Vishnu Waman Thakur Charitable Trust's
VIVA Institute of Technology
Approved By AICTE, New Delhi, DTE, Govt. of Maharashtra
Affiliated to the University of Mumbai
Shirgaon, Virar(E.), Dist: Palghar- 401305, Maharashtra

Criteria 1- Curricular Aspects

Key Indicator – 1.2 Academic Flexibility

1.2.1 Report for the Add on/Certificate/ Value Added programs offered during the last five years

1.2.1: Number of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years

Year	2021-22	2020-21	2019-20	2018-19	2017-18
Courses offered	13	01	15	15	15
No. of students enrolled	425	74	517	543	549
No. of students completed	425	52	517	543	548

Total number of courses offered during last five years = 59

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INDEX

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List of Value added Courses offered during last five years.

Sr. No	Year	Course Name	No. of student count attended
1	2021-22	Learning with Python	13
2	2021-22	Automation Using IOT	57
3	2021-22	Nirman-Arduino Workshop	8
4	2021-22	OOP Bridge Course	9
5	2021-22	Skill based Laboratories	74
6	2021-22	Introduction to NDT	15
7	2021-22	ANSYS (Engineering Simulation)	15
8	2021-22	Introduction to Dye Penetrant Non Destructive Testing (DT) Method	30
9	2021-22	ELECTRICAL INSTALLATION	22
10	2021-22	Printed circuit board design	24
11	2021-22	Electrical Safety Practices	24
12	2021-22	MSP & PRIMAVERA	24
13	2021-22	Advanced concrete technology	110
14	2020-21	Learning Programming Using Python	52
15	2019-20	Programming with JAVA	22
16	2019-20	Learning with Python	15
17	2019-20	Machine Learning and Deep Learning	51
18	2019 -20	OOP	75
19	2019-20	Nirman-Arduino Workshop	16
20	2019-20	MATLAB and Simulink for Research	49
21	2019-20	ADVANCE SOLID WORKS	15
22	2019-20	ANSYS (Engineering Simulation)	15
23	2019-20	Introduction to Magnetic Particle Non Destructive Testing (MT) Method	30
24	2019-20.	ELECTRICAL INSTALLATION	15
25	2019-20	Printed circuit board design	17
26	2019-20.	Electrical Safety Practices	15
27	2019-20.	MSP & PRIMAVERA	26

28	2019-20	Emerging techniques in Civil Engineering	126
29	2019-20	Soft Skills	30
30	2018-19	Programming with JAVA	17
31	2018-19	Learning with Python	20
32	2018-19	NETWORK SECURITY AND CRYPTOGRAPHY	57
33	2018-19	Nirman-Arduino Workshop	26
34	2018-19	PCB Design Workshop	60
35	2018-19	Research Methodology Tools	73
36	2018-19	ELECTRICAL INSTALLATION	15
37	2018-19	Printed circuit board design	17
38	2018-19	Electrical Safety Practices	16
39	2018-19	ADVANCE SOLID WORKS	17
40	2018-19	ANSYS (Engineering Simulation)	15
41	2018-19	Introduction to Radiography Non Destructive Testing (RT) Method	30
42	2018-19	MSP & PRIMAVERA	22
43	2018-19	Matlab	128
44	2018-19	Soft Skills	30
45	2017-18	Programming with JAVA	20
46	2017-18	Learning with Python	15
47	2017-18	Natural Language Processing	69
48	2017-18	SOFTWARE WORKSHOP	54
49	2017-18	Nirman-Arduino Workshop	15
50	2017-18	VLSI Design & Embedded Systems	78
51	2017-18	ADVANCE SOLID WORKS	15
52	2017-18	ANSYS (Engineering Simulation)	17
53	2017-18	Introduction to Ultrasonic Non Destructive Testing (UT) Method	30
54	2017-18	ELECTRICAL INSTALLATION	15
55	2017-18	Printed circuit board design	10
56	2017-18	Electrical Safety Practices	16
57	2017-18	MSP & PRIMAVERA	26
58	2017-18	Recent trends in Civil Engineering	138
59	2017-18	Soft Skills	30

Year 1 (2021-22)

Name of Certificate/ Value added course offered and online courses of MOOCs, SWAYAM, NPTEL etc. where the students of the institution have enrolled and successfully completed	Course Code (if any)	Year of offering/study	Period (from date - to date)	Duration of course	Number of students enrolled in the year	Number of Students completing the course in the year
Nirman-Arduino Workshop	-	2021-22	05/07/2021 to 09/07/2021	30 Hrs	8	8
OOP Bridge Course	-	2021-22	03/01/2022 to 07/01/2022	30 Hrs	9	9
Learning with Python	-	2021-22	03/01/2022 to 07/01/2022	1 week (30 Hrs)	13	13
Introduction to NDT	-	2021-22	05/07/2021 to 09/07/2021	1 week (30 Hrs)	15	15
ANSYS (Engineering Simulation)	-	2021-22	03/01/2022 to 07/01/2022	1 week (30 Hrs)	15	15
ELECTRICAL INSTALLATION	-	2021-22	22/02/2022 to 18/04/2022	30 Hrs	22	22
MSP & PRIMAVERA	-	2021-22	18/01/2022 to 30/03/2022	3months	24	24
Advanced concrete technology	-	2021-22	4/7/2022-8/7/2022	30 Hrs	110	110
Automation Using IOT	-	2021-22	3/01/2022 to 7/01/2022	30 Hrs	57	57
Printed circuit board design	-	2021-22	22/2/2022 to 13/4/2022	30 Hrs	24	24
Electrical Safety Practices	-	2021-22	22/2/2022 to 19/4/2022	30 Hrs	24	24
Introduction to Dye Penetrant Non Destructive Testing (DT) Method	-	2021-22	03/01/2022 to 07/01/2022	30 Hrs	30	30
Skill based Laboratories	-	2021-22	3/01/2022 to 7/01/2022.	30 Hrs	74	74

Year 2 (2020-21)

Name of Certificate/ Value added course offered and online courses of MOOCs, SWAYAM, NPTEL etc. where the students of the institution have enrolled and successfully completed	Course Code (if any)	Year of offering/study	Period (from date - to date)	Duration of course	Number of students enrolled in the year	Number of Students completing the course in the year
Learning Programming Using Python	-	2020-21	31/08/2020 to 4/09/2020	30 Hrs	74	52

Year 3 (2019-20)

Name of Certificate/ Value added course offered and online courses of MOOCs, SWAYAM, NPTEL etc. where the students of the institution have enrolled and successfully completed	Course Code (if any)	Year of offering/study	Period (from date - to date)	Duration of course	Number of students enrolled in the year	Number of Students completing the course in the year
OOP	-	2019-20	08/07/2019 to 15/10/2019	30 Hrs	75	75
Nirman-Arduino Workshop	-	2019-20	01/07/2019 to 05/07/2019	30 Hrs	16	16
Programming with JAVA	-	2019-20	24/06/2019 to 28/06/2019	1 week (30 Hrs)	22	22
Learning with Python	-	2019-20	24/12/2019 to 31/12/2019	1 week (30 Hrs)	15	15
ADVANCE SOLID WORKS	-	2019-20	24/06/2019 to 28/06/2019	1 week (30 Hrs)	15	15
ANSYS (Engineering Simulation)	-	2019-20	30/12/2019 to 04/01/2020	1 week (30 Hrs)	15	15
ELECTRICAL INSTALLATION	VAC BE	2019-20	8/02/2020 to 24/04/2020	30 Hrs	15	15
MSP	-	2019 -20	20/07/2019 to 30/09/2019	3months	26	26

Soft Skills	-	2019-20	31/12/2019 to 04/01/2020	30 Hrs	30	30
Emerging techniques in Civil Engineering	-	2019-20	1/7/2019 to 5/7/2019	30hrs	126	126
Machine Learning and Deep Learning	-	2019-20	24/06//2019 to 28/06/2019	30hrs	51	51
Printed circuit board design	-	2019-20	5/7/2019 to 31/10/2019	30 Hrs	17	17
Electrical Safety Practices	-	2019-20	5/7/2019 to 4/10/2019	30 Hrs	15	15
Introduction to Magnetic Particle Non Destructive Testing (MT) Method	-	2019-20	30/12/2019 to 04/01/2020	30 Hrs	30	30
MATLAB and Simulink for Research	-	2019-20	30/12/2019 to 04/01/2020	30 hrs	49	49

Year 4 (2018-19)

Name of Certificate/ Value added course offered and online courses of MOOCs, SWAYAM, NPTEL etc. where the students of the institution have enrolled and successfully completed	**Course Code (if any)**	**Year of offering/study**	**Period (from date - to date)**	**Duration of course**	**Number of students enrolled in the year**	**Number of Students completing the course in the year**
Nirman-Arduino Workshop	-	2018-19	03/7/2018 to 07/07/2018	30 Hrs	26	26
PCB Design Workshop	-	2018-19	11/01/2018 to 08/04/2019	30 Hrs	60	60
Programming with JAVA	-	2018-19	25/06/2018 to 29/06/2018	1 week (30 Hrs)	17	17
Learning with Python	-	2018-19	02/01/2019 to 05/01/2019 & 11/01/2019 ,18/01/2019	1 week (30 Hrs)	20	20
ADVANCE SOLID WORKS	-	2018-19	25/06/2018 to 29/06/2018	1 week (30 Hrs)	17	17

ANSYS (Engineering Simulation)	-	2018-19	01/01/2019 to 05/01/2019	1 week (30 Hrs)	15	15
ELECTRICAL INSTALLATION	-	2018-19	01/02/2019 to 18/04/2019	30 Hrs	15	15
MSP	-	2018-19	19/07/2018 to 30/09/2018	30Hrs	22	22
Soft Skills	-	2018-19	01/01/2019 to 05/01/2019	30 Hrs	30	30
Matlab	-	2018-19	2/7/2018 to 6/7/2018	30hrs	128	128
NETWORK SECURITY AND CRYPTOGRAPHY	-	2018-19		30hrs	57	57
Printed circuit board design	-	2018-19	6/7/2018 to 26/10/2018	30 Hrs	17	17
Electrical Safety Practices	-	2018-19	6/7/2018 to 5/10/2018	30 Hrs	16	16
Introduction to Radiography Non Destructive Testing (RT) Method	-	2018-19	01/01/2019 to 05/01/2019	30 Hrs	30	30
Research Methodology Tools	-	2018-19	2/01/2019 to 07/01/2019	30 hrs	73	73

Year 5 (2017-18)

Name of Certificate/ Value added course offered and online courses of MOOCs, SWAYAM, NPTEL etc. where the students of the institution have enrolled and successfully completed	**Course Code (if any)**	**Year of offering/study**	**Period (from date - to date)**	**Duration of course**	**Number of students enrolled in the year**	**Number of Students completing the course in the year**
Software Workshop	-	2017-18	8/01/2018 to 09/04/2018	30 Hrs	54	54
Nirman-Arduino Workshop	-	2017-18	04/072017 to 08/07/2017	30 Hrs	15	15
Programming with JAVA	-	2017-18	10/07/2017 to 14/07/2017	1 week (30 Hrs)	20	20
Learning with Python	-	2017-18	02/01/2018 to 06/01/2018	1 week (30 Hrs)	15	15
ADVANCE SOLID WORKS	-	2017-18	03/07/2017 to 07/07/2017	1 week (30 Hrs)	15	15

ANSYS (Engineering Simulation)	-	2017-18	02/01/2018 to 06/01/2018	1 week (30 Hrs)	18	17
ELECTRICAL INSTALLATION	-	2017-18	24/01/2018 to 10/04/2018	30 Hrs	15	15
MSP	-	2017 -18	10/07/2017 to 15/09/2017	3months	26	26
Soft Skills	-	2017-18	02/01/2018 to 06/01/2018	30 Hrs	30	30
Recent trends in Civil Engineering	-	2017-18	26/6/2017-30/6/2017	30hrs	138	138
Natural Language Processing	-	2017-18	10/07/2017 to 14/07/2017	30 hrs	69	69
Printed circuit board design	-	2017-18	14/7/2017 to 10/11/2017	30 Hrs	10	10
Electrical Safety Practices	-	2017-18	4/7/2017 to 4/10/2017	30 Hrs	16	16
Introduction to Ultrasonic Non Destructive Testing (UT) Method	-	2017-18	02/01/2018 to 06/01/2018	30 Hrs	30	30
VLSI Design & Embedded Systems	-	2017-18	26/12/2017 to 30/12/2017	30 Hrs	78	78

Report for A. Y. 2021-22

Computer Engineering Department

Course Name: Learning with Python

No. of Students Enrolled: 13

Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Academic Year 2021 - 22

Course name: - Learning with Python
Duration: - 3rd Jan 2022 to 7th Jan 2022
Venue: - VIVA Institute of Technology
Co-ordinator: - Prof. Vinit Raut
Enrolled students: - 13

Course Objective:-

1. To create fully functional Python programs
2. To understand user input
3. To learn about loop structures and conditionals
4. To work with Python file handling

Course Outcomes: -

After successful completion of the course, the students are able to

1. Describe the basics of the Python programming language
2. Install Python and write first program
3. Use variables to store, retrieve and calculate information
4. Utilize core programming tools such as functions and loops
5. Explain the basic principles of Python programming language

Course Schedule: -

Days	Morning Session (9 am to 12 pm)	Afternoon Session (1 pm to 4 pm)
1	Introduction	Install Python and basic python program
2	Basic syntax , variables and strings	Lists, Tuples and Dictionaries. Exercise
3	If-else statements, For loop	While loop, Pass, break and continue Exercise
4	Understanding Functions	File handling – opening and reading
5	Classes and Objects	Exercise Quiz

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Report:-

Computer engg. department of VIVA Institute of Technology conducted a course on "Learning with Python" for second and third year students. Total 13 students had been enrolled for this course.

This course was conducted by Prof. Vinit Raut in order to provide basic knowledge of Python programming. This was 30 hrs. certificate course.

During the course students learned how to install Python. They learned all the basic of python like variables, lists, strings. Also students study conditional statements and loops. This course also cover functions and file handling.

Students enjoyed the course and completed it successfully.

CO-PO Mapping: -

Course Outcome	Program Outcome											
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	-	-	-	-	-	-	-	-	-	-	-
CO2	3	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	3	-	-	-	-	-	-	-	-	-
CO4	-	-	3	2	-	-	-	-	-	-	-	-
CO5	-	3	-	-	-	-	-	-	-	-	1	1
	3	3	3	2	-	-	-	-	-	-	1	1

CO PO Justification: -

COs	POs	Justification
CO1	PO1	Strongly mapped as the students will be able to analyse the problem to be implemented using basics of Python.
CO2	PO1	Strongly mapped as the students will be able to identify the technique required to implement the problem.
CO3	PO3	Slightly mapped as the students will be able to find a solution for the problem identified.
CO4	PO3	Strongly mapped as the students will be able to find the relevant tools to implement the problem stated.
	PO4	Moderately mapped as the students will be able to find a feasible solution for the problem designed.
CO5	PO2	Strongly mapped as the students will be able to develop design methodologies for the system to be developed.

Ashwini Save
HOD, Computer Engg.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Computer Engineering Department

Course Name: Automation Using IOT

No. of Students Enrolled: 57

Late Shri. Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Academic Year 2021 - 22

Course name: - Automation Using IOT
Duration: - 3rd Jan to 7th Jan 2022
Venue: - VIVA Institute of Technology
Co-ordinator: - Prof. Monali Pimpale
Enrolled students: - 57

Course Objective: -

1. This course focuses on the latest microcontrollers with application development, product design and prototyping.
2. Recognise the factors that contributed to the emergence of IoT
3. Design and program IoT devices
4. Use real IoT protocols for communication
5. Secure the elements of an IoT device

Course Outcomes: -

After successful completion of the course, the students are able to

1. Interpret the impact and challenges posed by IoT networks leading to new architectural models.
2. Illustrate the smart objects and the technologies to connect them to network.
3. Compare different Application protocols for IoT.
4. Infer the role of Data Analytics and Security in IoT.
5. Identify sensor technologies for sensing real world entities and understand the role of IoT in various domains of Industry.

Course Schedule: -

Session	Time	Topic
Day 1: - 3rd Jan 2022		
1	9.30 – 11.00	Introduction to IOT
2	11.15– 12.30	Understanding IoT fundamentals IOT Architecture and protocols
3	1.15 – 4.30	Overview of IoT components and IoT Communication Technologies Challenges in IOT
Day 2: - 4th Jan 2022		
1	9.30 – 11.00	Arduino Simulation Environment
2	11.15– 12.30	Arduino Uno Architecture Setup the IDE, Writing Arduino Software
3	1.15 – 4.30	Interfacing LED, push button and buzzer with Arduino Interfacing Arduino with LCD
Day 3: - 5th Jan 2022		
1	9.30 – 11.00	Sensor & Actuators with Arduino

2	11.15– 12.30	Overview of Sensors working Analog and Digital Sensors
3	1.15 – 4.30	Interfacing of Actuators with Arduino. Interfacing of Relay Switch and Servo Motor with Arduino
Day 4 :- 6th Jan 2022		
1	9.30 – 11.00	Basic Networking with ESP8266 WiFi module
2	11.15– 12.30	Basics of Wireless Networking Introduction to ESP8266 Wi-Fi Module Various Wi-Fi library
3	1.15 – 4.30	Web server- introduction, installation, configuration Posting sensor(s) data to web server
Day 5 :- 7th Jan 2022		
1	9.30 – 11.00	Cloud Platforms for IOT Virtualization concepts and Cloud Architecture
2	11.15– 12.30	Cloud computing, benefits Cloud services -- SaaS, PaaS, IaaS Cloud providers & offerings
3	1.15 – 4.30	Study of IOT Cloud platforms ThingSpeak API and MQTT Interfacing ESP8266 with Web services Quiz

Report:-

Computer engg. department of VIVA Institute of Technology conducted a course on "Automation Using IOT" for Last year students. Total 57 students had been enrolled for this course.

This course was conducted by Prof. Monali Pimpale in order to provide knowledge of Automation Using IOT.

IoT is a giant, digitally connected universe of billions of physical devices around the world; "things" that collect and share data about how they're used and the environment around them. These objects are embedded with internet connectivity, software, sensors, and other hardware that enable them to connect and exchange data with other systems and devices over the web. Students enjoyed the course and completed it successfully.

CO-PO Mapping: -

Course Outcome	Program Outcome											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO 9	PO1 0	PO1 1	PO1 2
CO 1	2	-	-	-	-	-	-	-	-	-	-	-
CO2	-	2	3	2	-	-	-	-	-	-	-	-
CO3	-	2	2	-	-	-	-	-	-	-	-	-
CO4	1	2	3	-	-	-	-	-	-	-	-	-
CO 5	-	-	-	3	-	-	-	-	-	-	-	-

Ashwini Save
HOD, Computer Engg.

