYALI MONDAL | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC702.1 | Electrical Drives: Introduction & Dynamics | Students will be able to understand the dynamics of electrical drive. | |
| EEC702.2 | Selection of Motor Power Rating | Students will be able to understand the motor power rating calculation for a specific application for reliable operation. | |
| EEC702.3 | Control of Electrical Drives | Students will be able to understand the modes of operation and close loop control of electrical drive. | |
| EEC702.4 | DC Drives | Students will be able to analyze the speed control of DC drives in an energy efficient manner using power electronics. | |
| EEC702.5 | AC Drives | Students will be able to analyze the speed control of induction motor drive using various methods. | |
| EEC702.6 | Advanced control techniques | Students will be able to learn the advance control techniques for AC drives. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|--|-----------|
| SEMESTER | VII | CLASS | BE |
| COURSE NO. | EEC703 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | High Voltage Direct Current Transmission | | |
| NAME OF FACULTY | PROF. RAHUL ABHYANKAR | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC703.1 | | Students will be able to identify significance of dc over ac transmission systems, types of HVDC link, Components of HVDC system and applications. | |
| EEC703.2 | | Students will be able to analyse multi-pulse converters. | |
| EEC703.3 | | Students will be able to understand the basic control of HVDC system and its limitation, features and implementation. | |
| EEC703.4 | | Students will be able to understand converter firing control schemes for starting and stopping of HVDC link. | |
| EEC703.5 | | Students will be able to understand and analyze faults and protection of HVDC system. | |
| EEC703.6 | | Students will be able to understand harmonics, their causes, effects and use of different filters. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--------------------------|---|-----------|
| SEMESTER | VII | CLASS | B.E |
| COURSE NO. | EEDLO7031 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | High Voltage Engineering | | |
| NAME OF FACULTY | Prof. SUSHANTKUMAR | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEDLO7031.1 | | Student will be able to know the fundamentals properties of the materials and their failure mechanisms to get appropriate and optimal design. | |
| EEDLO7031.2 | | Student will be able of testing of different dielectric materials and the major requirements for setting up of HV Laboratories. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|-----------------------------|---|---------|
| SEMESTER | VII | CLASS | BE |
| COURSE NO. | EEDLO7032 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Electric Vehicle Technology | | |
| NAME OF FACULTY | Prof. MUKESHKUMAR MISHRA | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEDLO7032.1 | | Students will be able to identify and describe the history and evolution of electric & hybrid electric vehicles to emphasize on the need and importance of EV/HEV for sustainable future. | |
| EEDLO7032.2 | | Students will be able to identify and describe the principles of various EV/HEVs drive train topologies along with their power flow control and fuel efficiency estimation. | |
| EEDLO7032.3 | | Students will be able to design and select electric propulsion system components for EV/HEV drives suitability for the desirable performance and control. | |
| EEDLO7032.4 | | Students will be able to compare and evaluate various energy sources and energy storage components for EV and HEV applications. | |
| EEDLO7032.5 | | Students will be able to model, analyze and design EV/HEV drive train with energy management strategies. | |
| EEDLO7032.6 | | Students will be able to recognize the need to adapt and engage in operations EV/HEV with the absolute technological change in the transportation system for sustainable future. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|-----------------------------|--|---------|
| SEMESTER | VII | CLASS | BE |
| COURSE NO. | ILO7018 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Energy Audit and Management | | |
| NAME OF FACULTY | Prof. PRATIK MAHALE | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| ILO7018.1 | | Student will be able to identify and describe present state of energy security and its importance. | |
| ILO7018.2 | | Student will be able to identify and describe the basic principles and methodologies adopted in energy audit of an utility. | |
| ILO7018.3 | | Student will be able to describe the energy performance evaluation of some common electrical installations and identify the energy saving opportunities. | |
| ILO7018.4 | | Student will be able to describe the energy performance evaluation of some common thermal installations and identify the energy saving opportunities. | |
| ILO7018.5 | | Student will be able to analyze the data collected during performance evaluation and recommend energy saving measures. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|----------------------|---|---------|
| SEMESTER | VII | CLASS | BE |
| COURSE NO. | EEL701 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Simulation Lab -III | | |
| NAME OF FACULTY | Prof. PRAJAKTA PATIL | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL701.1 | | Students will be able to code or simulate HVDCT systems for its analysis. | |
| EEL701.2 | | Students will be able to code or simulate power system for its analysis. | |
| EEL701.3 | | Students will be able to code or simulate electrical drives for its analysis. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|------------------------|--|---------|
| SEMESTER | VII | CLASS | BE |
| COURSE NO. | EEL702 | ACADEMIC YEAR | 2019-20 |
| COURSE NAME | Drives and Control Lab | | |
| NAME OF FACULTY | Prof. PIYALI MONDAL | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEDLO7032.1 | | Students will be able to analyse the dynamic performance of electrical ac and dc drives. | |
| EEDLO7032.2 | | Students will be able to analyse the dynamics of braking of electrical ac and dc motors. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