Electronics & Telecommunication Engineering Department
Course Name: Nirman-Arduino Workshop
No. of Students Enrolled: 08

Day 1- Embedded System Basic (Working, Input devices & Programming Code):

Session 1: ***Introduction, Hardware & Basic Programming***

- ✓ Introduction to basic of embedded system
- ✓ Introduction & explanation of microcontrollers
- ✓ Explanation of AVR ATMega 328 microcontroller
- ✓ Explanation of Arduino board & programming
- ✓ Basic Arduino based programs for interfacing i/o devices

Session 2:

- ✓ Introduction to output devices interfacing
  - **Project 1 :** LED blinking
- ✓ Introduction to input devices interfacing
  - **Project 2:** Push button interfacing
- ✓ Rotary encoder interfacing
  - **Project 3 & 4:**
    i. More LEDS switching sequentially based on encoder input
    ii. Bar graph sort of LED switching based on encoder input

Quiz

Day 2 - *Digital & Analog Input Ouput Devices Interfacing*

Session 3:

- ✓ Explanation for digital input devices
- ✓ Explanation for analog input devices
- ✓ Introduction to temperature sensor and its working
- ✓ Basic programming for interfacing temperature sensor
  - **Project 5 :** Temperature sensor using LM35
- ✓ Introduction to relay
- ✓ Basic programming for interfacing relay
  - **Project 6:** Automatic temperature controller system (soldering iron temperature control_simple on/off)

Session 4:

- ✓ Introduction to LDR sensor and its working
- ✓ Basic programming for interfacing LDR sensor
  - **Project 7 :** Light controlled switch
- ✓ Introduction to IR sensor and its working
- ✓ Basic programming for interfacing IR sensor
  - **Project 8 :** Detect presence of object and blink LED accordingly

Quiz

Day 3 - Advance Sensor (Ultrasonic, Hall Effect) and Serial Communication

Session 5:

- ✓ Introduction to ultrasonic sensor and its working
- ✓ Basic programming for interfacing of ultrasonic sensor
- ✓ Programming and conversion concept for the measurement
- ✓ Formulas for speed, distance & time for distance measurement using ultrasonic sensor
- ✓ **Project 9 :** Distance Finder / Range Finder using Ultrasonic
- ✓ Explanation of working of stepper motor & motor driver
- ✓ Interfacing of stepper motor with motor driver & basic motor control program
  - **Project 10 :** Stepper Motor Rotation
- ✓ Introduction to Hall Effect sensor and its working
- ✓ Basic programming for interfacing Hall Effect sensor
  - **Project 11 :** Stepper Motor Speed Detection

Session 6:

- ✓ Introduction to serial communication & its significance in embedded system
- ✓ Explanation of program for establishing serial communication for data transfer between computer & Arduino
  - **Project 12 :** Send temperature data and distance measured by ultrasonic to serial port

Quiz

Day 4 - Visible Output, Keypad

Session 7:

- ✓ Introduction to a 7-Segment LED display
- ✓ 7-segment LED display interfacing & basic data display program
  - **Project 13 :** Temperature indicator on 7 segment
- ✓ Introduction to LCD (16 X 2) & its working
- ✓ LCD Interfacing & Basic data display program
  - **Project 14 :** Display temperature on LCD

Session 8:

- ✓ Introduction to matrix keypad & its working
- ✓ Concept of data line reduction & matrix concept
- ✓ Interfacing LCD & matrix keypad with Arduino
  - **Project 15 :** LCD based GUI for user password registration and monitor

Project 16 ***Smart Door System***

/ Product

Day 5 - Industry 4.0 and Project Guidance

Session 9:

- ✓ Tips for Project making
- ✓ Steps for designing a project
- ✓ Schematic designing tips
- ✓ Project development phase
- ✓ Project functional block programming & output

✓ Doubt discussion

Session 10:

✓ Industry 4.0: The Fourth Industrial Revolution

✓ Certificates & Project Letters distribution for competition

Feedback

Report

Nirman is to nurture and organize the young change makers to solve various societal challenges. It is an educational process to train the students to take up crucial issues and problems in the society. The focus in this course is to enable and equip the students to immediately start building Arduino enabled products. This was a 30hrs/1 week certificate course.

This 5 days Bridge course was conducted by Prof. Nutan Malekar in order to provide basic knowledge to second year and third year students about an **Arduino** and how it works. It helped students to learn programming concepts using **C and C++** along with Arduino specific programming. The students understood how to use a **wide variety of hardware and components** and prototype projects using a breadboard.

Course Objectives

- To understand what an Arduino is and how it
- works To learn how to use an Arduino safely
- To program Arduino using code that have written in the Arduino IDE (Integrated Development Environment)

To learn programming concepts using C and C++ along with Arduino specific

- programming
- To understand best practice concepts for programming and prototyping
- To use a wide variety of hardware and components and prototype your projects using a breadboard
- To build innovative project with Arduino

Course Outcomes:

- Students will be able to get new product or service ideas by hearing about needs in industry.
- Students will be able to receive large volumes of usable content within a compressed amount of time.
- Students will be able to get intensive exposure to a topic through presentations and discussions.
- Students will be able to achieve confidence and motivation for organising different events that improves the personality of a student.
- Students will be able to achieve confidence and motivation for participating in different events that improves the personality of a student.
- Students will be able to develop a connection that might help with future employment.

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
CO5	-	2	-	-	-	-	-	-	-	-	-	**2**
CO6	-	-	-	-	2	-	-	-	-	-	1	**1.5**
	2	2	-	-	2	2	-	-	-	-	1	

Electronics & Telecommunication Engineering Department
Course Name: OOP Bridge Course
No. of Students Enrolled: 9

Day	Contents	Hrs.
1	**Introduction** Introduction to java, java buzzword, data types, dynamic initialization, scope and life time operators, control statements, arrays, type conversion and casting, finals & blank finals. **Classes and Objects:** Concepts, methods, constructors, usage of static, access control, this key word, Garbage collection, overloading, parameter passing mechanisms, nested classes and inner classes.	6
2	**Inheritance:** Basic concepts, access specifies, usage of super key word, method overriding, final methods and classes, abstract classes, dynamic method dispatch, Object class. **Interfaces:** Differences between classes and interfaces, defining an interface, implementing interface, Variables in interface and extending interfaces.	6
3	**Packages:** Creating a Package, setting CLASSPATH, Access control protection, importing packages. Exception Handling: Concepts of Exception handling, types of exceptions, usage of try, catch, throw, throws and finally keywords, Built-in exceptions, creating own exception sub classes. **Strings:** Exploring the String class, String buffer class, Command-linear arguments. Library: Date class, Wrapper classes.	6
4	**Multithreading:** Concepts of Multithreading, differences between process and thread, thread life cycle, Thread class, Runnable interface, creating multiple threads, Synchronization, thread priorities, inter Thread communication, daemon threads, and deadlocks. **I/O Streams:** Streams, Byte streams, Character streams, File class, File streams.	6
5	**Applets**: Concepts of Applets, life cycle of an applet, creating applets, passing parameters to applets, accessing remote applet, Color class and Graphics **Event Handling**: Events, Event sources, Event classes, Event Listeners, Delegation event model, handling events.	6

Report

Duration:

Venue: VIVA Institute Of Technology, Shirgaon.

Electronics & Telecommunication Engineering Department of VIVA Institute of Technology organized a 30 hours' certificate course on **"OOP Bridge Course"** during **3rd Jan 2022 to 7th Jan 2022.**

The workshop was basically aimed to provide basic knowledge to second year of semester 4– EXTC students of JAVA language which was conducted by **Mr. Kushal Suvarna sir** as the speaker who guided the participants.

The event was a success with very positive feedback from the participants. The speech by the Principal **Dr. Arun Kumar** was an inspiring one that covered the broad future scopes of the field. The Principal being an encouraging one who said that for such events where in student development is involved, he will always be supportive. In the speech given by **Mrs. Archana Ingle**, H.O.D of EXTC, students gained an idea of how this workshop can be utilized to take creative projects in the field of software.

Mr. Kushal Suvarna sir introduced themselves to the participants and enlightened them about the fantastic and intriguing field of **JAVA software** and narrated their various achievements and their future plans.

Course Objectives

1. To understand the basic concepts and fundamentals of platform independent object oriented language.
2. To demonstrate skills in writing programs using exception handling techniques and multithreading.
3. To understand streams and efficient user interface design techniques.

Course Outcomes:

After successful completion of the course, the students are able to

- 1. Use the syntax and semantics of java programming language and basic concepts of OOP.
- 2. Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages.
- 3. Apply the concepts of Multithreading and Exception handling to develop efficient and error free codes.
- 4. Design event driven GUI and web related applications which mimic the real word scenarios.

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
	2	2	-	-	2	2	-	-	-	-	-	

Electronics & Telecommunication Engineering Department
Course Name: Skill based Laboratories
No. of students enrolled: 74

Date and Day	Time	Contents
3rd Jan 2022	9.00 to 10.00	Breakfast, Registration and Inauguration
	10.00 – 1.00	History and Introduction to Linux Operating System Linux commands and shell scripting Loping Structure & Shell Loop Control
	1.00-1.30	Lunch Break
	1.30-4.00	Introduction to Raspberry Pi with timeline and model Rpi board details & OS Installation
4th Jan 2022	10.00-1.00	Introduction to Basics of FPGA/CPLD RTL Design Combinational and Sequential circuit design simulation
	1.00-1.30	Lunch Break
	1.30-4.00	FPGA Design and Implementation Interfacing of FPGA Board
5th Jan 2022	10.00-1.00	Interfacing with Sensors, Actuator, Telegram & Camera
	1.00-1.30	Lunch Break
	1.30-4:00	Interfacing with Telegram & Camera Project demonstration using Raspberry Pi
6th Jan 2022	10.00-1.00	Introduction to Arduino and how it works Implement Embedded systems with different sensors and peripherals as IoT.
	1.00-1.30	Lunch Break
	1.30-4:00	Program Arduino using Arduino IDE for real life applications

7th Jan 2022	10.00-1.00	Project demonstration using Raspberry Pi
	1.00-1.30	Lunch Break
	2.00-3.00	Valedictory

Report

Duration: 3rd-7th Jan 2022.

Venue: VIVA Institute Of Technology, Shirgaon.

Electronics & Telecommunication Engineering Department of VIVA Institute of Technology organized a 30 hours' certificate course on **"Skill based Laboratories"** from **3rd-7th Jan 2022** conducted by Mrs. Meena Perla**.**

The objective of the Hands-on Skill based Laboratories for EXTC Engineering training program is to learn to create tools with skill lab software's that will help to implement new ideas and solve difficult problems. Learning of Linux, Raspberry Pi, and FPGA will help to apply our research to interesting and challenging real-world problems. This STTP provides comprehensive coverage of Skill based Lab and its applications while providing opportunities for Hands-on practicals.

The purpose of this STTP is to have discussions on various ways in which these software tools can be used to carry out research.

Topics Covered in STTP on "Skill based Laboratories"

- History and Introduction to Linux Operating System
- Linux commands and shell scripting
- Loping Structure & Shell Loop Control

- Introduction to Raspberry Pi with timeline and model
- Rpi board details & OS Installation
- Introduction to Basics of FPGA/CPLD
- RTL Design
- Combinational and Sequential circuit design simulation
- FPGA Design and Implementation
- Interfacing of FPGA Board
- Interfacing with Sensors, Actuator, Telegram & Camera
- Project demonstration using Raspberry Pi
- Introduction to Arduino and how it works
- Implement embedded systems with different sensors and peripherals as IoT.
- Program Arduino using Arduino IDE for real life applications

As new developments are introducing in industry day by day demanding expertise in these software, it was felt necessary that the student also become competent in the said field.

Course Objectives

- To understand basics of Linux, FPGA Raspberry Pi and Arduino.
- To use wireless sensors/communications with embedded systems.
- To learn installation of Raspbian.
- To program Arduino using Arduino IDE for real life applications
- To understand FPGA design and implementation

- To learn Interfacing of FPGA boards
- To learn Implementation skill of different servers on Linux
- To explore Linux commands and Shell Scripting.

Course Outcomes:

After successful completion of the course, the students are able to

- Understand basics of Linux, FPGA Raspberry Pi and Arduino.
- Use wireless sensors/communications with embedded systems.
- Learn installation of Raspbian.
- Program Arduino using Arduino IDE for real life applications
- Understand FPGA design and implementation
- Learn Interfacing of FPGA boards
- Learn Implementation skill of different servers on Linux
- Explore Linux commands and Shell Scripting.

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
	2	2	-	-	2	2	-	-	-	-	-	

Mechanical Engineering Department
Course Name: Introduction to NDT
No. of Students Enrolled: 15

Late Shree Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (E)

Department of Mechanical Engineering

VIVA/VIT/MECH/STUDENT/2021-22 Date: 02/07/2021

NOTICE

All the shortlisted students of Mechanical Engineering are hereby informed to attend the Value Added Course organized by Department of Mechanical Engineering on the topic of "**Introduction to NDT**" from 05th July 2021 to 09th July 2021.

Timing:-

1st Session:- 9.00 am - 12. pm

2nd session:- 1.00 pm – 4.00 pm

Venue:- CAD CAM Lab

Prof. Tejas Chaudhari

Prof. Niyati Raut

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Syllabus & Course Outcomes

Course Name: **Introduction to NDT**

Academic Term: **July 2021 to Dec 2021**

Syllabus:

Module	Details	Hours
1	**Overview of Liquid Penetrant Testing** History of Liquid Penetrant Testing, Principles of Liquid Penetrant Testing, Advantages of the Penetrant Process , Disadvantages of the Penetrant Process, Basics of the Penetrant Process, Preparation of Parts for Penetrant Testing, Surface Condition, Penetrant System, Sensitivity, Type of Penetrant, Advantages of Fluorescent Liquid Penetrants, Advantages of Visible Dye Penetrants, Selection of Liquid Penetrant, Penetrant Dwell Temperature, Penetrant Removal Method Water Washable, Lipophilic Emulsifier.	**08**
2	**Penetrants, Developer and Equipment** Characteristics of Penetrants : Surface Tension, Wetting Ability, Chemical Properties of Penetrants, Inertness, Removability, Water Tolerance, Developer, Dry Powder, Water Soluble Water Suspended, Non aqueous, Specific Application , Material and Process Control Tests, Ultraviolet Light Intensity, Emulsifier Concentration, Ambient White Light Intensity, Penetrant Inspection Area Cleanliness, Penetrant Materials Content.	**08**

3	**Testing in Primary Metals Production** Producing Metals and Alloys, Processing Discontinuities, Discontinuities Related to Metal Solidification, Discontinuities in Metal Ingots, Discontinuities in Metal Castings Discontinuities in Blooms and Billets Discontinuities in Hot Rolled Bars, Shapes, Plate or Strip, Discontinuities in Forgings, Discontinuities in Rolled and Pierced Products, Discontinuities in Extrusions, Discontinuities in Cold Worked Metal Products, Discontinuities in Fusion Welds	**08**
4	**Appearance of Liquid Penetrant Indications** Brilliance and Extent of Indications, Persistence of Indications Other Variables Affecting Indication Appearance, Surface Conditions, Temperature , Dwell Time and Washing Developer, Previous Testing, Common Causes of Non relevant and False Indications, Poor Process Control, Part Geometry and Surface Condition, Evaluation of Non relevant Indications	**06**

Course Outcomes

Sr. No.	CO Code	Course Outcomes
1	**CO_1**	Apply basic aspects of Inspection to solve engineering problems.
2	**CO_2**	Select suitable Penetrant and Developer for test.
3	**CO_3**	Study different discontinuities associated in Metal Production
4	**CO_4**	Identify Different appearance of Liquid Penetrant Indications
5	**CO_5**	Perform Liquid Penetrant test on different part geometry.

Mechanical Engineering Department
Course Name: ANSYS (Engineering Simulation)
No. of Students Enrolled: 15

Module	Details	Hours
1	**Solid Modeling:** An Overview of Solid Modeling Operations, Working with Boolean operations, Working Plane, Importing of 3D models.	4
2	**Meshing:** Free meshing or Mapped meshing, Setting Element Attributes, Selecting Element Type, Shape Function, Defining Element Types, Defining Section Properties, Assigning Element Attributes before meshing, Mesh Controls, The ANSYS Mesh Tool, Smart sizing, Meshing, Free Meshing, Mapped Meshing, Hybrid meshing, Mesh Extrusion, Volume Sweeping.	8
3	**Boundary Conditions:** Types of Loads, Applying loads. **Solvers:** Types of Solvers, Solver Setup, Load Step Options, Solving Multiple Load Steps.	6
4	**Tips & Tricks:** Using the Toolbar & Creating Abbreviations, Introduction to APDL, Using Parameters, Using the Start File, Using the Session Editor, Using Input Files.	4
5	**ANSYS Workbench:** Introduction to ANSYS Workbench, Graphical User Interface, Static Structural Analysis, Modal Analysis, Thermal Analysis, Contact Recognition.	8

Course Outcomes

Sr. No.	CO Code	Course Outcomes
1	**CO_1**	Apply basic aspects of Analysis to solve engineering problems.
2	**CO_2**	Select suitable meshing and perform convergence test.
3	**CO_3**	Apply basic aspects to solve engineering problems.
4	**CO_4**	Perform basics tricks and tips to solve engineering problems.
5	**CO_5**	Interpret the result.

Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

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Shirgaon, Virar(E.), Dist: Palghar- 401305, Maharashtra

Mechanical Engineering Department

Course Name: Introduction to Dye Penetrant Non Destructive Testing (DT) Method

No. of students enrolled: 30

Late Shree Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (E)

Department of Mechanical Engineering

VIVA/VIT/MECH/STUDENT/2021-22 Date: 30/12/2021

NOTICE

All the shortlisted students of B.E. Mechanical Engineering are hereby informed to attend the Value Added Course organized by Department of Mechanical Engineering on the topic of "**Introduction to Dye Penetrant Non Destructive Testing (DT) Method**" from 03rd January to 07th January 2022.

Timing:-
1st Session:- 9.00 am - 12.00 pm
2nd session:- 1.00 pm – 4.00 pm

Venue:- CAD CAM Lab

Prof. Tejas Chaudhari
Faculty Co-ordinator

Prof. Niyati Raut
HOD Mechanical

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Syllabus & Course Outcomes

Course Name: **Introduction to Dye Penetrant Non Destructive Testing (DT) Method**

MODULE	DETAILS	HOURS
1	**Module 1: Basic Principles of Non-Destructive Testing** Definition and importance of NDT Types of NDT methods Visual testing (VT) Liquid penetrant testing (PT) Magnetic particle testing (MT) Eddy current testing (ET) Radiographic testing method (RT) Ultrasonic testing (UT) Comparison of different NDT methods	5
2	**Module 2: Basics of Dye Penetrant Testing** Advantages of Ultrasonic Tests Limitations of Ultrasonic Tests Criteria for Successful Testing	4
3	**Module 3: Quality Assurance techniques** Visible Solvent Removable Water Washable Post Emulsifiable	7

4	**Module 4: Inspection steps in Dye Penetrant Testing** Pre-cleaning Application of Penetrant Excess Penetrant Removal Application of Developer Inspection Post Cleaning	**7**
5	**Module 5: Standards and Codes** ASTM (American Society of Testing and Materials) ISO (International Standards Organization) CEN (European Committee for Standardization) ASME (American Society of Mechanical Engineers) NBIC (The National Board of Boiler and Pressure Vessel Inspectors) ISO (International Standards Organization)	**7**

Course Outcomes:

SR. NO.	CO CODE	COURSE OUTCOMES
1	**CO_1**	Apply basic aspects of Inspection to solve engineering problems.
2	**CO_2**	Understand the basic concept of Dye Penetrant Testing .
3	**CO_3**	Understand the various Quality Assurance techniques.
4	**CO_4**	Understand the various Inspection steps in Dye Penetrant Testing.
5	**CO_5**	Select appropriate Standards and Codes.

Electrical Engineering Department
Course Name: Electrical Installation
No.of students enrolled: 22

VALUE ADDED COURSE (Online)

Name of Course:	ELECTRICAL INSTALLATION	**Branch:**	Electrical Engineering
Duration:	30 Hours	**Instructors:**	Piyali Mondal
Date of Commencement:	22 Feb 2022	**Date of conclusion:**	18 April 2022

Course Outcomes	
Upon successful completion of the course, the student must be able to	
CO1	To understand practices followed in industries for safety of equipment and personnel.
CO2	To understand basic electrical and electronics concepts, devices and their electrical ratings.
CO3	To understand power transfer systems and their installation practices in industry
CO4	To understand documentation required for installation.

Course Objectives
The objective of this vocational course is to make students understand various installation practices followed in industries for electrical equipment. This course is designed to make students job-ready for the industry by instilling multiple skills in them like electrical drawing and reading, IEEE and IS standards followed in industries, documentation for industries, etc.

Syllabus		
Unit No.	**Contents**	**Hours**
1	**Health and safety industry practices** The regulations, laws and guidance documents associated with the electrical industry, Use equipment on a construction site, Follow safety procedures, practices and policies on construction sites, Carry out electrical safety procedures and practices, Understand environmental protection, structure and roles of individuals and organizations	6
2	**Electrical science** Understand direct current principles, Understand electromagnetic properties associated with devices under installation, Understand electronic components required for installation with data sheets and drawings.	6
3	**Electrical installation** Tools commonly used in electrical installation practices, Erect cable containment/management systems used in electrical installation, Install wiring systems and supports used in electrical installation activities, Install accessories and terminate	6

4	**Power transfer technology** Understand how electricity is supplied and the characteristics of consumer's equipment, Understand isolation and protection, Understand automatic disconnection of supply, Understand the principles of final circuits	6
5	**Technical documentation with clients** Understand technical information with help of IEEE standards, manufacturer guidelines, Drawings used to plan electrical activities, Types of financial information, Types of handover information	6

Learning Resources	
Text Books:	
	1. Trevor Linsley, "Basic electrical installation work", 1989 2. J. B. Gupta, "A Course in Electrical Installation Estimating and Costing", 2013.
Reference Books:	
	1. Tarlok Singh, "Installation Commissioning & Maintenance Of Electrical Equipments", 2013 2. Brian Scaddan, "Electrical Installation Work", 2015

Electrical Engineering Department
Course Name: Printed Circuit Board (PCB) Designing
No.of students enrolled: 24

VALUE ADDED COURSE

Name of Course:	Printed Circuit Board (PCB) Designing	**Branch:**	Electrical Engineering
Duration:	30 Hours	**Instructors:**	Anojkumar Yadav
Date of Commencement:	22 Feb 2022	**Date of conclusion:**	13 Apr 2022

Course Outcomes	
Upon successful completion of the course, the student must be able to	
CO1	To understand the requirements of designing a PCB using software.
CO2	To understand various components required for PCB design and their electrical ratings.
CO3	To use development tools for PCB designing
CO4	To understand design standards and flow charts

Syllabus		
Unit No.	**Contents**	**Hours**
1	**Introduction to PCB designing concepts:** Introduction & Brief History: What is PCB, Difference between PWB and PCB, Types of PCBs: Single Sided (Single Layer), Multi-Layer (Double Layer), PCB Materials. Prototyping, eCAD and PCBs, Purpose and Intent, Equipment Computer Circuit Programming and Testing Hardware, PCB Component Hardware, Software, MPLAB X IDE and XC8 Compiler,Understanding the Walkthrough	6
2	**Component introduction and their categories:** Types of Components: Active Components, Passive Components Component Package Types: Axial lead, Radial Lead, Single Inline Package(SIP), Dual Inline Package(DIP), Transistor Outline(TO), Pin Grid Array(PGA), Metal Electrode Face(MELF), Leadless Chip Carrier (LCC), Small Outline Integrated Circuit(SOIC), Quad Flat Pack(QPF) and Thin QFP (TQFP), Ball Grid Array (BGA), Plastic Leaded Chip Carrier(PLCC)	6
3	**Introduction to Development Tools:** Introduction to PCB Design using OrCAD tool, Introduction to PCB Design using PROTEUS tool	6
4	**Detailed description and practical of PCB designing**	6
	PCB Designing Flow Chart, Description of PCB Layers, Keywords & Their Description, PCB Materials, Rules for Track, Study of IPC Standards	
5	**Lab practice and designing concepts:** Starting the PCB designing, Auto routing, PCB Designing Practice, Post Designing & PCB Fabrication Process, Testing and Troubleshooting Methods	6

Learning Resources	
Text Books:	
	1. Kraig Mitzner, "Complete PCB Design Using OrCad Capture and Layout", 2011
Reference Books:	
	1. "PCB Design for Real-World EMI Control (The Springer International Series in Engineering and Computer Science)" by James Drewniak and Bruce R Archambeault. 2. "PCB Design: Printed Circuit Board" by Michael Dsouza and Dsouza Michael

Electrical Engineering Department
Course Name: Electrical Safety Practices
No.of students enrolled: 24

VALUE ADDED COURSE (Online)

Name of Course:	Electrical Safety Practices	**Branch:**	Electrical Engineering
Duration:	30 Hours	**Coordinator:**	Prof. Mukesh Mishra
Date of Commencement:	22 Feb 2022	**Date of Conclusion:**	19 Apr 2022

Course Outcomes	
Upon successful completion of the course, the student must be able to	
CO1	Understand the Indian power sector organization and Electricity rules, electrical safety in residential, commercial, agriculture, hazardous areas and use of fire extinguishers.
CO2	Outline the electrical safety during installation, testing, and commissioning procedures.
CO3	Make use of specifications of electrical plants and classification of safety equipment for various hazardous locations.
CO4	Distinguish various fire extinguishers and their classification.

Syllabus		
Unit No.	**Contents**	**Hours**
1	**Introduction To Electrical Safety, Shocks And Their Prevention:** Term and definitions, objectives of safety and security measures, Hazards associated with electric current and voltage, who is exposed, principles of electrical safety, Approach to prevent Accidents, the scope of subject electrical safety. Primary and secondary electrical shocks, possibilities of getting an electrical shock and its severity, medical analysis of electric shocks and its effects, shocks due to flash/ Spark over's, prevention of shocks, safety precautions against contact shocks, flash shocks, burns, residential buildings, and shop.	6
2	**Overview of the Safety Model:** Wiring and fitting, Domestic appliances, water tap giving a shock, shock from the wet wall, fan firing shock, multi-storied building, Temporary installations, Agricultural pump installation, Do's and Don'ts for safety in the use of domestic electrical appliances.	6
3	**Electrical Hazards recognizing and Evaluating** Preliminary preparations, safe sequence, the risk of plant and equipment, safety documentation, field quality, and safety, personal protective equipment, safety clearance notice, safety precautions, safeguards for operators, safety.	6
4	**Controlling Hazards: Safe Work Environment:** Hazardous zones, class 0, 1 and 2, spark, flashovers, and corona discharge and functional requirements, Specifications of electrical plants, equipment for hazardous	6
	locations, Classification of equipment enclosure for various hazardous gases and vapors, classification of equipment/enclosure for hazardous locations.	

5	**Controlling Hazards: Safe Work Practices:** Fundamentals of fire, initiation of fires, types; extinguishing techniques, prevention of fire, types of fire extinguishers, fire detection and alarm system; CO_2 and Halogen gas schemes; foam schemes, Ladder safety fact sheet, Avoid wet working conditions and other dangers, Avoid overhead powerlines	6

Learning Resources	
Text Books:	
	1. Rao, S. and Saluja, H.L., "Electrical Safety, Fire Safety Engineering and Safety Management", Khanna Publishers, 1988.
Reference Books:	
	1. Cooper. W.F, "Electrical safety Engineering", Newnes-Butterworth Company, 1978. 2. John Codick, "Electrical safety handbook", McGraw Hill Inc., New Delhi, 2000. 3. Nagrath, I.J., and Kothari, D.P., "Power System Engineering", Tata McGraw Hill, 1998. 4. Wadhwa, C.L., "Electric Power Systems", New Age International, 2004.

Civil Engineering Department
Course Name: MSP & PRIMAVERA
No.of students enrolled:24

Objectives:

1. Plan for a project in detail
2. To use templates which creates projects in project 2017
3. To create, manage, schedule and track all the imputed resources
4. To create, manage, assign and track tasks of all inputted resources
5. To work with deadline and constraints
6. To use dependencies to help schedule tasks
7. To run reports.

Course Outcomes

At the end of the course, learners will be able to understand :

1. The functions involved in software related to civil engineering projects.
2. How to prioritize tasks, define expectations and prepare schedule.
3. Will know tracking and managing resources throughout the project.
4. To create and tracking budgets and sharing calendars with the team.
5. Learn about risk management involved in project management.

Detailed Syllabus

Chapter 1: An Introduction to Project Management…….03hours

Recognize when to use project management, role as a project manager is to deliver a project, communications, influence, and careful use of authority all play a major factor in the support you receive to complete the project, Project managers frequently find themselves with the challenge of adding new scope to a project with an already tight timeline. Typically, the job of the project manager is to work with their team to determine what this new scope will mean and how it will

affect the project, building and tracking project schedules.

Chapter 2: The Microsoft Project User Interface…….05 hours

To recognize best practices when running ms project for the first time, microsoft project user interface, the ribbon area icons, tabs, and access to the backstage, microsoft project scheduling engine, preparing a new project, estimating the project, ribbon actions (icons) you may need to perform within microsoft project, backstage is a full-screen area that allows you to open, save, share, and print your project, using views and tables

Chapter 3: The Microsoft Project Scheduling Engine……..06 hours

constraint based scheduling, calculates dates for you based on constraints you place on tasks and resources, critical path and user-controlled scheduling, user-controlled scheduling can effectively break the ability to identify the critical path because durations, start dates, and finish dates are not required when using this feature, configure project options, microsoft project offers many options for you to configure the user interface, scheduling engine, and task tracking for your project most of these options are located in the backstage using the options menu item.

Chapter 4: Preparing a New Project…….6 hours

Create a new project before you create a new project, make sure you have all the project options configured as you want them unless you have a unique reason to do otherwise, it is a good practice to start with a blank project configure a project calendar learn the differences between the Microsoft project calendars and when to use them.

Chapter 5: Estimating the Project……..3 hours

Add tasks to the project, add durations to each task, add predecessors to each task to link tasks together, create the critical path, add resources to the project, create resource assignments, build a work breakdown structure, add costs to the project, add milestones to the project, add lag and review the critical path, adjust resource allocations.

Chapter 6: Tracking the Project…….2 hours

To create a baseline baselines, custom views and fields project reporting task status updates updating task status from your team and update the project progress. resource assignment status updates .

Chapter 7: Custom Views and Fields…….3 hours

To create custom views and tables views, create custom fields microsoft project, create graphical indicators when you create a custom field, further enhance it to use graphical indicators. these indicators allow you to display things like red, yellow, and green flag

Chapter 8: Project Reporting……2 hours

working with the timeline, multiple timelines in project 2016, 2019 and online, working with the reporting module, about agile projects, using the task board, using sprints, using project online desktop, tips and tricks conclusion go to goskills.com using boards and the gantt chart, sharing boards

Civil Engineering Department

Course Name: Advanced concrete technology

No.of students enrolled: 110

Course Objectives:

1. To understand the knowledge of concrete admixtures
2. To learn about various methods & design high grade concrete
3. To learn how CTM can be important in RMC plant
4. To learn effective is fly ash in concrete
5. To understand advance concrete techniques can be used

Course outcomes:

1. Students will be able to understand how admixtures are important
2. Students will be able to understand various design of high grade concrete
3. Students will be able to understand CTM importance
4. Students will be able know effective use of fly ash in concrete
5. Students will be able to analyze advance concrete techniques

CO PO MAPPING

CO	Program Outcomes												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	CO target
C01	2												2
CO2		1			1								2
CO3		2				1							1.5
C04		2		1		1							2
CO5		2		1									1.5
	2	2		1.5	2						1		

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Academic Year 2020-21

Electronics & Telecommunication Engineering Department
Course Name: Learning Programming using Python
No. of Students Enrolled: 74

Name of Course:
Learning Programming Using Python
Duration: 30 hours

Day	Contents	Hrs.
1	**Introduction to Programming**	6
2	Implementation of Python- Part 1	6
3	Implementation of Python- Part 2	6
4	Project Implementation	6
5	Tech-ference	6

Report

Duration: August 31st-September 4th, 2020

Venue: Online.

Electronics & Telecommunication Engineering Department of VIVA Institute of Technology organized a 30 hou rs' certificate course on **"Learning Programming Using Python"** in Association with **"Misfit Learning"** durin g **August 31st-September 4th, 2020** in **online mode.**

This 5 days workshop was basically aimed to provide basic knowledge of python to EXTC students which was c onducted by various speakers who guided the participants. Total 74 students registered for this course. Out of the se, 63 students were from Third year EXTC and 11 students from Second Year EXTC. Total 52 students complet ed the course successfully.

Students received valuable inputs from the resource persons from the industry.

The event was a success with very positive feedback from the participants. In the speech given by **Mrs. Archana Ingle**, H.O.D of EXTC, students gained an idea of how this workshop can be utilized to take creative projects in t he field of software.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Course Objectives

- Build basic programs using fundamental programming constructs like variables, conditional logic, looping, and functions.
- Work with user input to create fun and interactive programs.
- Create simple projects

Course Outcomes:

When students complete this 5 day course, they will be able to:

- Build basic programs using fundamental programming constructs like variables, conditional logic, looping, and functions.
- Work with user input to create fun and interactive programs.
- Create simple projects

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
	2	2	-	-	2	2	-	-	-	-	-	

Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

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Shirgaon, Virar(E.), Dist: Palghar- 401305, Maharashtra

Academic Year 2019-20

Computer Engineering Department

Course Name: Programming with JAVA

No.of students enrolled: 22

Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Academic Year 2019 - 20

Course name: - Programming with JAVA
Duration: - 24th Jun 2019 to 28th Jun 2019
Venue: - VIVA Institute of Technology
Co-ordinator: - Prof. Akshata Raut
Enrolled students: - 22
Course Objective:-

1. To understand the basic concepts and fundamentals of platform independent object oriented language.
2. To demonstrate skills in writing programs using exception handling techniques and multithreading.
3. To understand streams and efficient user interface design techniques.
4. To write programs for solving real world problems using java collection framework.
5. To impart hands-on experience with java programming.

Course Outcomes: -

After successful completion of the course, the students are able to

1. Use the syntax and semantics of java programming language and basic concepts of OOP.
2. Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages.
3. Apply the concepts of Multithreading and Exception handling to develop efficient and error free codes.
4. Able to write programs for solving real world problems using java collection frame work.

Course Schedule: -

Days	Morning Session (9 am to 12 pm)	Afternoon Session (1 pm to 4 pm)
1	Introduction to Java, Java buzzword, scope, and lifetime	Classes and Objects, Inheritance Exercise
2	Interference, Packages	Exception Handling Exercise
3	Strings, and Library	Multithreading Exercise
4	Applets	Event Handling Exercise
5	Layout Manager	Quiz

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Report:-

Computer engg. department of VIVA Institute of Technology conducted a course on "Programming with JAVA" for second and third year students. Total 22 students had been enrolled for this course.

This course was conducted by Prof. Akshata Raut in order to provide basic knowledge of JAVA programming. This was 30 hrs. certificate course.

During the course students learned basic programming of JAVA. Also students learned all concepts of JAVA like interference, packages, applets and so on. Students practiced of all things concepts in the exercise session. All doubts and errors during programming were solved by the co ordinator.

Students enjoyed the course and completed it successfully.

CO-PO Mapping: -

Course Outcome	Program Outcome											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO 9	PO1 0	PO1 1	PO1 2
CO 1	3	-	-	-	-	-	-	-	-	-	-	-
CO2	-	2	-	-	-	-	-	-	-	-	-	-
CO3	-	-	3	1	-	-	-	-	-	-	-	-
CO4	-	-	3	-	-	-	-	-	-	-	-	-
	3	2	3	3	-	-	-	-	-	-	-	-

CO PO Justification: -

COs	POs	Justification
CO1	PO1	Strongly mapped as the students will be able to analyse the problem to be implemented using basics of Python.
CO2	PO2	Moderately mapped as the students will be able to identify the technique required to implement the problem.
CO3	PO3	Strongly mapped as the students will be able to find a solution for the problem identified.
	PO4	Slightly mapped as the students will be able to depict the project outcome and future scope.
CO4	PO3	Strongly mapped as the students will be able to develop design methodologies for the system to be developed.

Ashwini Save
HOD, Computer Engg.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Computer Engineering Department

Course Name: Machine Learning and Deep Learning

No.of students enrolled: 51

Late Shri. Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Academic Year 2019 - 20

Course name: - Machine Learning and Deep Learning
Duration: - 24th June to 28th June 2019
Venue: - VIVA Institute of Technology
Co-ordinator: - Prof. Sunita Naik
Enrolled students: - 51

Course Objective: -

1. To understand the basic theory underlying machine learning.
2. To make students comfortable with tools and techniques required in handling large amounts of datasets
3. Analyse the concept of neural networks for learning linear and non-linear activation functions
4. This will help students in developing skills required to gain experience of doing independent research and study.

Course Outcomes: -

After successful completion of the course, the students are able to

1. Appreciate the importance of visualization in the data analytics solution
2. Apply structured thinking to unstructured problems
3. Understand a very broad collection of machine learning algorithms and problems
4. Learn algorithmic topics of machine learning and mathematically deep enough to introduce the required theory
5. Develop an appreciation for what is involved in learning from data.

Course Schedule: -

Session	Time	Topic
Day 1: - 24th June 2019		
1	9.30 – 11.00	Introduction Key Note Address
2	11.15– 12.30	Basics of Machine learning and Deep Learning
3	1.15 – 4.30	ANN and CNN concepts
Day 2: - 25th June 2019		
1	9.30 – 11.00	Introduction to python using JUPYTER NOTEBOOK
2	11.15– 12.30	Machine learning Algorithms
3	1.15 – 4.30	Data Analytics I and II
Day 3: - 26th June 2019		
1	9.30 – 11.00	Deep Learning and its applications
2	11.15– 12.30	Word Embedding in NLP

3	1.15 – 4.30	Deep Learning Techniques with respect to Natural Language Processing (NLP) in Python
Day 4 :- 27th June 2019		
1	9.30 – 11.00	Introduction to R(Data Frames, Importing and Exporting data, Data manipulation)
2	11.15– 12.30	prediction with Convolutional Neural Networks
3	1.15 – 4.30	Applications of Deep Neural networks
Day 5 :- 28th June 2019		
1	9.30 – 11.00	Recurrent Neural Networks with respect to NLP in Python
2	11.15– 12.30	Prediction with Convolutional Neural Network with respect to NLP in Python
3	1.15 – 4.30	Techniques used in NLP, Syntactic Analysis, Semantic Analysis Quiz

Report:-

Computer engg. department of VIVA Institute of Technology conducted a course on "Machine Learning and Deep Learning" for Last year students. Total 51 students had been enrolled for this course.

This course was conducted by Prof. Sunita Naik in order to provide knowledge of Machine learning and Deep Learning.

Machine learning is a sub-domain of computer science which evolved from the study of pattern recognition in data, and also from the computational learning theory in artificial intelligence. Deep learning allows computational models to learn by gathering knowledge from experience. Complex concepts can be learnt by deep learning approach due to its hierarchical conceptualization. Deep learning has significantly benefitted for the state-of-the-art in many recurring domains in the modern world. Students enjoyed the course and completed it successfully.

CO-PO Mapping: -

Course Outcome	Program Outcome											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO 9	PO1 0	PO1 1	PO1 2
CO 1	3	2	-	-	-	-	-	-	-	-	-	-
CO2	-	2	3	-	-	-	-	-	-	-	-	-
CO3	3	2	-	-	-	-	-	-	-	-	-	-
CO4	-	-	3	2	-	-	-	-	-	-	-	-
CO 5	-	-	-	3	-	-	-	-	-	-	-	-

Ashwini Save
HOD, Computer Engg.

Computer Engineering Department

Course Name: Learning with Python

No.of students enrolled: 15

Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Academic Year 2019 - 20

Course name: - Learning with Python
Duration: - 24th Dec to 31st Dec 2019
Venue: - VIVA Institute of Technology
Co-ordinator: - Prof. Dyaneshwar Bhabad
Enrolled students: - 15

Course Objective:-

1. To create fully functional Python programs
2. To understand user input
3. To learn about loop structures and conditionals
4. To work with Python file handling

Course Outcomes: -

After successful completion of the course, the students are able to

1. Describe the basics of the Python programming language
2. Install Python and write first program
3. Use variables to store, retrieve and calculate information
4. Utilize core programming tools such as functions and loops
5. Explain the basic principles of Python programming language

Course Schedule: -

Days	Morning Session (9 am to 12 pm)	Afternoon Session (1 pm to 4 pm)
1	Introduction	Install Python and basic python program
2	Basic syntax , variables and strings	Lists, Tuples and Dictionaries. Exercise
3	If-else statements, For loop	While loop, Pass, break and continue Exercise
4	Understanding Functions	File handling – opening and reading
5	Classes and Objects	Exercise Quiz

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Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Report:-

Computer engg. department of VIVA Institute of Technology conducted a course on "Learning with Python" for second and third year students. Total 15 students had been enrolled for this course.

This course was conducted by Prof. Dyaneshwar Bhabad in order to provide basic knowledge of Python programming. This was 30 hrs. certificate course.

During the course students learned how to install Python. They learned all the basic of python like variables, lists, strings. Also students study conditional statements and loops. This course also cover functions and file handling.

Students enjoyed the course and completed it successfully.

CO-PO Mapping: -

Course Outcome	Program Outcome											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO 9	PO1 0	PO1 1	PO1 2
CO 1	3	-	-	-	-	-	-	-	-	-	-	-
CO2	3	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	3	-	-	-	-	-	-	-	-	-
CO4	-	-	3	2	-	-	-	-	-	-	-	-
CO5	-	3	-	-	-	-	-	-	-	-	-	-
	3	3	3	2	-	-	-	-	-	-	-	-

CO PO Justification: -

COs	POs	Justification
CO1	PO1	Strongly mapped as the students will be able to analyse the problem to be implemented using basics of Python.
CO2	PO1	Strongly mapped as the students will be able to identify the technique required to implement the problem.
CO3	PO3	Slightly mapped as the students will be able to find a solution for the problem identified.
CO4	PO3	Strongly mapped as the students will be able to find the relevant tools to implement the problem stated.
	PO4	Moderately mapped as the students will be able to find a feasible solution for the problem designed.
CO5	PO2	Strongly mapped as the students will be able to develop design methodologies for the system to be developed.