SEMESTER – VIII

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--|--|-----------|
| SEMESTER | VIII | CLASS | B.E |
| COURSE NO. | EEC801 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Design, Management and Auditing of Electrical System | | |
| NAME OF FACULTY | Prof. Pratik Mahale | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC801.1 | | Students will be able to do sizing, selecting transformer, switchgear and cable as required for distribution system | |
| EEC801.2 | | Students will be able to illustrate Engineering knowledge in energy audit and energy efficient technologies to improve energy efficiency | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---------------------------------|--|-----------|
| SEMESTER | VIII | CLASS | B.E |
| COURSE NO. | EEC802 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Flexible AC Transmission System | | |
| NAME OF FACULTY | Prof. PIYALI MONDAL | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC802.1 | | Student will be able to illustrate the aspects of flexible ac transmission system over conventional ac transmission system | |
| EEC802.2 | | Student will be able to analyze the concept of load compensation. | |
| EEC802.3 | | Student will be able to categorize the static shunt and series compensation for transmission line. | |
| EEC802.4 | | Student will be able to outline the concept of voltage and phase angle regulators. | |
| EEC802.5 | | Student will be able to understand unified power flow controllers using circuit diagram and phasors. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---------------------------------------|---|-----------|
| SEMESTER | VIII | CLASS | B.E |
| COURSE NO. | EEDLO8044 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Power System Planning and Reliability | | |
| NAME OF FACULTY | Prof. RAHUL ABHYANKAR | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEC803.1 | | Students will be able to make a Generation System Model for the Power system in terms of frequency and duration of failure. | |
| EEC803.2 | | Students will be able to calculate reliability indices of the power system based on system model and the load curve. | |
| EEC803.3 | | Students will be able to plan a small Generation and Transmission system, predict its behavior, and do the required change in order to achieve reliability. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|--------------------------|---|-----------|
| SEMESTER | VIII | CLASS | B.E |
| COURSE NO. | ILO8021 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Project Management | | |
| NAME OF FACULTY | Prof. MUKESHKUMAR MISHRA | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| ILO8021.1 | | Student will be able to apply selection criteria and select an appropriate project from different options. | |
| ILO8021.2 | | Student will be able to write work break down structure for a project and develop a schedule based on it. | |
| ILO8021.3 | | Student will be able to identify opportunities and threats to the project and decide an approach to deal with them strategically. | |
| ILO8021.4 | | Student will be able to use Earned value technique and determine & predict status of the project. | |
| ILO8021.5 | | Student will be able to capture lessons learned during project phases and document them for future reference | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|---------------------------|---|-----------|
| SEMESTER | VIII | CLASS | B.E |
| COURSE NO. | EEL801 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Simulation Lab- IV | | |
| NAME OF FACULTY | Prof. CHITRALEKHA VANGALA | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL801.1 | | Student will be able to analyze the transmission line performance with and without FACTS controllers using simulations. | |
| EEL801.2 | | Student will be able to analyze the operation of various electrical systems using simulation. | |

Late Shri Vishnu Waman Thakur Charitable Trust's

VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Veer Savarkar Road, Virar(E), Taluka-Vasai, Palghar District-401305, Maharashtra.
Tel: (0250)2026229, (0250)6454745. Telefax: (0250)2515275. Website: www.viva-technology.org

DEPARTMENT OF ELECTRICAL ENGINEERING

| | | | |
|-----------------|------------------------------|--|-----------|
| SEMESTER | VIII | CLASS | B.E |
| COURSE NO. | EEL802 | ACADEMIC YEAR | 2019-2020 |
| COURSE NAME | Electrical System Design Lab | | |
| NAME OF FACULTY | Prof. ANOJKUMAR YADAV | | |
| COURSE OUTCOME | COURSE MODULE | DESCRIPTION | |
| EEL802.1 | | Student will be able to design electrical system for different applications. | |