Ashwini Save

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Electronics and Telecommunication Engineering Department
Course Name: Nirman-Arduino Workshop
No. of students enrolled: 16

Day 1- Embedded System Basic (Working, Input devices & Programming Code):

Session 1: ***Introduction, Hardware & Basic Programming***

- ✓ Introduction to basic of embedded system
- ✓ Introduction & explanation of microcontrollers
- ✓ Explanation of AVR ATMega 328 microcontroller
- ✓ Explanation of Arduino board & programming
- ✓ Basic Arduino based programs for interfacing i/o devices

Session 2:

- ✓ Introduction to output devices interfacing
  - **Project 1 :** LED blinking
- ✓ Introduction to input devices interfacing
  - **Project 2:** Push button interfacing
- ✓ Rotary encoder interfacing
  - **Project 3 & 4:**
    i. More LEDS switching sequentially based on encoder input
    ii. Bar graph sort of LED switching based on encoder input

Quiz

Day 2 - *Digital & Analog Input Ouput Devices Interfacing*

Session 3:

- ✓ Explanation for digital input devices
- ✓ Explanation for analog input devices

- ✓ Introduction to temperature sensor and its working
- ✓ Basic programming for interfacing temperature sensor
    - **Project 5 :** Temperature sensor using LM35
- ✓ Introduction to relay
- ✓ Basic programming for interfacing relay
    - **Project 6:** Automatic temperature controller system (soldering iron temperature control_simple on/off)

Session 4:

- ✓ Introduction to LDR sensor and its working
- ✓ Basic programming for interfacing LDR sensor
    - **Project 7 :** Light controlled switch
- ✓ Introduction to IR sensor and its working
- ✓ Basic programming for interfacing IR sensor
    - **Project 8 :** Detect presence of object and blink LED accordingly

Quiz

Day 3 - Advance Sensor (Ultrasonic, Hall Effect) and Serial Communication

Session 5:

- ✓ Introduction to ultrasonic sensor and its working
- ✓ Basic programming for interfacing of ultrasonic sensor
- ✓ Programming and conversion concept for the measurement
- ✓ Formulas for speed, distance & time for distance measurement using ultrasonic sensor
    - **Project 9 :** Distance Finder / Range Finder using Ultrasonic
- ✓ Explanation of working of stepper motor & motor driver
- ✓ Interfacing of stepper motor with motor driver & basic motor control program
    - **Project 10 :** Stepper Motor Rotation
- ✓ Introduction to Hall Effect sensor and its working
- ✓ Basic programming for interfacing Hall Effect sensor
    - **Project 11 :** Stepper Motor Speed Detection

Session 6:

- ✓ Introduction to serial communication & its significance in embedded system
- ✓ Explanation of program for establishing serial communication for data transfer between computer & Arduino
    - **Project 12 :** Send temperature data and distance measured by ultrasonic to serial port

Quiz

Day 4 - Visible Output, Keypad

Session 7:

- ✓ Introduction to a 7-Segment LED display
- ✓ 7-segment LED display interfacing & basic data display program
  - **Project 13 :** Temperature indicator on 7 segment
- ✓ Introduction to LCD (16 X 2) & its working
- ✓ LCD Interfacing & Basic data display program
  - **Project 14 :** Display temperature on LCD

Session 8:

- ✓ Introduction to matrix keypad & its working
- ✓ Concept of data line reduction & matrix concept
- ✓ Interfacing LCD & matrix keypad with Arduino
  - **Project 15 :** LCD based GUI for user password registration and monitor

Project 16 / Product ***Smart Door System***

Day 5 - Industry 4.0 and Project Guidance

Session 9:

- ✓ Tips for Project making
- ✓ Steps for designing a project
- ✓ Schematic designing tips
- ✓ Project development phase
- ✓ Project functional block programming & output
- ✓ Doubt discussion

Session 10:

- ✓ Industry 4.0: The Fourth Industrial Revolution
- ✓ Certificates & Project Letters distribution for competition

Feedback

Report

Nirman is to nurture and organize the young change makers to solve various societal challenges. It is an educational process to train the students to take up crucial issues and problems in the society. The focus in this course is to enable and equip the students to immediately start building Arduino enabled products. This was a 30hrs/1 week certificate course.

This 5 days Bridge course was conducted by Prof. Nutan Malekar from 1st July 2019 to 5th July 2019 in order to provide basic knowledge to second year and third year students about an **Arduino** and how it works. It helped students to learn programming concepts using **C and C++** along with Arduino specific programming. The students understood how to use a **wide variety of hardware and components** and prototype projects using a breadboard.

Course Objectives

Course Objectives

- To understand what an Arduino is and how it works To
- learn how to use an Arduino safely
- To program Arduino using code that have written in the Arduino IDE (Integrated Development Environment)
- To learn programming concepts using C and C++ along with Arduino specific programming
- To understand best practice concepts for programming and prototyping
- To use a wide variety of hardware and components and prototype your projects using a breadboard
- To build innovative project with Arduino

Course Outcomes:

- Students will be able to get new product or service ideas by hearing about needs in industry.

- Students will be able to receive large volumes of usable content within a compressed amount of time.
- Students will be able to get intensive exposure to a topic through presentations and discussions.
- Students will be able to achieve confidence and motivation for organising different events that improves the personality of a student.
- Students will be able to achieve confidence and motivation for participating in different events that improves the personality of a student.
- Students will be able to develop a connection that might help with future employment.

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
CO5	-	2	-	-	-	-	-	-	-	-	-	**2**
CO6	-	-	-	-	2	-	-	-	-	-	1	**1.5**
	2	2	-	-	2	2	-	-	-	-	1	

Electronics and Telecommunication Engineering Department
Course Name: OOP Bridge Course
No.of students enrolled: 75

Module	Contents	Hours
1	**Introduction** Introduction to java, java buzzword, data types, dynamic initialization, scope and life time operators, control statements, arrays, type conversion and casting, finals & blank finals. **Classes and Objects:** Concepts, methods, constructors, usage of static, access control, this key word, Garbage collection, overloading, parameter passing mechanisms, nested classes and inner classes. **Inheritance:** Basic concepts, access specifies, usage of super key word, method overriding, final methods and classes, abstract classes, dynamic method dispatch, Object class.	8
2	**Interfaces:** Differences between classes and interfaces, defining an interface, implementing interface, Variables in interface and extending interfaces. **Packages:** Creating a Package, setting CLASSPATH, Access control protection, importing packages. Exception Handling: Concepts of Exception handling, types of exceptions, usage of try, catch, throw, throws and finally keywords, Built-in exceptions, creating own exception sub classes.	8
3	**Strings:** Exploring the String class, String buffer class, Command-linear arguments. Library: Date class, Wrapper classes. **Multithreading:** Concepts of Multithreading, differences between process and thread, thread life cycle, Thread class, Runnable interface, creating multiple threads, Synchronization, thread priorities, inter Thread communication, daemon threads, and deadlocks. **I/O Streams:** Streams, Byte streams, Character streams, File class, File streams.	8
4	**Applets**: Concepts of Applets, life cycle of an applet, creating applets, passing parameters to applets, accessing remote applet, Color class and Graphics **Event Handling**: Events, Event sources, Event classes, Event Listeners, Delegation event model, handling events.	6

Report

Duration: 8th Jul 2019 to 15th Oct 2019.

Venue: VIVA Institute Of Technology, Shirgaon.

Electronics & Telecommunication Engineering Department of VIVA Institute of Technology organized a 30 hours' certificate course on **"OOP Bridge Course"** during **8th Jul 2019 to 15th Oct 2019.**

The workshop was basically aimed to provide basic knowledge to second year of semester 4– EXTC students of JAVA language which was conducted by **Mr. Kushal Suvarna sir** as the speaker who guided the participants.

The event was a success with very positive feedback from the participants. The speech by the Principal **Dr. Arun Kumar** was an inspiring one that covered the broad future scopes of the field. The Principal being an encouraging one who said that for such events where in student d evelopment is involved, he will always be supportive. In the speech given by **Mrs. Archana Ingle**, H.O.D of EXTC, students gained an idea of how this workshop can be utilized to take creative projects in the field of software.

Mr. Kushal Suvarna sir introduced themselves to the participants and enlightened them about the fantastic and intriguing field of **JAVA software** and narrated their various achievements and their future plans.

Course Objectives

1. To understand the basic concepts and fundamentals of platform independent object oriented language.

2. To demonstrate skills in writing programs using exception handling techniques and multithreading.

3. To understand streams and efficient user interface design techniques.

Course Outcomes:

After successful completion of the course, the students are able to

- 1. Use the syntax and semantics of java programming language and basic concepts of OOP.
- 2. Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages.
- 3. Apply the concepts of Multithreading and Exception handling to develop efficient and error free codes.
- 4. Design event driven GUI and web related applications which mimic the real word scenarios.

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
	2	2	-	-	2	2	-	-	-	-	-	

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Electronics and Telecommunication Engineering Department

Course Name: MATLAB and Simulink for Research

No.of students enrolled: 49

Date and Day	Time	Contents
30th Dec 2019	9.00 to 9.30	Breakfast, Registration and Inauguration
	9.30 – 11.00	History and Introduction to AI
	11.00-11.15	Tea Break
	11.15 -12.45	Agents of AI
	12.45-1.30	Lunch Break
	1.30-4.00	Different types of Intelligent systems
31st Dec 2019	9.00-11.00	Modelling and simulation of end to end communication system
	11.00-11.15	Tea Break
	11.15-1.15	Modelling the architecture of RF front ends
	1.15-2.00	Lunch Break
	2.00-4.00	Integrating antenna and array designs in system level models
2nd Jan 2020	9.00-11.00	Walkthrough of classification workflows
	11.00-11.15	Tea Break
	11.15-1.15	Classification using neural networks
	1.15-2.00	Lunch Break
	2.00-4:00	Deep learning with Image data
3rd Jan 2020	9.00-11.00	Multilayer Perception
	11.00-11.15	Tea Break
	11.15-1.15	Convolutional Neural Network
	1.15-2.00	Lunch Break
	2.00-4.00	Hands-on practice
4th Jan 2020	10.00-2.30	Exploring recent MATLAB toolboxes Tea Break
	3.00-4.00	Valedictory function

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Report

Duration: 30th December 2019 – 4th January 2020.

Venue: VIVA Institute Of Technology, Shirgaon.

Electronics & Telecommunication Engineering Department of VIVA Institute of Technology organized a 30 hours' certificate course on **"MATLAB and Simulink for Research"** from **30th December 2019 – 4th January 2020** conducted by Mrs. Madhura Ranade**.**

The objective of the Research with MATLAB and Simulink training program is to learn to create tools with MATLAB that will help to implement new ideas and solve difficult problems. Learning of MATLAB and Simulink will help to apply our research to interesting and challenging real-world problems. This STTP provides comprehensive coverage of MATLAB and Simulink and its applications while providing opportunities for Hands-on practicals.

The purpose of this STTP is to have discussions on various ways in which MATLAB and Simulink tools can be used to carry out research..

Topics Covered in STTP on "Research methodology"

- Introduction to Artificial Intelligence.
- exploring recent MATLAB toolboxes.
- Multilayer perception and convolutional neural net-works.
- Deep learning with Image data using MATLAB
- Design and implementing MIMO wireless systems with MATLAB and Simulink

As new developments are introducing in industry day by day demanding expertise in the MATLAB software, it was felt necessary that the student also become competent in the said field.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Course Objectives

1. Get Hands on Practice on Various MATLAB toolboxes and Simulink.
2. To learn the basics MATLAB toolboxes and Simulink
3. To understand use of MATLAB Simulink and its uses in different research areas.
4. Learn how to set parameters and test the output in Simulink.

Course Outcomes:

After successful completion of the course, the students are able to

- Get Hands on Practice on Various MATLAB toolboxes and Simulink.
- Get to learn the basics MATLAB toolboxes and Simulink
- After the completion of this course the participants will have knowledge of use of MATLAB Simulink and its uses in different research areas.
- Learn how to set parameters and test the output in Simulink

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
	2	2	-	-	2	2	-	-	-	-	-	

Mechanical Engineering Department
Course Name: ADVANCE SOLID WORKS
No.of students enrolled: 15

Syllabus & Course Outcomes

Course Name: **Advance Solid Works**

Academic Term: **July 2019 to Dec 2019**

Syllabus:

Module	Details	Hours
1	**Sketching with SolidWorks:** 2D Sketching**,** sketching entities and relations, 3D Sketching, Editing & its features, Dimensions, Sketch tool, Mirror, Convert entity, Move & Copy **Part Modeling:** Extrude and Cut extrude, Revolve and Sweep, View toolbar, Creating Reference geometries, Fillet and Chamfer, Hole wizard, Calculating weight/mass & other geometric properties, Export / Import of CAD files.	**6**
2	**Advanced Part Modeling:** Adding ribs and draft, Circular and rectangular pattern, Shell and Boss feature, Configuration and Design Tables, Material Library & Assigning Material, Library Features & Smart Fasteners, Boolean operations.	**6**
3	**Assembly Mode:** Getting started with Assembly, Inserting components in assembly, Top-Down Assembly, Feature Manager Design tree & Symbols, Hiding components & controlling transparency, Sub-Assemblies, Using mates in assembly, Use of Smart Fasteners, Bottom -Up Assembly, Interference detection and misalignment of holes, Exploding assemblies and adding explode lines.	**6**
4	**Generating detail drawings from Model:** Drafting overview, Drawing sheets and views, Adding drawing views, View settings and drawing properties, Smart Dimensioning, Annotations and Symbols, Sheet Formats and Templates, Ballooning for nomenclature, Adding Bill of Material and tables.	**6**

5	**Surface Modeling / Sheet Metal:** Introduction to surfacing tools, Sweep, Loft, Revolve, Offset etc., Filleting and trimming, Utilization of Sheet Metal & forming tools.	**6**

Course Outcomes

Sr. No.	CO Code	Course Outcomes
1	**CO_1**	Visualize and prepare 2D & 3D modeling of a given object using solid works software.
2	**CO_2**	Build solid model of a given object using solid works software.
3	**CO_3**	Generate assembly models of given objects using assembly tools.
4	**CO_4**	Perform product data exchange among CAD systems.
5	**CO_5**	Build solid model of a given object using surface modeling.

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Mechanical Engineering Department

Course Name: ANSYS (Engineering Simulation)

No.of students enrolled: 15

Late Shree Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (E)

Department of Mechanical Engineering

VIVA/VIT/MECH/STUDENT/2019-20 Date: 23/11/2019

NOTICE

All the shortlisted students of Mechanical Engineering are hereby informed to attend the Value Added Course organized by Department of Mechanical Engineering on the topic of "**ANSYS (Engineering Simulation)**" from 30th December 2019 to 04th January 2020.

Timing:-

1st Session:- 9.00 am - 12. pm

2nd session:- 1.00 pm – 4.00 pm

Venue:- CAD CAM Lab

Prof. Tejas Chaudhari
Faculty Co-ordinator

Prof. Niyati Raut
HOD Mechanical

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Vishnu Waman Thakur Charitable Trust's
VIVA Institute of Technology
Approved By AICTE, New Delhi, DTE, Govt. of Maharashtra
Affiliated to the University of Mumbai
Shirgaon, Virar(E.), Dist: Palghar- 401305, Maharashtra

Syllabus & Course Outcomes

Course Name: **ANSYS (Engineering Simulation)**

Academic Term: **Jan 2020 to May 2020**

Syllabus:

Module	Details	Hours
1	**Solid Modeling:** An Overview of Solid Modeling Operations, Working with Boolean operations, Working Plane, Importing of 3D models.	**4**
2	**Meshing:** Free meshing or Mapped meshing, Setting Element Attributes, Selecting Element Type, Shape Function, Defining Element Types, Defining Section Properties, Assigning Element Attributes before meshing, Mesh Controls, The ANSYS Mesh Tool, Smart sizing, Meshing, Free Meshing, Mapped Meshing, Hybrid meshing, Mesh Extrusion, Volume Sweeping.	**8**
3	**Boundary Conditions:** Types of Loads, Applying loads. **Solvers:** Types of Solvers, Solver Setup, Load Step Options, Solving Multiple Load Steps.	**6**
4	**Tips & Tricks:** Using the Toolbar & Creating Abbreviations, Introduction to APDL, Using Parameters, Using the Start File, Using the Session Editor, Using Input Files.	**4**
5	**ANSYS Workbench:** Introduction to ANSYS Workbench, Graphical User Interface, Static Structural Analysis, Modal Analysis, Thermal Analysis, Contact Recognition.	**8**

Course Outcomes

Sr. No.	CO Code	Course Outcomes
1	**CO_1**	Apply basic aspects of Analysis to solve engineering problems.
2	**CO_2**	Select suitable meshing and perform convergence test.
3	**CO_3**	Apply basic aspects to solve engineering problems.
4	**CO_4**	Perform basics tricks and tips to solve engineering problems.
5	**CO_5**	Interpret the result.

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Mechanical Engineering Department

Course Name: Introduction to Magnetic Particle Non Destructive Testing (MT) Method

No.of students enrolled: 30

Late Shree Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (E)

Department of Mechanical Engineering

VIVA/VIT/MECH/STUDENT/2019-20 Date: 23/12/2019

NOTICE

All the shortlisted students of B.E. Mechanical Engineering are hereby informed to attend the Value Added Course organized by Department of Mechanical Engineering on the topic of "**Introduction to Magnetic Particle Non Destructive Testing (MT) Method**" from 30th December 2019 to 04th January 2020.

Timing:-

1st Session:- 9.00 am - 12.00 pm

2nd session:- 1.00 pm – 4.00 pm

Venue:- CAD CAM Lab

Prof. Tejas Chaudhari
Faculty Co-ordinator

Prof. Niyati Raut
HOD Mechanical

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Syllabus & Course Outcomes

Course Name: **Introduction to Magnetic Particle Non Destructive Testing (MT) Method**

MODULE	DETAILS	HOURS
1	**Module 1: Basic Principles of Non-Destructive Testing** Definition and importance of NDT Types of NDT methods Visual testing (VT) Liquid penetrant testing (PT) Magnetic particle testing (MT) Eddy current testing (ET) Radiographic testing method (RT) Ultrasonic testing (UT) Comparison of different NDT methods	4
2	**Module 2: Magnetization techniques** Permanent magnets Electromagnets Coils Magnetization by passage of current Magnetization technique by induction	7
3	**Module 3: Testing techniques** Testing techniques for work pieces of differing alloy, shape and condition Testing techniques with various types of current Field direction for some specific cases	6

4	**Module 4: Knowledge of equipment** Permanent magnets Electromagnetic yoke Portable and stationary equipment	**6**
	Types of current and concepts of testing capacity Demagnetization equipment Maintenance and use of the equipment	
5	**Module 5: Knowledge of Accessories** Contact points Vessels for checking bath concentration Field indicator (Berthold test piece) Calibration pieces (JIS) Magnetic field measurement equipment (gauss meter) Ultraviolet lamps Coloured and fluorescent powders Colour for increasing contrast Morphology of the particles	**7**

Course Outcomes:

SR. NO.	CO CODE	COURSE OUTCOMES
1	**CO_1**	Apply basic aspects of Inspection to solve engineering problems.
2	**CO_2**	Select suitable Magnetization techniques.
3	**CO_3**	Understand the Testing techniques.
4	**CO_4**	Understand the Knowledge of equipment.
5	**CO_5**	Understand the Knowledge of Accessories.

Electrical Engineering Department
Course Name: Printed Circuit Board (PCB) Designing
No.of students enrolled: 17

Name of Course:	Printed Circuit Board (PCB) Designing	**Branch:**	Electrical Engineering
Duration:	30 Hours	**Instructors:**	Bhavita Patil
Date of Commencement:	05 July 2019	**Date of conclusion:**	31 Oct 2019

Course Outcomes	
Upon successful completion of the course, the student must be able to	
CO1	To understand the requirements of designing a PCB using software.
CO2	To understand various components required for PCB design and their electrical ratings.
CO3	To use development tools for PCB designing
CO4	To understand design standards and flow charts

Syllabus		
Unit No.	**Contents**	**Hours**
1	**Introduction to PCB designing concepts:** Introduction & Brief History: What is PCB, Difference between PWB and PCB, Types of PCBs: Single Sided (Single Layer), Multi-Layer (Double Layer), PCB Materials. Prototyping, eCAD and PCBs, Purpose and Intent, Equipment Computer Circuit Programming and Testing Hardware, PCB Component Hardware, Software, MPLAB X IDE and XC8 Compiler,Understanding the Walkthrough	6

2	**Component introduction and their categories:** Types of Components: Active Components, Passive Components Component Package Types: Axial lead, Radial Lead, Single Inline Package(SIP), Dual Inline Package(DIP), Transistor Outline(TO), Pin Grid Array(PGA), Metal Electrode Face(MELF), Leadless Chip Carrier (LCC), Small Outline Integrated Circuit(SOIC), Quad Flat Pack(QPF) and Thin QFP (TQFP), Ball Grid Array (BGA), Plastic Leaded Chip Carrier(PLCC)	6
3	**Introduction to Development Tools:** Introduction to PCB Design using OrCAD tool, Introduction to PCB Design using PROTEUS tool	6
4	**Detailed description and practical of PCB designing**	6
	PCB Designing Flow Chart, Description of PCB Layers, Keywords & Their Description, PCB Materials, Rules for Track, Study of IPC Standards	
5	**Lab practice and designing concepts:** Starting the PCB designing, Auto routing, PCB Designing Practice, Post Designing & PCB Fabrication Process, Testing and Troubleshooting Methods	6

Learning Resources	
Text Books:	
	1. Kraig Mitzner, "Complete PCB Design Using OrCad Capture and Layout", 2011
Reference Books:	
	1. "PCB Design for Real-World EMI Control (The Springer International Series in Engineering and Computer Science)" by James Drewniak and Bruce R Archambeault. 2. "PCB Design: Printed Circuit Board" by Michael Dsouza and Dsouza Michael

Electrical Engineering Department
Course Name: Electrical Safety Practices
No.of students enrolled: 15

Name of Course:	Electrical Safety Practices	**Branch:**	Electrical Engineering
Duration:	30 Hours	**Coordinator:**	Prof. Pratik Mahale
Date of Commencement:	5 Jul 2019	**Date of Conclusion:**	4 Oct 2019

Course Outcomes	
Upon successful completion of the course, the student must be able to	
CO1	Understand the Indian power sector organization and Electricity rules, electrical safety in residential, commercial, agriculture, hazardous areas and use of fire extinguishers.
CO2	Outline the electrical safety during installation, testing, and commissioning procedures.
CO3	Make use of specifications of electrical plants and classification of safety equipment for various hazardous locations.
CO4	Distinguish various fire extinguishers and their classification.

Syllabus		
Unit No.	**Contents**	**Hours**
1	**Introduction To Electrical Safety, Shocks And Their Prevention:** Term and definitions, objectives of safety and security measures, Hazards associated with electric current and voltage, who is exposed, principles of electrical safety, Approach to prevent Accidents, the scope of subject electrical safety. Primary and secondary electrical shocks, possibilities of getting an electrical shock and its severity, medical analysis of electric shocks and its effects, shocks due to flash/ Spark over's, prevention of shocks, safety precautions against contact shocks, flash shocks, burns, residential buildings, and shop.	6

2	**Overview of the Safety Model:** Wiring and fitting, Domestic appliances, water tap giving a shock, shock from the wet wall, fan firing shock, multi-storied building, Temporary installations, Agricultural pump installation, Do's and Don'ts for safety in the use of domestic electrical appliances.	6
3	**Electrical Hazards recognizing and Evaluating** Preliminary preparations, safe sequence, the risk of plant and equipment, safety documentation, field quality, and safety, personal protective equipment, safety clearance notice, safety precautions, safeguards for operators, safety.	6
4	**Controlling Hazards: Safe Work Environment:** Hazardous zones, class 0, 1 and 2, spark, flashovers, and corona discharge and functional requirements, Specifications of electrical plants, equipment for hazardous	6
	locations, Classification of equipment enclosure for various hazardous gases and vapors, classification of equipment/enclosure for hazardous locations.	
5	**Controlling Hazards: Safe Work Practices:** Fundamentals of fire, initiation of fires, types; extinguishing techniques, prevention of fire, types of fire extinguishers, fire detection and alarm system; CO_2 and Halogen gas schemes; foam schemes, Ladder safety fact sheet, Avoid wet working conditions and other dangers, Avoid overhead powerlines	6

Learning Resources

Text Books:

1. Rao, S. and Saluja, H.L., "Electrical Safety, Fire Safety Engineering and Safety Management", Khanna Publishers, 1988.

Reference Books:

1. Cooper. W.F, "Electrical safety Engineering", Newnes-Butterworth Company, 1978.
2. John Codick, "Electrical safety handbook", McGraw Hill Inc., New Delhi, 2000.
3. Nagrath, I.J., and Kothari, D.P., "Power System Engineering", Tata McGraw Hill, 1998.
4. Wadhwa, C.L., "Electric Power Systems", New Age International, 2004.

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Electrical Engineering Department
Course Name: ELECTRICAL INSTALLATION
No.of students enrolled: 15

Name of Course:	ELECTRICAL INSTALLATIO N	**Branch:**	Electrical Engineering
Duration:	30 Hours	**Instructors:**	Sushant Bansal
Date of Commencement:	8 Feb 2020	**Date of conclusion:**	24 April 2020

Course Outcomes	
Upon successful completion of the course, the student must be able to	
CO1	To understand practices followed in industries for safety of equipment and personnel.
CO2	To understand basic electrical and electronics concepts, devices and their electrical ratings.
CO3	To understand power transfer systems and their installation practices in industry
CO4	To understand documentation required for installation.

C
The objective of this vocational course is to make students understand various installation practices followed in industries for electrical equipment. This course is designed to make students job-ready for the industry by instilling multiple skills in them like electrical drawing and reading, IEEE and IS standards followed in industries, documentation for industries, etc.

Syllabus		
Unit No.	**Contents**	**Hours**
1	**Health and safety industry practices** The regulations, laws and guidance documents associated with the electrical industry, Use equipment on a construction site, Follow safety procedures, practices and policies on construction sites, Carry out electrical safety procedures and practices, Understand environmental protection, structure and roles of individuals and organizations	6
2	**Electrical science** Understand direct current principles, Understand electromagnetic properties associated with devices under installation, Understand electronic components required for installation with data sheets and drawings.	6
3	**Electrical installation** Tools commonly used in electrical installation practices, Erect cable containment/management systems used in electrical installation, Install wiring systems and supports used in electrical installation activities, Install accessories and terminate using a range of connections.	6
4	**Power transfer technology** Understand how electricity is supplied and the characteristics of consumer's equipment, Understand isolation and protection, Understand automatic disconnection of supply, Understand the principles of final circuits	6
5	**Technical documentation with clients** Understand technical information with help of IEEE standards, manufacturer guidelines, Drawings used to plan electrical activities, Types of financial information, Types of handover information	6

Learning Resources	
Text Books:	
	1. Trevor Linsley, "Basic electrical installation work", 1989 2. J. B. Gupta, "A Course in Electrical Installation Estimating and Costing", 2013.
Reference Books:	
	1. Tarlok Singh, "Installation Commissioning & Maintenance Of Electrical Equipments", 2013 2. Brian Scaddan, "Electrical Installation Work", 2015

Civil Engineering Department
Course Name: MSP & PRIMAVERA
No.of students enrolled: 26

Objectives:

1. Plan for a project in detail
2. To use templates which creates projects in project 2017
3. To create, manage, schedule and track all the imputed resources
4. To create, manage, assign and track tasks of all inputted resources
5. To work with deadline and constraints
6. To use dependencies to help schedule tasks
7. To run reports

Course Outcomes

At the end of the course, learners will be able to understand :

1. The functions involved in software related to civil engineering projects.
2. How to prioritize tasks, define expectations and prepare schedule.
3. Will know tracking and managing resources throughout the project.
4. To create and tracking budgets and sharing calendars with the team.
5. Learn about risk management involved in project management.

Syllabus

Chapter 1: An Introduction to Project Management 03hours

Recognize when to use project management, role as a project manager is to deliver a project, communications, influence, and careful use of authority all play a major factor in the support you receive to complete the project, Project managers frequently find themselves with the challenge of adding new scope to a project with an already tight timeline. Typically, the job of the project manager is to work with their team to determine what this new scope will mean and how it will affect the project, building and tracking project schedules.

Chapter 2: The Microsoft Project User Interface 05 hours

To recognize best practices when running ms project for the first time, microsoft project user interface, the ribbon area icons, tabs, and access to the backstage, microsoft project scheduling engine, preparing a new project, estimating the project, ribbon actions (icons) you may need to perform within microsoft project, backstage is a full-screen area that allows you to open, save, share, and print your project, using views and tables

Chapter 3: The Microsoft Project Scheduling Engine 06 hours

constraint based scheduling, calculates dates for you based on constraints you place on tasks and resources, critical path and user-controlled scheduling, user-controlled scheduling can effectively break the ability to identify the critical path because durations, start dates, and finish dates are not required when using this feature,

configure project options, microsoft project offers many options for you to configure the user interface, scheduling engine, and task tracking for your project most of these options are located in the backstage using the options menu item.

Chapter 4: Preparing a New Project 6 hours

Create a new project before you create a new project, make sure you have all the project options configured as you want them unless you have a unique reason to do otherwise, it is a good practice to start with a blank project configure a project

calendar learn the differences between the Microsoft project calendars and when to use them.

Chapter 5: Estimating the Project……..3 hours

Add tasks to the project, add durations to each task, add predecessors to each task to link tasks together, create the critical path, add resources to the project, create resource assignments, build a work breakdown structure, add costs to the project, add milestones to the project, add lag and review the critical path, adjust resource allocations.

Chapter 6: Tracking the Project 2 hours

To create a baseline baselines, custom views and fields project reporting task status updates updating task status from your team and update the project progress. resource assignment status updates .

Chapter 7: Custom Views and Fields 3 hours

To create custom views and tables views, create custom fields microsoft project, create graphical indicators when you create a custom field, further enhance it to use graphical indicators. these indicators allow you to display things like red, yellow, and green flag

Chapter 8: Project Reporting… 2 hours

working with the timeline, multiple timelines in project 2016, 2019 and online, working with the reporting module, about agile projects, using the task board, using sprints, using project online desktop, tips and tricks conclusion go to goskills.com using boards and the gantt chart, sharing boards

Civil Engineering Department
Course Name: Emerging techniques in Civil Engineering
No.of students enrolled: 126

STTP Programme Schedule

	Date	Time	Name of Speakers	Topics
Day 1	**01/07/2019**	9:00 am-12.00pm	**Session 1:** Prof. Yadnesh Patil	Road Safety and Role of Public Transport
		1.00 -4.00 pm	**Session 2:** Mr.Paresh Unnarkar	Durability-Performance Based Approach
Day 2	**02/07/2019**	9.00am-12pm	**Session 1:** Prof. Prashant Gondane	Design Aspects of Sewerage system
		1.00 pm – 4.00 pm	**Session 2:** Prof. Prashant Gondane	Seepage Management
Day 3	**03/07/2019**	9.00am-12pm	**Session 1:** Prof.Vivek Mandapur	Environmental Management
		1.00 pm – 4.00 pm	**Session 2:** Monica More	Construction Law
Day 4	**04/07/2019**	9.00am-12pm	**Session 1:** Prof. Lissy Jose	Real Time data acquisition
		1.00 pm – 4.00 pm	**Session 2:** Prof. Mayur Patel	Smart Structure and Materials for the future
Day 5	**05/07/2019**	9.00am-12pm	**Session 1:** Prof. Prashant Gondane	Water Quality Management
		1.00 pm-4 pm		

Day 01:

Session 01: Road Safety and Role of Public Transport Reduce exposures to crashes

Types of vehicles used for various roads Session 02: Durability-Performance Based Approach

Mix design calculations and assumptions Exposure conditions and material parameters

Day 02:

Session 01: Design Aspects of Sewerage system

Pumping stations and water reclamation centres Session 02: Seepage Management

Stability analysis

Design methods for various zones

Day 03:

Session 01: Environmental Management

Processes and practices to improve environmental impacts Various monitoring aspects

Session 02: Construction Law

Contract law in details with clauses

Day 04:

Session 01: Real Time data acquisition

Session 02: Smart Structure and Materials for the future

Day 05: Water Quality Management

Course Objectives:

1. To understand the knowledge of road safety
2. To learn about various methods & design aspects of sewerage system
3. To learn how various contract law
4. To learn how smart material can be used
5. To understand water quality management

Course outcomes:

1. Students will be able to understand how road safety and rules are important
2. Students will be able to understand various design aspects of sewerage system
3. Students will be able to understand where contract law can be applied
4. Students will be able to operate various smart material are used
5. Students will be able to analyze various water quality management

CO PO MAPPING

CO	Program Outcomes												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	CO target
C01	2												2
CO2		2			2								2
CO3		2											2
C04		2		1									2
CO5		2		2									2
	2	2		1.5	2						1		

Humanities and Applied Sciences Department
Course Name: Soft Skills
No.of students enrolled: 30

NAME	SOFT SKILLS
DURATION	(1 WEEK) 30 HRS
DATE & TIME	31st Dec 2019 to 4th Jan 2020/9.30am -12.30p.m and 1.30p.m -4.30pm
RESOURSE PERSON	Mr. Prashant Pawar & Mrs.Trupti Patil

COURSE OBJECTIVE:

To help the future engineers to understand and implement soft skills in the work environment.

Aim: The course can help future engineers to improve their communication, problem-solving and presentation skills with an aim to land a better job.

SESSIONS ON SOFT SKILLS FOR FIRST YEAR ENGINEERING STUDENTS

Session 1. **Soft Skills and You**

Session 2. **Interpersonal Communications**

Session 3. **Leadership Management**

Session 4. **Preparing for Employment**

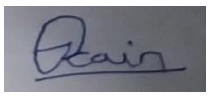
Session 5. **Group Discussion**

Session 6. **Resume Building**

Session 7. **Mock Interview**

Session 8. **Presentation Skills**

Session 9. **Communication at Workplace**
Session 10. **Workplace Etiquette**



CO-ORDINATOR
PROF. Jayesh Jain

H.O.D
DR. Ajazul Haque

A. Y. 2018-19

Computer Engineering Department

Course Name: Programming with JAVA

No.of students enrolled: 17

Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Academic Year 2018 – 19

Course name: - Programming with JAVA
Duration: - 25th Jun 2018 to 29th Jun 2018
Venue: - VIVA Institute of Technology
Co-ordinator: - Prof. Janhavi Thakur
Enrolled students: - 17

Course Objective:-

1. To understand the basic concepts and fundamentals of platform independent object oriented language.
2. To demonstrate skills in writing programs using exception handling techniques and multithreading.
3. To understand streams and efficient user interface design techniques.
4. To write programs for solving real world problems using java collection framework.
5. To impart hands-on experience with java programming.

Course Outcomes: -

After successful completion of the course, the students are able to

1. Use the syntax and semantics of java programming language and basic concepts of OOP.
2. Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages.
3. Apply the concepts of Multithreading and Exception handling to develop efficient and error free codes.
4. Able to write programs for solving real world problems using java collection frame work.

Course Schedule: –

Days	Morning Session (9 am to 12 pm)	Afternoon Session (1 pm to 4 pm)
1	Introduction to Java, Java buzzword, scope, and lifetime	Classes and Objects, Inheritance Exercise
2	Interference, Packages	Exception Handling Exercise
3	Strings, and Library	Multithreading Exercise
4	Applets	Event Handling Exercise
5	Layout Manager	Quiz

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Report:-

Computer engg. department of VIVA Institute of Technology conducted a course on "Programming with JAVA" for second and third year students. Total 17 students had been enrolled for this course.

This course was conducted by Prof. Janhavi Thakur in order to provide basic knowledge of JAVA programming. This was 30 hrs certificate course.

During the course students learned basic programming of JAVA. Also students learned all concepts of JAVA like interference, packages, and applets and so on. Students practiced of all things concepts in the exercise session. All doubts and errors during programming were solved by the coordinator.

Students enjoyed the course and completed it successfully.

CO-PO Mapping: -

Course Outcome	Program Outcome											
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	-	-	-	-	-	-	-	-	-	-	-
CO2	-	2	-	-	-	-	-	-	-	-	-	-
CO3	-	-	3	1	-	-	-	-	-	-	-	-
CO4	-	-	3	-	-	-	-	-	-	-	-	-
	3	2	3	3	-	-	-	-	-	-	-	-

CO PO Justification: -

COs	POs	Justification
CO1	PO1	Strongly mapped as the students will be able to analyse the problem to be implemented using basics of Python.
CO2	PO2	Moderately mapped as the students will be able to identify the technique required to implement the problem.
CO3	PO3	Strongly mapped as the students will be able to find a solution for the problem identified.
	PO4	Slightly mapped as the students will be able to depict the project outcome and future scope.
CO4	PO3	Strongly mapped as the students will be able to develop design methodologies for the system to be developed.

Ashwini Save
HOD, Computer Engg.

Computer Engineering Department

Course Name: Learning with Python

No.of students enrolled: 20

Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Academic Year 2018 - 19

Course name: - Learning with Python
Duration: - Throughout the semester
Venue: - VIVA Institute of Technology
Co-ordinator: - Prof. Vinit Raut
Enrolled students: - 20

Course Objective:-

1. To create fully functional Python programs
2. To understand user input
3. To learn about loop structures and conditionals
4. To work with Python file handling

Course Outcomes: -

After successful completion of the course, the students are able to

1. Describe the basics of the Python programming language
2. Install Python and write first program
3. Use variables to store, retrieve and calculate information
4. Utilize core programming tools such as functions and loops
5. Explain the basic principles of Python programming language

Course Schedule: -

Days	Morning Session (9 am to 12 pm)	Afternoon Session (1 pm to 4 pm)
1	Introduction	Install Python and basic python program
2	Basic syntax , variables and strings	Lists, Tuples and Dictionaries. Exercise
3	If-else statements, For loop	While loop, Pass, break and continue Exercise
4	Understanding Functions	File handling – opening and reading
5	Classes and Objects	Exercise Quiz

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Report:-

Computer engg. Department of VIVA Institute of Technology conducted a course on "Learning with Python" for second and third year students. Total 20 students had been enrolled for this course.

This course was conducted by Prof. Vinit Raut in order to provide basic knowledge of Python programming. This was 30 hrs. Certificate course.

During the course students learned how to install Python. They learned all the basic of python like variables, lists, strings. Also students study conditional statements and loops. This course also cover functions and file handling.

Students enjoyed the course and completed it successfully.

CO-PO Mapping: -

Course Outcome	Program Outcome											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO 9	PO1 0	PO1 1	PO1 2
CO 1	3	-	-	-	-	-	-	-	-	-	-	-
CO2	3	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	3	-	-	-	-	-	-	-	-	-
CO4	-	-	3	2	-	-	-	-	-	-	-	-
CO5	-	3	-	-	-	-	-	-	-	-	1	1
	3	3	3	2	-	-	-	-	-	-	1	1

CO PO Justification: -

COs	POs	Justification
CO1	PO1	Strongly mapped as the students will be able to analyse the problem to be implemented using basics of Python.
CO2	PO1	Strongly mapped as the students will be able to identify the technique required to implement the problem.
CO3	PO3	Slightly mapped as the students will be able to find a solution for the problem identified.
CO4	PO3	Strongly mapped as the students will be able to find the relevant tools to implement the problem stated.
	PO4	Moderately mapped as the students will be able to find a feasible solution for the problem designed.
CO5	PO2	Strongly mapped as the students will be able to develop design methodologies for the system to be developed.

Ashwini Save
HOD, Computer Engg.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Computer Engineering Department

Course Name: NETWORK SECURITY AND CRYPTOGRAPHY

No.of students enrolled: 57

Late Shri. Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Academic Year 2018 - 19

Course name: - NETWORK SECURITY AND CRYPTOGRAPHY
Duration: - Throughout the semester
Venue: - VIVA Institute of Technology
Co-ordinator: - Prof. Vinit Raut
Enrolled students: - 57

Course Objective:-

1. To understand the foundations of cryptographic attacks.
2. To gain knowledge of encrypting data, and to choose between different algorithms.
3. Prepare students for research in the area of cryptography and enhance students communication and problem solving skills
4. To differentiate between the encryption techniques and know their suitability to an application.
5. To effectively apply their knowledge to the construction of secure cryptosystems.

Course Outcomes: -

After successful completion of the course, the students are able to

1. Understand the various types of cryptographic attacks and the mathematics behind cryptography.
2. Describe the various types of ciphers and hash functions.
3. Apply the different cryptographic techniques to solve real life problems.
4. Evaluate different techniques as to their suitability to various applications.
5. Develop a cryptosystem keeping in view social issues and societal impacts.

Course Schedule: -

Day 1: - Introduction to Cryptography and Block Ciphers

Session 1: Introduction to security attacks
introduction to cryptography
classical encryption techniques
Session 2: Modern Block Ciphers
Block ciphers principals
block cipher modes of operations

Day 2: - Confidentiality and Modular Arithmetic

Session 1: Confidentiality using conventional encryption
Introduction to graph
Session 2: Fermat's and Euler's theorem
Primality testing

Day 3: - Public key cryptography and Authentication requirements

Session 1: Principles of public key crypto systems
Introductory idea of Elliptic curve cryptography

Elgamel encryption

Session 2: Message Authentication and Hash Function
Authentication requirements
Security of hash functions and MACS

Day 4: - Integrity checks and Authentication algorithms

Session 1: Secure hash algorithm
Digital Signatures
Digital signature standards

Session 2: Authentication Applications
Directory authentication service

Day 5: - IP Security and System Security

Session 1: IP Security: Architecture
Encapsulating security payloads
key management

Session 2: Secure socket layer and transport layer security
firewall design principals

Report: -

Computer engg. department of VIVA Institute of Technology conducted a course on "NETWORK SECURITY AND CRYPTOGRAPHY" for Last year students. Total 57 students had been enrolled for this course.

This course was conducted by Prof. Vinit Raut in order to provide knowledge of Cryptography and Network Security. The course covers fundamental aspects of security in a modern networked environment with the focus on system design aspects and cryptography in the specific context of network / internetwork security

It also dwells into basics of cryptographic techniques, algorithms and protocols required to achieve these properties; computational issues in implementing cryptographic protocols and algorithms; and system/application design issues in building secure networked systems. Students enjoyed the course and completed it successfully.

CO-PO Mapping: -

Course Outcome	Program Outcome											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO 9	PO1 0	PO1 1	PO1 2
CO 1	-	3	-	-	-	-	-	-	-	-	-	-
CO2	3	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	3	-	-	-	-	-	-	-	-	-
CO4	-	-	-	2	-	-	2	-	-	-	-	-
CO 5	-	-	-	-	-	3	-	-	-	-	-	-

Ashwini Save
HOD, Computer Engg.

Electronics and Telecommunication Engineering Department

Course Name: Nirman-Arduino Workshop

No.of students enrolled: 26

Day 1- Embedded System Basic (Working, Input devices & Programming Code):

Session 1: ***Introduction, Hardware & Basic Programming***

- ✓ Introduction to basic of embedded system
- ✓ Introduction & explanation of microcontrollers
- ✓ Explanation of AVR ATMega 328 microcontroller
- ✓ Explanation of Arduino board & programming
- ✓ Basic Arduino based programs for interfacing i/o devices

Session 2:

- ✓ Introduction to output devices interfacing
  - **Project 1 :** LED blinking
- ✓ Introduction to input devices interfacing
  - **Project 2:** Push button interfacing
- ✓ Rotary encoder interfacing
  - **Project 3 & 4:**
    i. More LEDS switching sequentially based on encoder input
    ii. Bar graph sort of LED switching based on encoder input

Quiz

Day 2 - *Digital & Analog Input Ouput Devices Interfacing*

Session 3:

- ✓ Explanation for digital input devices

✓ Explanation for analog input devices

- ✓ Introduction to temperature sensor and its working
- ✓ Basic programming for interfacing temperature sensor
    - **Project 5 :** Temperature sensor using LM35
- ✓ Introduction to relay
- ✓ Basic programming for interfacing relay
    - **Project 6:** Automatic temperature controller system (soldering iron temperature control_simple on/off)

Session 4:

- ✓ Introduction to LDR sensor and its working
- ✓ Basic programming for interfacing LDR sensor
    - **Project 7 :** Light controlled switch
- ✓ Introduction to IR sensor and its working
- ✓ Basic programming for interfacing IR sensor
    - **Project 8 :** Detect presence of object and blink LED accordingly

Quiz

Day 3 - Advance Sensor (Ultrasonic, Hall Effect) and Serial Communication

Session 5:

- ✓ Introduction to ultrasonic sensor and its working
- ✓ Basic programming for interfacing of ultrasonic sensor
- ✓ Programming and conversion concept for the measurement
- ✓ Formulas for speed, distance & time for distance measurement using ultrasonic sensor
    - **Project 9 :** Distance Finder / Range Finder using Ultrasonic
- ✓ Explanation of working of stepper motor & motor driver
- ✓ Interfacing of stepper motor with motor driver & basic motor control program
    - **Project 10 :** Stepper Motor Rotation
- ✓ Introduction to Hall Effect sensor and its working
- ✓ Basic programming for interfacing Hall Effect sensor
    - **Project 11 :** Stepper Motor Speed Detection

Session 6:

- ✓ Introduction to serial communication & its significance in embedded system
- ✓ Explanation of program for establishing serial communication for data transfer between computer & Arduino
    - **Project 12 :** Send temperature data and distance measured by ultrasonic to serial port

Quiz

Day 4 - Visible Output, Keypad

Session 7:

- ✓ Introduction to a 7-Segment LED display
- ✓ 7-segment LED display interfacing & basic data display program
  - **Project 13 :** Temperature indicator on 7 segment
- ✓ Introduction to LCD (16 X 2) & its working
- ✓ LCD Interfacing & Basic data display program
  - **Project 14 :** Display temperature on LCD

Session 8:

- ✓ Introduction to matrix keypad & its working
- ✓ Concept of data line reduction & matrix concept
- ✓ Interfacing LCD & matrix keypad with Arduino
  - **Project 15 :** LCD based GUI for user password registration and monitor

Project 16 / Product ***Smart Door System***

Day 5 - Industry 4.0 and Project Guidance

Session 9:

- ✓ Tips for Project making
- ✓ Steps for designing a project
- ✓ Schematic designing tips
- ✓ Project development phase

Session 10:

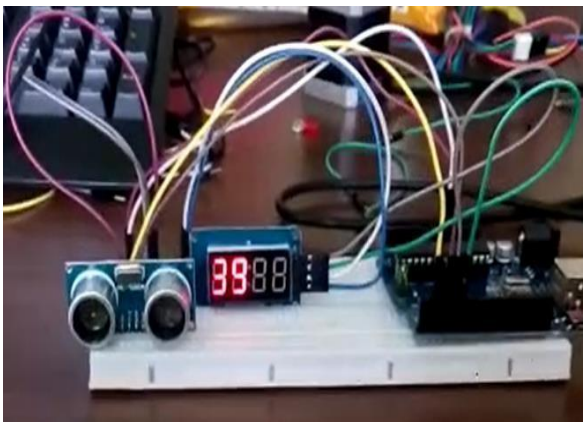
- ✓ Project functional block programming & output
- ✓ Doubt discussion
- ✓ Industry 4.0: The Fourth Industrial Revolution
- ✓ Certificates & Project Letters distribution for competition

Feedback

Report

This 5 days Bridge course was conducted by Prof. Nutan Malekar in order to provide basic knowledge to second year and third year students about an **Arduino** and how it works. It helped students to learn programming concepts using **C and C++** along with Arduino specific programming. The students understood how to use a **wide variety of hardware and components** and prototype projects using a breadboard.

26 students of second year and third year EXTC engineering participated in this course After this bridge course **project exhibition was organized** where every students showcase their knowledge by doing various innovative projects.



Course Objectives

Course Objectives

- To understand what an Arduino is and how it works
- To learn how to use an Arduino safely
- To program Arduino using code that have written in the Arduino IDE (Integrated Development Environment)
- To learn programming concepts using C and C++ along with Arduino specific programming
- To understand best practice concepts for programming and prototyping
- To use a wide variety of hardware and components and prototype your projects using a breadboard
- To build innovative project with Arduino

Course Outcomes:

- Students will be able to get new product or service ideas by hearing about needs in industry.
- Students will be able to receive large volumes of usable content within a compressed amount of time.
- Students will be able to get intensive exposure to a topic through presentations and discussions.
- Students will be able to achieve confidence and motivation for organising different events that improves the personality of a student.
- Students will be able to achieve confidence and motivation for participating in different events that improves the personality of a student.
- Students will be able to develop a connection that might help with future employment.

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
CO5	-	2	-	-	-	-	-	-	-	-	-	**2**
CO6	-	-	-	-	2	-	-	-	-	-	1	**1.5**
	2	2	-	-	2	2	-	-	-	-	1	

Electronics and Telecommunication Engineering Department
Course Name: PCB Design Workshop
No.of students enrolled: 60

Module	Content	Hours
1	Printed circuit Board Design: Study of Packages of Electronic Components. History of Printed Circuit Boards. Various types of Printed Circuit Boards-Single Sided Boards, Double Sided Plated through Hole Boards, multilayer Boards.	10
2	Printed Circuit Board Design Methods: Rules for single and Double Sided Board. Schematic diagram Entry in PCB Design tool /S/W. Layout Design, Routing methods .Guideline for Artwork Generation. Generation of various Manufacturing Documents/ Output file generation. Component Library management in PCB Design tool.	12
3	Study of-Fault Finding methods of PCBs, Repairing Techniques. De-soldering techniques, replacement of Component /Solder Pad /Track repairing methods.	8

Report

Duration: 11th Jan 2019 to 8th Apr 2019.

Venue: VIVA Institute Of Technology, Shirgaon.

Electronics & Telecommunication Engineering Department of VIVA Institute of Technology organized a 30 hours' certificate course on **"PCB Design Workshop"** during **11th Jan 2019 to 8th Apr 2019.**

The expanding electronics and industrial sectors place high demands on an individual's skill set. It is always advisable to learn new things and have a certain skill set up to work in industry because of the competitive market, industrial necessities, and declining demand for labor force. The workshop was basically aimed to provide basic

knowledge to second year of semester 4– EXTC students of design, draught, and fabrication of printed circuit boards which was conducted by **Mr. Kushal Suvarna sir** as the speaker who guided the participants.

The event was a success with very positive feedback from the participants. The speech was an inspiring one that covered the broad future scopes of the field. The Principal being an encouraging one who said that for such events where in student development is involved, he will always be supportive. In the speech given by **Mrs. Archana Ingle**, H.O.D of EXTC, students gained an idea of how this workshop can be utilized to take creative projects in this field.

Mr. Kushal Suvarna sir introduced themselves to the participants and enlightened them about the fantastic and intriguing field and narrated their various achievements and their future plans.

Course Objectives

1 Understand basics of PCB designing.
2 Apply advance techniques, skills and modern tools for designing and fabrication of PCBs.
3 Apply the knowledge and techniques to fabricate Multilayer, SMT and HDI PCB.
4 Understand concepts of Packaging.

Course Outcomes:

1. Students will be able to explore different aspect of Printed Circuit Board Design and fabrication.
2. Students will be able to learn various types of PCBs, Schematic Design, Entry Rules for Schematic Entry, Component Layout methods,
3. Students will be able to learn Placement Rules, Routing Techniques for Single Sided Board,
4. Students will be able to learn Post Processing of design and Fabrication documents.
5. After completing this course students can design and fabricate their own PCB for their Project and can also work in PCB Designing and Fabrication area.

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
CO5	-	2	-	-	-	-	-	-	-	-	-	**2**
	2	2	-	-	2	2	-	-	-	-	-	**2**

Electronics and Telecommunication Engineering Department
Course Name: Research Methodology Tools
No.of students enrolled: 73

Date and Day	Time	Contents
2nd Jan 2019	8.30 to 9.30	Breakfast, Registration and Inauguration
	9.30 – 11.30	Introduction to Research
	11.30 – 11.45	Tea Break
	11.45 – 12.45	Online research tools
	12.45-1.30	Lunch Break
	1.30 -4.30	How to select Research Topic
3rd Jan 2019	9.00-11.00	Research Ethics
	11.00-11.15	Tea Break
	11.15-12.45	Scholarly Publications
	12.45 – 1.30	Lunch Break
	1.30 – 4.00	A journey from Research to publication
4th Jan 2019	9.00-11.00	How to do Literature Review
	11.00-11.15	Tea Break
	11.15-12.45	How to maintain cordial relation between student and guide
	12.45 – 1.30	Lunch Break
	1.30 – 4.00	Data Collection
5th Jan 2019	9.00-11.00	Basics of Embedded systems & recent trend
	11.00-11.15	Tea Break
	11.15-12.45	Technical Paper writing skills
	12.45 – 1.30	Lunch Break
	1.30 – 4.00	Industry and Institute Interaction & Industry Collaborative research
6th Jan 2019	9-12.45	Optimization in research Methodology
	12.45-1.30	Tea Break
	1.30 – 4.00	Valedictory Session

Report

Duration: 2nd January to 7th January 2019.

Venue: VIVA Institute Of Technology, Shirgaon.

Electronics & Telecommunication Engineering Department of VIVA Institute of Technology organized a 30 hours' certificate course on **"Research Methodology Tools"** from **2nd January to 7th January 2019** conducted by Mrs. Devshree Ugvekar**.**

The objective of the "Research methodology" training program is to teach the techniques and technical paper writing and ethics in research. This STTP provides relation building of the institute with industry for collaboration. The purpose of this STTP is to bring together researchers & students from academia to have discussions on the recent methods in research techniques. This program also deals with the various ways to read and write the technical research papers which will help them to improve their paper writing skills. The STTP aims at equipping teachers with skills and knowledge in order to create a better society by guiding, training and motivating the students to take up research projects.

Topics Covered in STTP on "Research methodology"

- Online research tools
- Optimization in research Methodology
- Industry and Institute Interaction & Industry Collaborative research
- Revenue generation through institute
- Technical Paper writing skills
- Research Data Analysis.

As new developments are introducing in industry day by day demanding expertise in the field of Research Methodology, it was felt necessary that the student also become competent in the said field.

Course Objectives

1. To learn the skills of technical paper writing.
2. To learn optimization in research methods.
3. To understand knowledge of collaborative research.
4. To learn the Multivariate Data Analysis techniques in research.

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Course Outcomes:

After successful completion of the course, the students are able to

- The participants will learn the skills of technical paper writing.
- Gain the knowledge of collaborative research.
- Learn different online strategies and methods using different software and tools.
- Learn optimization in research methods.
- Learn the Multivariate Data Analysis techniques in research.

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
	2	2	-	-	2	2	-	-	-	-	-	

Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Approved By AICTE, New Delhi, DTE, Govt. of Maharashtra
Affiliated to the University of Mumbai
Shirgaon, Virar(E.), Dist: Palghar- 401305, Maharashtra

Mechanical Engineering Department
Course Name: Advance Solid Works
No.of students enrolled: 17

Late Shree Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (E)

Department of Mechanical Engineering

VIVA/VIT/MECH/STUDENT/2018-19 Date: 22/06/2018

NOTICE

All the shortlisted students of Mechanical Engineering are hereby informed to attend the Value Added Course organized by Department of Mechanical Engineering on the topic of "**Advance Solid Works**" from 25th June to 29th June 2018.

Timing:-

1st Session:- 9.00 am - 12. pm

2nd session:- 1.00 pm – 4.00 pm

Venue:- CAD CAM Lab

Prof. Tejas Chaudhari
Faculty Co-ordinator

Prof. Niyati Raut
HOD Mechanical

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Syllabus & Course Outcomes

Course Name: **Advance Solid Works**

Academic Term: **July 2018 to Dec 2018**

Syllabus:

Module	Details	Hours
1	**Sketching with SolidWorks:** 2D Sketching**,** sketching entities and relations, 3D Sketching, Editing & its features, Dimensions, Sketch tool, Mirror, Convert entity, Move & Copy **Part Modeling:** Extrude and Cut extrude, Revolve and Sweep, View toolbar, Creating Reference geometries, Fillet and Chamfer, Hole wizard, Calculating weight/mass & other geometric properties, Export / Import of CAD files.	**6**
2	**Advanced Part Modeling:** Adding ribs and draft, Circular and rectangular pattern, Shell and Boss feature, Configuration and Design Tables, Material Library & Assigning Material, Library Features & Smart Fasteners, Boolean operations.	**6**
3	**Assembly Mode:** Getting started with Assembly, Inserting components in assembly, Top-Down Assembly, Feature Manager Design tree & Symbols, Hiding components & controlling transparency, Sub-Assemblies, Using mates in assembly, Use of Smart Fasteners, Bottom -Up Assembly, Interference detection and misalignment of holes, Exploding assemblies and adding explode lines.	**6**
4	**Generating detail drawings from Model:** Drafting overview, Drawing sheets and views, Adding drawing views, View settings and drawing properties, Smart Dimensioning, Annotations and Symbols, Sheet Formats and Templates, Ballooning for nomenclature, Adding Bill of Material and tables.	**6**

5	**Surface Modeling / Sheet Metal:** Introduction to surfacing tools, Sweep, Loft, Revolve, Offset etc., Filleting and trimming, Utilization of Sheet Metal & forming tools.	**6**

Course Outcomes

Sr. No.	CO Code	Course Outcomes
1	**CO_1**	Visualize and prepare 2D & 3D modeling of a given object using solid works software.
2	**CO_2**	Build solid model of a given object using solid works software.
3	**CO_3**	Generate assembly models of given objects using assembly tools.
4	**CO_4**	Perform product data exchange among CAD systems.
5	**CO_5**	Build solid model of a given object using surface modeling.

Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Approved By AICTE, New Delhi, DTE, Govt. of Maharashtra
Affiliated to the University of Mumbai
Shirgaon, Virar(E.), Dist: Palghar- 401305, Maharashtra

Mechanical Engineering Department
Course Name: ANSYS (Engineering Simulation)
No.of students enrolled: 15

Late Shree Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (E)

Department of Mechanical Engineering

VIVA/VIT/MECH/STUDENT/2018-19 Date: 28/12/2018

NOTICE

All the shortlisted students of Mechanical Engineering are hereby informed to attend the Value Added Course organized by Department of Mechanical Engineering on the topic of "**ANSYS (Engineering Simulation)**" from 1st January to 5th January 2019.

Timing:-
1st Session:- 9.00 am - 12. pm
2nd session:- 1.00 pm – 4.00 pm

Venue:- CAD CAM Lab

Prof. Tejas Chaudhari
Faculty Co-ordinator

Prof. Niyati Raut
HOD Mechanical

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Syllabus & Course Outcomes

Academic Term: **Jan 2019 to May 2019**

Syllabus:

Module	Details	Hours
1	**Solid Modeling:** An Overview of Solid Modeling Operations, Working with Boolean operations, Working Plane, Importing of 3D models.	**4**
2	**Meshing:** Free meshing or Mapped meshing, Setting Element Attributes, Selecting Element Type, Shape Function, Defining Element Types, Defining Section Properties, Assigning Element Attributes before meshing, Mesh Controls, The ANSYS Mesh Tool, Smart sizing, Meshing, Free Meshing, Mapped Meshing, Hybrid meshing, Mesh Extrusion, Volume Sweeping.	**8**
3	**Boundary Conditions:** Types of Loads, Applying loads. **Solvers:** Types of Solvers, Solver Setup, Load Step Options, Solving Multiple Load Steps.	**6**
4	**Tips & Tricks:** Using the Toolbar & Creating Abbreviations, Introduction to APDL, Using Parameters, Using the Start File, Using the Session Editor, Using Input Files.	**4**
5	**ANSYS Workbench:** Introduction to ANSYS Workbench, Graphical User Interface, Static Structural Analysis, Modal Analysis, Thermal Analysis, Contact Recognition.	**8**

Course Outcomes

Sr. No.	CO Code	Course Outcomes
1	**CO_1**	Apply basic aspects of Analysis to solve engineering problems.
2	**CO_2**	Select suitable meshing and perform convergence test.
3	**CO_3**	Apply basic aspects to solve engineering problems.
4	**CO_4**	Perform basics tricks and tips to solve engineering problems.
5	**CO_5**	Interpret the result.

Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Approved By AICTE, New Delhi, DTE, Govt. of Maharashtra
Affiliated to the University of Mumbai
Shirgaon, Virar(E.), Dist: Palghar- 401305, Maharashtra

Mechanical Engineering Department
Course Name: Introduction to Radiography Non Destructive Testing (RT) Method
No.of students enrolled: 30

Late Shree Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (E)

Department of Mechanical Engineering

VIVA/VIT/MECH/STUDENT/2018-19 Date: 28/12/2018

NOTICE

All the shortlisted students of B.E. Mechanical Engineering are hereby informed to attend the Value Added Course organized by Department of Mechanical Engineering on the topic of "**Introduction to Radiography Non Destructive Testing (RT) Method**" from 01st January to 05th January 2019.

Timing:-
1st Session:- 9.00 am - 12.00 pm
2nd session:- 1.00 pm – 4.00 pm

Venue:- CAD CAM Lab

Prof. Tejas Chaudhari
Faculty Co-ordinator

Prof. Niyati Raut
HOD Mechanical

Syllabus & Course Outcomes

Course Name: **Introduction to Radiography Non Destructive Testing (RT) Method**

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

MODULE	DETAILS	HOURS
1	**Module 1: Basic Principles of Non-Destructive Testing** Definition and importance of NDT Types of NDT methods Visual testing (VT) Liquid penetrant testing (PT) Magnetic particle testing (MT) Eddy current testing (ET) Radiographic testing method (RT) Ultrasonic testing (UT) Comparison of different NDT methods	5
2	**Module 2: Film Exposure** Making a Radiograph Factors Governing Exposure Geometric Principles Relations of Mill amperage (Source Strength), Distance and Time The Reciprocity Law Exposure Factor Determination of Exposure Factors Contrast Choice of Film Radiographic Sensitivity	7
3	**Module 3: Absorption and Scattering** Radiation Absorption in the Specimen Scattered Radiation Reduction of Scatter	6
	Mottling Caused by X-ray Diffraction Scattering in High Voltage Megavolt	

4	**Module 4: Radiographic Screens** Functions of Screens Lead Foil Screens Fluorescent Screens	**4**
5	**Module 5: Industrial Radiographic Films** Selection of Films for Industrial Radiography Photographic Density Densitometers X-Ray Exposure Charts Gamma Ray Exposure Charts The Characteristic Curve	**8**

Course Outcomes:

SR. NO.	CO CODE	COURSE OUTCOMES
1	**CO_1**	Apply basic aspects of Inspection to solve engineering problems.
2	**CO_2**	Understand the concept of Film Exposure.
3	**CO_3**	Understand the concept of Absorption and Scattering.
4	**CO_4**	Select appropriate Radiographic Screens.
5	**CO_5**	Select suitable Industrial Radiographic Films.

Electrical Engineering Department
Course Name: Printed circuit board design
No.of students enrolled: 17

Name of Course:	Printed Circuit Board (PCB) Designing	**Branch:**	Electrical Engineering
Duration:	30 Hours	**Instructors:**	Bhavita Patil
Date of Commencement:	06 July 2018	**Date of conclusion:**	26 Oct 2018

Course Outcomes	
Upon successful completion of the course, the student must be able to	
CO1	To understand the requirements of designing a PCB using software.
CO2	To understand various components required for PCB design and their electrical ratings.
CO3	To use development tools for PCB designing
CO4	To understand design standards and flow charts

Syllabus

Unit No.	Contents	Hours
1	**Introduction to PCB designing concepts:** Introduction & Brief History: What is PCB, Difference between PWB and PCB, Types of PCBs: Single Sided (Single Layer), Multi-Layer (Double Layer), PCB Materials. Prototyping, eCAD and PCBs, Purpose and Intent, Equipment Computer Circuit Programming and Testing Hardware, PCB Component Hardware, Software, MPLAB X IDE and XC8 Compiler,Understanding the Walkthrough	6

2	**Component introduction and their categories:** Types of Components: Active Components, Passive Components Component Package Types: Axial lead, Radial Lead, Single Inline Package(SIP), Dual Inline Package(DIP), Transistor Outline(TO), Pin Grid Array(PGA), Metal Electrode Face(MELF), Leadless Chip Carrier (LCC), Small Outline Integrated Circuit(SOIC), Quad Flat Pack(QPF) and Thin QFP (TQFP), Ball Grid Array (BGA), Plastic Leaded Chip Carrier(PLCC)	6
3	**Introduction to Development Tools:** Introduction to PCB Design using OrCAD tool, Introduction to PCB Design using PROTEUS tool	6
4	**Detailed description and practical of PCB designing**	6
	PCB Designing Flow Chart, Description of PCB Layers, Keywords & Their Description, PCB Materials, Rules for Track, Study of IPC Standards	
5	**Lab practice and designing concepts:** Starting the PCB designing, Auto routing, PCB Designing Practice, Post Designing & PCB Fabrication Process, Testing and Troubleshooting Methods	6

Learning Resources	
Text Books:	
	1. Kraig Mitzner, "Complete PCB Design Using OrCad Capture and Layout", 2011
Reference Books:	
	1. "PCB Design for Real-World EMI Control (The Springer International Series in Engineering and Computer Science)" by James Drewniak and Bruce R Archambeault. 2. "PCB Design: Printed Circuit Board" by Michael Dsouza and Dsouza Michael

Electrical Engineering Department
Course Name: Electrical Safety Practices
No.of students enrolled: 16

Name of Course:	Electrical Safety Practices	**Branch:**	Electrical Engineering
Duration:	30 Hours	**Coordinator:**	Prof. Pratik Mahale
Date of Commencement:	6 Jul 2018	**Date of Conclusion:**	5 Oct 2018

Course Outcomes	
Upon successful completion of the course, the student must be able to	
CO1	Understand the Indian power sector organization and Electricity rules, electrical safety in residential, commercial, agriculture, hazardous areas and use of fire extinguishers.
CO2	Outline the electrical safety during installation, testing, and commissioning procedures.
CO3	Make use of specifications of electrical plants and classification of safety equipment for various hazardous locations.
CO4	Distinguish various fire extinguishers and their classification.

Syllabus		
Unit No.	**Contents**	**Hours**
1	**Introduction To Electrical Safety, Shocks And Their Prevention:** Term and definitions, objectives of safety and security measures, Hazards associated with electric current and voltage, who is exposed, principles of electrical safety, Approach to prevent Accidents, the scope of subject electrical safety. Primary and secondary electrical shocks, possibilities of getting an electrical shock and its severity, medical analysis of electric shocks and its effects, shocks due to flash/ Spark over's, prevention of shocks, safety precautions against contact shocks, flash shocks, burns, residential buildings, and shop.	6

2	**Overview of the Safety Model:** Wiring and fitting, Domestic appliances, water tap giving a shock, shock from the wet wall, fan firing shock, multi-storied building, Temporary installations, Agricultural pump installation, Do's and Don'ts for safety in the use of domestic electrical appliances.	6
3	**Electrical Hazards recognizing and Evaluating** Preliminary preparations, safe sequence, the risk of plant and equipment, safety documentation, field quality, and safety, personal protective equipment, safety clearance notice, safety precautions, safeguards for operators, safety.	6
4	**Controlling Hazards: Safe Work Environment:** Hazardous zones, class 0, 1 and 2, spark, flashovers, and corona discharge and functional requirements, Specifications of electrical plants, equipment for hazardous	6
	locations, Classification of equipment enclosure for various hazardous gases and vapors, classification of equipment/enclosure for hazardous locations.	
5	**Controlling Hazards: Safe Work Practices:** Fundamentals of fire, initiation of fires, types; extinguishing techniques, prevention of fire, types of fire extinguishers, fire detection and alarm system; CO_2 and Halogen gas schemes; foam schemes, Ladder safety fact sheet, Avoid wet working conditions and other dangers, Avoid overhead powerlines	6

Learning Resources	
Text Books:	
	1. Rao, S. and Saluja, H.L., "Electrical Safety, Fire Safety Engineering and Safety Management", Khanna Publishers, 1988.
Reference Books:	
	1. Cooper. W.F, "Electrical safety Engineering", Newnes-Butterworth Company, 1978. 2. John Codick, "Electrical safety handbook", McGraw Hill Inc., New Delhi, 2000. 3. Nagrath, I.J., and Kothari, D.P., "Power System Engineering", Tata McGraw Hill, 1998. 4. Wadhwa, C.L., "Electric Power Systems", New Age International, 2004.

Electrical Engineering Department
Course Name: ELECTRICAL INSTALLATION
No.of students enrolled:15

Name of Course:	ELECTRICAL INSTALLATIO N	**Branch:**	Electrical Engineering
Duration:	30 Hours	**Instructors:**	Sushant Bansal
Date of Commencement:	2 Feb 2019	**Date of conclusion:**	22 April 2019

Course Outcomes	
Upon successful completion of the course, the student must be able to	
CO1	To understand practices followed in industries for safety of equipment and personnel.
CO2	To understand basic electrical and electronics concepts, devices and their electrical ratings.
CO3	To understand power transfer systems and their installation practices in industry
CO4	To understand documentation required for installation.

C
The objective of this vocational course is to make students understand various installation practices followed in industries for electrical equipment. This course is designed to make students job-ready for the industry by instilling multiple skills in them like electrical drawing and reading, IEEE and IS standards followed in industries, documentation for industries, etc.

Syllabus		
Unit No.	**Contents**	**Hours**

1	**Health and safety industry practices** The regulations, laws and guidance documents associated with the electrical industry, Use equipment on a construction site, Follow safety procedures, practices and policies on construction sites, Carry out electrical safety procedures and practices, Understand environmental protection, structure and roles of individuals and organizations	6
2	**Electrical science** Understand direct current principles, Understand electromagnetic properties associated with devices under installation, Understand electronic components required for installation with data sheets and drawings.	6
3	**Electrical installation** Tools commonly used in electrical installation practices, Erect cable containment/management systems used in electrical installation, Install wiring systems and supports used in electrical installation activities, Install accessories and terminate using a range of connections.	6
4	**Power transfer technology** Understand how electricity is supplied and the characteristics of consumer's equipment, Understand isolation and protection, Understand automatic disconnection of supply, Understand the principles of final circuits	6
5	**Technical documentation with clients** Understand technical information with help of IEEE standards, manufacturer guidelines, Drawings used to plan electrical activities, Types of financial information, Types of handover information	6

Learning Resources	
Text Books:	
	1. Trevor Linsley, "Basic electrical installation work", 1989 2. J. B. Gupta, "A Course in Electrical Installation Estimating and Costing", 2013.
Reference Books:	
	1. Tarlok Singh, "Installation Commissioning & Maintenance Of Electrical Equipments", 2013 2. Brian Scaddan, "Electrical Installation Work", 2015

Civil Engineering Department
Course Name: MSP & PRIMAVERA
No.of students enrolled:22

Objectives:

1. Plan for a project in detail.
2. To use templates which creates projects in project 2017
3. To create, manage, schedule and track all the imputed resources
4. To create, manage, assign and track tasks of all inputted resources
5. To work with deadline and constraints
6. To use dependencies to help schedule tasks
7. To run reports

Course Outcomes

At the end of the course, learners will be able to understand :

1. The functions involved in software related to civil engineering projects.
2. How to prioritize tasks, define expectations and prepare schedule.
3. Will know tracking and managing resources throughout the project.
4. To create and tracking budgets and sharing calendars with the team.
5. Learn about risk management involved in project management.

Detailed Syllabus

Chapter 1: An Introduction to Project Management 03hours

Recognize when to use project management, role as a project manager is to deliver a project, communications, influence, and careful use of authority all play a major factor in the support you receive to complete the project, Project managers frequently find themselves with the challenge of adding new scope to a project with an already tight timeline. Typically, the job of the project manager is to work with their team to determine what this new scope will mean and how it will affect the project, building and tracking project schedules.

Chapter 2: The Microsoft Project User Interface 05 hours

To recognize best practices when running ms project for the first time, microsoft project user interface, the ribbon area icons, tabs, and access to the backstage, microsoft project scheduling engine, preparing a new project, estimating the project, ribbon actions (icons) you may need to perform within microsoft project, backstage is a full-screen area that allows you to open, save, share, and print your project, using views and tables

Chapter 3: The Microsoft Project Scheduling Engine 06 hours

constraint based scheduling, calculates dates for you based on constraints you place on tasks and resources, critical path and user-controlled scheduling, user-controlled scheduling can effectively break the ability to identify the critical path because durations, start dates, and finish dates are not required when using this feature, configure project options, microsoft project offers many options for you to configure the user interface, scheduling engine, and task tracking for your project most of these options are located in the backstage using the options menu item.

Chapter 4: Preparing a New Project 6 hours

Create a new project before you create a new project, make sure you have all the project options

configured as you want them unless you have a unique reason to do otherwise, it is a good practice to start with a blank project configure a project calendar learn the differences between the Microsoft project calendars and when to use them.

Chapter 5: Estimating the Project **3 hours**

Add tasks to the project, add durations to each task, add predecessors to each task to link tasks together, create the critical path, add resources to the project, create resource assignments, build a work breakdown structure, add costs to the project, add milestones to the project, add lag and review the critical path, adjust resource allocations.

Chapter 6: Tracking the Project **2 hours**

To create a baseline baselines, custom views and fields project reporting task status updates updating task status from your team and update the project progress. resource assignment status updates .

Chapter 7: Custom Views and Fields **3 hours**

To create custom views and tables views, create custom fields microsoft project, create graphical indicators when you create a custom field, further enhance it to use graphical indicators. these indicators allow you to display things like red, yellow, and green flag

Chapter 8: Project Reporting **2 hours**

working with the timeline, multiple timelines in project 2016, 2019 and online, working with the reporting module, about agile projects, using the task board, using sprints, using project online desktop, tips and tricks conclusion go to goskills.com using boards and the gantt chart, sharing boards

Civil Engineering Department
Course Name: Matlab
No.of students enrolled: 128

Schedule

Date	Pre-Lunch (9am-12pm)	Post-Lunch (1pm-4pm)
02/07/2018	**Session 1**	**Hands on**
03/07/2018	**Session 2**	**Hands on**
04/07/2018	**Session 3**	**Hands on**
05/07/2018	**Session 4**	**Hands on**
06/07/2018	**Session 5**	**Hands on**

Day 01: Introduction to MATLAB

Matlab basics – variables, numbers, operators, expressions, input & output Vectors, Arrays - Matrices

Day 02: MATLAB functions

Built in functions

User defined functions

Day 03: Graphics with MATLAB Files and file

management – import / export

Basic 2D, 3D plots

Day 04: Programming with MATLAB

Conditional statements, Loops

MATLAB Programs- Programming and

debubbing Applications of MATLAB

programming

Day 05: Mathematical Computing with MATLAB

Algebraic equations

Basic Symbolic Calculus and Differential equations

Numerical Techniques and Transforms

Course Objectives:

1. To learn features of MATLAB as a programming tool
2. To promote new teaching model that will help to develop programming skills and technique to solve mathematical problems
3. To understand MATLAB graphic feature and its applications
4. To use MATLAB as a simulation tool

Course outcomes:

1. Students will be able to understand various tools used in MATLAB

2. Students will be able to understand various models for developing programming skills
3. Students will be able to understand graphic feature & applications
4. Students will be able to operate simulation tools

CO PO MAPPING

CO	Program Outcomes												CO target
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
C01	2												2
CO2		2			2								2
CO3		1									1		1.5
C04		1		1									2
	2	2		1	2						1		

Humanities and Applied Sciences Department
Course Name: Soft Skills
No.of students enrolled: 30

NAME	SOFT SKILLS
DURATION	(1 WEEK) 30 HRS
DATE & TIME	1st Jan to 5th Jan 2019/9.00am -12.00pm and 1.00pm -4.00pm
RESOURSE PERSON	Mr. Prashant Pawar & Mrs.Trupti Patil

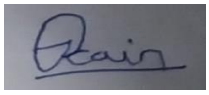
COURSE OBJECTIVE:

To help the future engineers to understand and implement soft skills in the work environment.

Aim: The course can help future engineers to improve their communication, problem-solving and presentation skills with an aim to land a better job.

SESSIONS ON SOFT SKILLS:

Session 1.	**Soft Skills and You**
Session 2.	**Interpersonal Communications**
Session 3.	**Leadership Management**
Session 4.	**Preparing for Employment**
Session 5.	**Group Discussion**
Session 6.	**Resume Building**
Session 7.	**Mock Interview**
Session 8.	**Presentation Skills**
Session 9.	**Communication at Workplace**
Session 10.	**Workplace Etiquette**



CO-ORDINATOR
PROF. Jayesh Jain

H.O.D
DR. Ajazul Haque

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

A. Y. 2017-18

Computer Engineering Department
Course Name: Programming with JAVA
No.of students enrolled: 20

Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Academic Year 2017-18

Course name: - Programming with JAVA
Duration: - 10th July 2017 to 14th July 2017
Venue: - VIVA Institute of Technology
Co-ordinator: - Prof. Janhavi Thakur
Enrolled students: - 20

Course Objective:-

1. To understand the basic concepts and fundamentals of platform independent object oriented language.
2. To demonstrate skills in writing programs using exception handling techniques and multithreading.
3. To understand streams and efficient user interface design techniques.
4. To write programs for solving real world problems using java collection framework.
5. To impart hands-on experience with java programming.

Course Outcomes: -

After successful completion of the course, the students are able to

1. Use the syntax and semantics of java programming language and basic concepts of OOP.
2. Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages.
3. Apply the concepts of Multithreading and Exception handling to develop efficient and error free codes.
4. Able to write programs for solving real world problems using java collection frame work.

Course Schedule: -

Days	Morning Session (9 am to 12 pm)	Afternoon Session (1 pm to 4 pm)
1	Introduction to Java, Java buzzword, scope, and lifetime	Classes and Objects, Inheritance Exercise
2	Interference, Packages	Exception Handling Exercise
3	Strings, and Library	Multithreading Exercise
4	Applets	Event Handling Exercise
5	Layout Manager	Quiz

VIVA INSTITUTE OF TECHNOLOGY At: Shir Post: V Tal.: V Dist. Pa VIRAR (EAST)

Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Report:-

Computer engg. department of VIVA Institute of Technology conducted a course on "Programming with JAVA" for second and third year students. Total 20 students had been enrolled for this course.

This course was conducted by Prof. Janhavi Thakur in order to provide basic knowledge of JAVA programming. This was 30 hrs. certificate course.

During the course students learned basic programming of JAVA. Also students learned all concepts of JAVA like interference, packages, applets and so on. Students practiced of all things concepts in the exercise session. All doubts and errors during programming were solved by the co-ordinator.

Students enjoyed the course and completed it successfully.

CO-PO Mapping: -

Course Outcome	Program Outcome											
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	-	-	-	-	-	-	-	-	-	-	-
CO2	-	2	-	-	-	-	-	-	-	-	-	-
CO3	-	-	3	1	-	-	-	-	-	-	-	-
CO4	-	-	3	-	-	-	-	-	-	-	-	-
	3	2	3	3	-	-	-	-	-	-	-	-

CO PO Justification: -

COs	POs	Justification
CO1	PO1	Strongly mapped as the students will be able to analyse the problem to be implemented using basics of Python.
CO2	PO2	Moderately mapped as the students will be able to identify the technique required to implement the problem.
CO3	PO3	Strongly mapped as the students will be able to find a solution for the problem identified.
	PO4	Slightly mapped as the students will be able to depict the project outcome and future scope.
CO4	PO3	Strongly mapped as the students will be able to develop design methodologies for the system to be developed.

Ashwini Save
HOD, Computer Engg.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Computer Engineering Department
Course Name: Natural Language Processing
No.of students enrolled: 69

Late Shri. Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
(Approved by AICTE, New Delhi, DTE, Govt. of Maharashtra and Affiliated to the University of Mumbai)
Computer Engineering Department

Academic Year 2017-18

Course name: - Natural Language Processing
Duration: - 10th July 2017 to 14th July 2017
Venue: - VIVA Institute of Technology
Co-ordinator: - Prof. Pallavi Raut
Enrolled students: - 69

Course Objective:-

1. To teach students the leading trends and systems in natural language processing.
2. To understand the algorithms available for the processing of linguistic information and computational properties of natural languages.
3. To enable students to be capable to describe the application based on natural language processing and to show the points of syntactic, semantic and pragmatic processing.
4. To develop systems for various NLP problems with moderate complexity.
5. To learn various strategies for NLP system evaluation and error analysis.

Course Outcomes: -

After successful completion of the course, the students are able to

1. Understand approaches to syntax and semantics in NLP.
2. Understand approaches to discourse, generation, dialogue and summarization within NLP.
3. Demonstrate understanding of the relationship between NLP and statistics & machine learning.
4. Develop systems for various NLP problems with moderate complexity
5. Evaluate NLP systems, identify shortcomings and suggest solutions for these shortcomings

Course Schedule: -

Days	Morning Session (9 am to 12 pm)	Afternoon Session (1 pm to 4 pm)
1	Introduction & Syllabus What is Natural Language Processing?	NLTK, Python 3 and the Jupyter Notebook Introduction to HPC
2	Regular Expressions and Automata, Finite State Transducers and Morphology	Probabilistic models of spelling, N-grams
3	Tokenization, N-grams and Scriptio continua	Stemming and Lemmatization, Synsets and Hypernyms

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

4	POS Tagging and Stopwords	Text "Features" and TF-IDF Classification
5	Named Entity Recognition (NER	Quiz

Report:-

Computer engg. department of VIVA Institute of Technology conducted a course on "Natural Language Processing" for Last year students. Total 69 students had been enrolled for this course.

This course was conducted by Prof. Pallavi Raut in order to provide knowledge of Natural Language Processing. This course is intended as a theoretical and methodological introduction to a the most widely used and effective current techniques, strategies and toolkits for natural language processing, with a primary focus on those available in the Python programming language. This was 30 hrs. certificate course.

During the course students learned basic of Natural Language Processing. Also students learned all concepts of Natural Language Processing like Regular Expressions and Automata, Finite State Transducers and Morphology and so on. Students practiced of all things concepts in the exercise session. All doubts and errors during programming were solved by the coordinator.

Students enjoyed the course and completed it successfully.

CO-PO Mapping: -

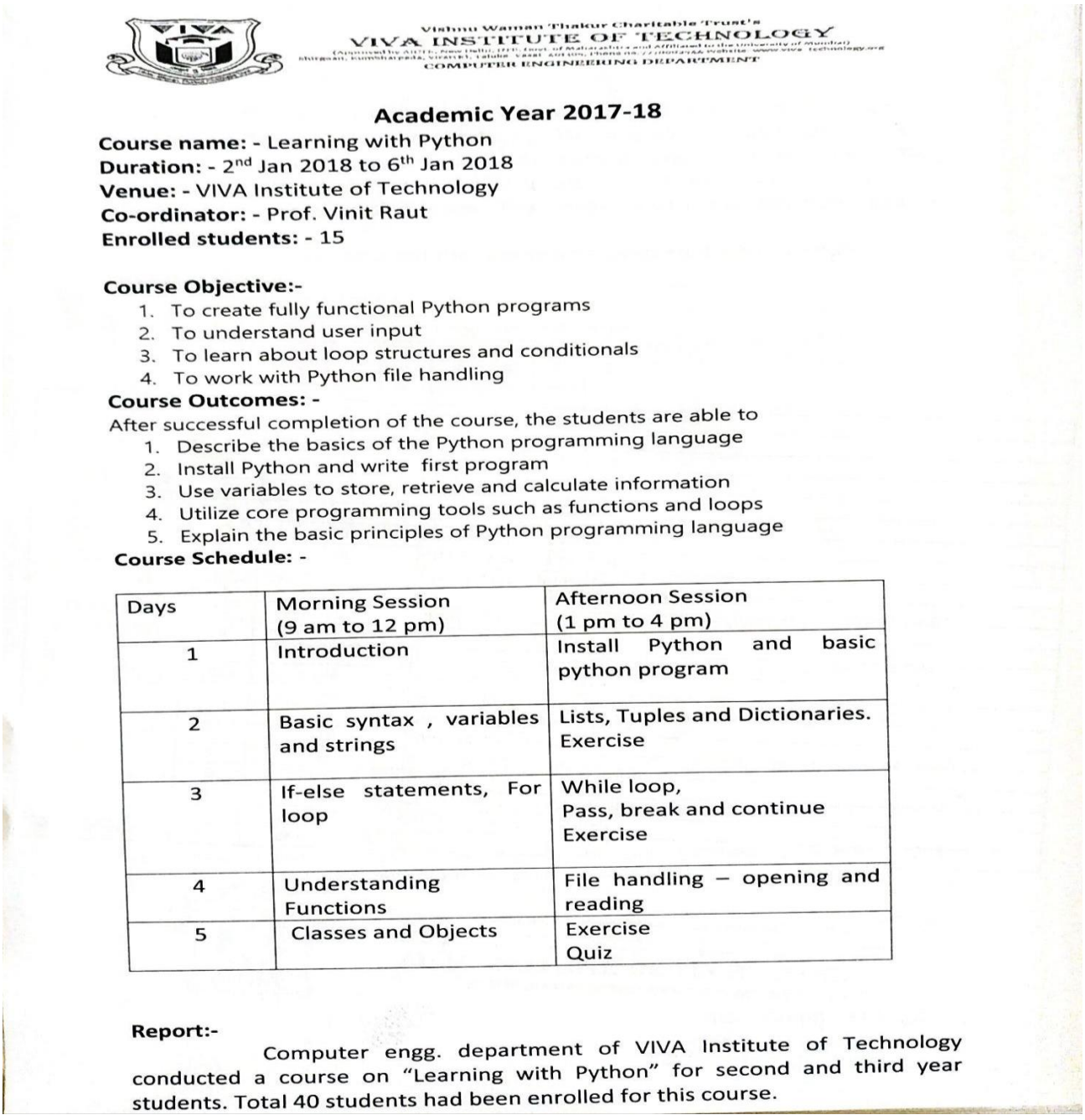
Course Outcome	Program Outcome											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO 9	PO1 0	PO1 1	PO1 2
CO 1	3	-	-	-	-	-	-	-	-	-	-	-
CO2	-	2	-	-	-	-	-	-	-	-	-	-
CO3	-	-	3	1	-	-	-	-	-	-	-	-
CO4	-	-	3	-	-	-	-	-	-	-	-	-
CO 5	-	-	-	3	-	-	-	-	-	-	-	-

Ashwini Save
HOD, Computer Engg.

Computer Engineering Department

Course Name: Learning with Python

No.of students enrolled: 15



Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

Academic Year 2017-18

Course name: - Learning with Python
Duration: - 2nd Jan 2018 to 6th Jan 2018
Venue: - VIVA Institute of Technology
Co-ordinator: - Prof. Vinit Raut
Enrolled students: - 15

Course Objective:-

1. To create fully functional Python programs
2. To understand user input
3. To learn about loop structures and conditionals
4. To work with Python file handling

Course Outcomes: -

After successful completion of the course, the students are able to

1. Describe the basics of the Python programming language
2. Install Python and write first program
3. Use variables to store, retrieve and calculate information
4. Utilize core programming tools such as functions and loops
5. Explain the basic principles of Python programming language

Course Schedule: -

Days	Morning Session (9 am to 12 pm)	Afternoon Session (1 pm to 4 pm)
1	Introduction	Install Python and basic python program
2	Basic syntax , variables and strings	Lists, Tuples and Dictionaries. Exercise
3	If-else statements, For loop	While loop, Pass, break and continue Exercise
4	Understanding Functions	File handling – opening and reading
5	Classes and Objects	Exercise Quiz

Report:-

Computer engg. department of VIVA Institute of Technology conducted a course on "Learning with Python" for second and third year students. Total 40 students had been enrolled for this course.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT

This course was conducted by Prof. Vinit Raut in order to provide basic knowledge of Python programming. This was 30 hrs. certificate course.

During the course students learned how to install Python. They learned all the basic of python like variables, lists, strings. Also students study conditional statements and loops. This course also cover functions and file handling.

Students enjoyed the course and completed it successfully.

CO-PO Mapping: -

Course Outcome	Program Outcome											
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	-	-	-	-	-	-	-	-	-	-	-
CO2	3	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	3	-	-	-	-	-	-	-	-	-
CO4	-	-	3	2	-	-	-	-	-	-	1	1
CO5	-	3	-	-	-	-	-	-	-	-	1	1
	3	3	3	2	-	-	-	-	-	-		

CO PO Justification: -

COs	POs	Justification
CO1	PO1	Strongly mapped as the students will be able to analyse the problem to be implemented using basics of Python.
CO2	PO1	Strongly mapped as the students will be able to identify the technique required to implement the problem.
CO3	PO3	Slightly mapped as the students will be able to find a solution for the problem identified.
CO4	PO3	Strongly mapped as the students will be able to find the relevant tools to implement the problem stated.
	PO4	Moderately mapped as the students will be able to find a feasible solution for the problem designed.
CO5	PO2	Strongly mapped as the students will be able to develop design methodologies for the system to be developed.

Ashwini Save
HOD, Computer Engg.

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Electronics and Telecommunication Engineering Department

Course Name: Nirman-Arduino Workshop

No.of students enrolled: 15

Day 1- Embedded System Basic (Working, Input devices & Programming Code):

Session 1: ***Introduction, Hardware & Basic Programming***

- ✓ Introduction to basic of embedded system
- ✓ Introduction & explanation of microcontrollers
- ✓ Explanation of AVR ATMega 328 microcontroller
- ✓ Explanation of Arduino board & programming
- ✓ Basic Arduino based programs for interfacing i/o devices

Session 2:

- ✓ Introduction to output devices interfacing
  - **Project 1 :** LED blinking
- ✓ Introduction to input devices interfacing
  - **Project 2:** Push button interfacing
- ✓ Rotary encoder interfacing
  - **Project 3 & 4:**
    i. More LEDS switching sequentially based on encoder input
    ii. Bar graph sort of LED switching based on encoder input

Quiz

Day 2 - *Digital & Analog Input Ouput Devices Interfacing*

Session 3:

- ✓ Explanation for digital input devices

- ✓ Explanation for analog input devices
- ✓ Introduction to temperature sensor and its working
- ✓ Basic programming for interfacing temperature sensor
    - **Project 5 :** Temperature sensor using LM35
- ✓ Introduction to relay
- ✓ Basic programming for interfacing relay
    - **Project 6:** Automatic temperature controller system (soldering iron temperature control_simple on/off)

Session 4:

- ✓ Introduction to LDR sensor and its working
- ✓ Basic programming for interfacing LDR sensor
    - **Project 7 :** Light controlled switch
- ✓ Introduction to IR sensor and its working
- ✓ Basic programming for interfacing IR sensor
    - **Project 8 :** Detect presence of object and blink LED accordingly

Quiz

Day 3 - Advance Sensor (Ultrasonic, Hall Effect) and Serial Communication

Session 5:

- ✓ Introduction to ultrasonic sensor and its working
- ✓ Basic programming for interfacing of ultrasonic sensor
- ✓ Programming and conversion concept for the measurement
- ✓ Formulas for speed, distance & time for distance measurement using ultrasonic sensor
    - **Project 9 :** Distance Finder / Range Finder using Ultrasonic
- ✓ Explanation of working of stepper motor & motor driver
- ✓ Interfacing of stepper motor with motor driver & basic motor control program
    - **Project 10 :** Stepper Motor Rotation
- ✓ Introduction to Hall Effect sensor and its working
- ✓ Basic programming for interfacing Hall Effect sensor
    - **Project 11 :** Stepper Motor Speed Detection

Session 6:

- ✓ Introduction to serial communication & its significance in embedded system
- ✓ Explanation of program for establishing serial communication for data transfer between computer & Arduino
    - **Project 12 :** Send temperature data and distance measured by ultrasonic to serial port

Quiz

Day 4 - Visible Output, Keypad

Session 7:

- ✓ Introduction to a 7-Segment LED display
- ✓ 7-segment LED display interfacing & basic data display program
  - **Project 13 :** Temperature indicator on 7 segment
- ✓ Introduction to LCD (16 X 2) & its working
- ✓ LCD Interfacing & Basic data display program
  - **Project 14 :** Display temperature on LCD

Session 8:

- ✓ Introduction to matrix keypad & its working
- ✓ Concept of data line reduction & matrix concept
- ✓ Interfacing LCD & matrix keypad with Arduino
  - **Project 15 :** LCD based GUI for user password registration and monitor

Project 16 / Product ***Smart Door System***

Day 5 - Industry 4.0 and Project Guidance

Session 9:

- ✓ Tips for Project making
- ✓ Steps for designing a project
- ✓ Schematic designing tips
- ✓ Project development phase
- ✓ Project functional block programming & output
- ✓ Doubt discussion

Session 10:

- ✓ Industry 4.0: The Fourth Industrial Revolution
- ✓ Certificates & Project Letters distribution for competition

Feedback

Report

Nirman is to nurture and organize the young change makers to solve various societal challenges. It is an educational process to train the students to take up crucial issues and problems in the society. The focus in this course is to enable and equip the students to immediately start building Arduino enabled products. This was a 30hrs/1 week certificate course.

Students understood what an Arduino is and how it works, learned programming concepts using C and C++ along with Arduino specific programming, used a wide variety of hardware and components and prototype projects using a breadboard.

This 5 days Bridge course was conducted by Prof. Nutan Malekar from 4th July 2017 – 8th July 2017 in order to provide basic knowledge to students about an **Arduino** and how it works. It helped students to learn programming concepts using **C and C++** along with Arduino specific programming. The students understood how to use a **wide variety of hardware and components** and prototype projects using a breadboard.

Course Objectives

Course Objectives

- To understand what an Arduino is and
- how it works To learn how to use an Arduino safely
- To program Arduino using code that have written in the Arduino IDE (Integrated Development Environment)
- To learn programming concepts using C and C++ along with Arduino specific programming
- To understand best practice concepts for programming and prototyping
- To use a wide variety of hardware and components and prototype your projects using a breadboard
- To build innovative project with Arduino

Course Outcomes:

- Students will be able to get new product or service ideas by hearing about needs in industry.
- Students will be able to receive large volumes of usable content within a compressed amount of time.
- Students will be able to get intensive exposure to a topic through presentations and discussions.
- Students will be able to achieve confidence and motivation for organising different events that improves the personality of a student.
- Students will be able to achieve confidence and motivation for participating in different events that improves the personality of a student.
- Students will be able to develop a connection that might help with future employment.

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
CO5	-	2	-	-	-	-	-	-	-	-	-	**2**
CO6	-	-	-	-	2	-	-	-	-	-	1	**1.5**
	2	2	-	-	2	2	-	-	-	-	1	

Electronics and Telecommunication Engineering Department

Course Name: VLSI Design & Embedded Systems

No.of students enrolled: 78

Date and Day	Time	Contents
26 December 2017	8.30 to 9.30	Breakfast, Regwastration and Inauguration
	9.30 – 11.30	Basics of VLSI and Introduction to Hardware Description Languages
	11.30 – 11.45	Tea Break
	11.45 – 12.45	Behavioral Modeling & Structural Modeling
	12.45-1.30	Lunch Break
	1.30 -4.30	Hands on practice - FPGA board
27 December 2017	9.00-11.00	Introduction to PLDs FPGA design Classification of IC Technologies
	11.00-11.15	Tea Break
	11.15-12.45	CPLD Architecture and 1 specific IC FPGA Architecture and 1 specific IC
	12.45 – 1.30	Lunch Break
	1.30 – 4.00	Testing of Logic circuits Hands on practice – FPGA board
28 December 2017	9.00-11.00	Introduction to Raspberry Pi its features
	11.00-11.15	Tea Break
	11.15-12.45	Basics of programming language use for Raspberry Pi
	12.45 – 1.30	Lunch Break
	1.30 – 4.00	Hands on practice – Raspberry Pi

29 December 2017	9.00-11.00	Basics of Embedded systems & recent trend
	11.00-11.15	Tea Break
	11.15-12.45	Embedded systems application
	12.45 – 1.30	Lunch Break
	1.30 – 4.00	PCB designing using Eagle software
30 December 2017	9-12.45	Basics of MOS Layout using micro wind software
	12.45-1.30	Tea Break
	1.30 – 4.00	Valedictory Session

Report

The objective of the Embedded Systems & VLSI Design course was to address the research, development and design problems and advance their solutions in VLSI circuits for embedded system and widespread computing applications. This course provides comprehensive coverage of VLSI Design and its hardware description languages while providing opportunities for Hands-on practical's on FPGA Board & Raspberry Pi.

This program dealt with the basic understanding, designing and simulation of the VHDL and Eagle software which provided practical exposure to the participants. The course aimed at equipping students with skills and knowledge in order to create a better society by guiding, training and motivating the students to take up research projects. This 5 days Bridge course was conducted by **Prof. Pratik Parsewar** from **26th December to 30th December 2017** in Electronics and Telecommunication Engineering Department, VIVA Institute of Technology.

Course Objectives

- To get familiarized with VLSI Design using VHDL.
- To learn about recent trends of research in field on Raspberry Pi and VLSI.
- After the completion of this course the participants will be able to design schematic and PCB Layout using Eagle software.
- Enhance the basic knowledge of Embedded Systems technology.

Course Outcomes:

- Students will be able to get familiarized with VLSI Design using VHDL.
- Students will be able to learn about recent trends of research in field on Raspberry Pi and VLSI.
- Students will be able to design schematic and PCB Layout using Eagle software.
- Students will be able to enhance the basic knowledge of Embedded Systems technology.

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
CO5	-	2	-	-	-	-	-	-	-	-	-	**2**
CO6	-	-	-	-	2	-	-	-	-	-	1	**1.5**
	2	2	-	-	2	2	-	-	-	-	1	

Electronics and Telecommunication Engineering Department

Course Name: SOFTWARE WORKSHOP

No.of students enrolled: 54

Module	Contents	Hours
1	**Introduction** Introduction to java, java buzzword, data types, dynamic initialization, scope and life time operators, control statements, arrays, type conversion and casting, finals & blank finals. **Classes and Objects:** Concepts, methods, constructors, usage of static, access control, this key word, Garbage collection, overloading, parameter passing mechanisms, nested classes and inner classes. **Inheritance:** Basic concepts, access specifies, usage of super key word, method overriding, final methods and classes, abstract classes, dynamic method dispatch, Object class.	8
2	**Interfaces:** Differences between classes and interfaces, defining an interface, implementing interface, Variables in interface and extending interfaces. **Packages:** Creating a Package, setting CLASSPATH, Access control protection, importing packages. Exception Handling: Concepts of Exception handling, types of exceptions, usage of try, catch, throw, throws and finally keywords, Built-in exceptions, creating own exception sub classes.	8
3	**Strings:** Exploring the String class, String buffer class, Command-linear arguments. Library: Date class, Wrapper classes. **Multithreading:** Concepts of Multithreading, differences between process and thread, thread life cycle, Thread class, Runnable interface, creating multiple threads, Synchronization, thread priorities, inter Thread communication, daemon threads, and deadlocks. **I/O Streams:** Streams, Byte streams, Character streams, File class, File streams.	8
4	**Applets**: Concepts of Applets, life cycle of an applet, creating applets, passing parameters to applets, accessing remote applet, Color class and Graphics **Event Handling**: Events, Event sources, Event classes, Event Listeners, Delegation event model, handling events.	6

Report

Duration: 8th Jan 2018 to 9th Apr 2018.

Venue: VIVA Institute Of Technology, Shirgaon.

Electronics & Telecommunication Engineering Department of VIVA Institute of Technology organized a 30 hours' certificate course on **"Software Workshop"** during **8th Jan 2018 to 9th Apr 2018.**

The workshop was basically aimed to provide basic knowledge to second year of semester 4– EXTC students of JAVA language which was conducted by **Mr. Kushal Suvarna sir** as the s peaker who guided the participants.

The event was a success with very positive feedback from the participants. The speech by the Principal **Dr. Arun Kumar** was an inspiring one that covered the broad future scopes of th e field. The Principal being an encouraging one who said that for such events where in studen t development is involved, he will always be supportive. In the speech given by **Mrs. Archan a Ingle**, H.O.D of EXTC, students gained an idea of how this workshop can be utilized to tak e creative projects in the field of software.

Mr. Kushal Suvarna sir introduced themselves to the participants and enlightened them about the fantastic and intriguing field of **JAVA software** and narrated their various achievements and their future plans.

Course Objectives

1. To understand the basic concepts and fundamentals of platform independent object oriented language.

2. To demonstrate skills in writing programs using exception handling techniques and multithreading.

3. To understand streams and efficient user interface design techniques.

Course Outcomes:

After successful completion of the course, the students are able to

- 1. Use the syntax and semantics of java programming language and basic concepts of OOP.
- 2. Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages.
- 3. Apply the concepts of Multithreading and Exception handling to develop efficient and error free codes.
- 4. Design event driven GUI and web related applications which mimic the real word scenarios.

CO-PO MAPPING

Course Outcome		Program Outcome										
	PO 1	PO 2	PO 3	PO 4	P0 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	CO Target level
CO1	2	-	-	-	-	-	-	-	-	-	-	**2**
CO2	-	2	-	-	-	-	-	-	-	-	-	**2**
CO3	2	-	-	-	-	2	-	-	-	-	-	**2**
CO4	2	-	-	-	-	-	-	-	-	-	-	**2**
	2	2	-	-	2	2	-	-	-	-	-	

Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Approved By AICTE, New Delhi, DTE, Govt. of Maharashtra
Affiliated to the University of Mumbai
Shirgaon, Virar(E.), Dist: Palghar- 401305, Maharashtra

Mechanical Engineering Department

Course Name: ADVANCE SOLID WORKS

No.of students enrolled: 15

Late Shree Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (E)

Department of Mechanical Engineering

VIVA/VIT/MECH/STUDENT/2017-18 Date: 30/06/2017

NOTICE

All the shortlisted students of Mechanical Engineering are hereby informed to attend the Value Added Course organized by Department of Mechanical Engineering on the topic of "**Advance Solid Works**" from 3rd July to 07th July 2017.

Timing:-

1st Session:- 9.00 am - 12. pm

2nd session:- 1.00 pm – 4.00 pm

Venue:- CAD CAM Lab

Prof. Tejas Chaudhari
Faculty Co-ordinator

Prof. Niyati Raut
HOD Mechanical

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Syllabus & Course Outcomes

Course Name: **Advance Solid Works**

Academic Term: **July 2017 to Dec 2017**

Syllabus:

Module	Details	Hours
1	**Sketching with SolidWorks:** 2D Sketching**,** sketching entities and relations, 3D Sketching, Editing & its features, Dimensions, Sketch tool, Mirror, Convert entity, Move & Copy **Part Modeling:** Extrude and Cut extrude, Revolve and Sweep, View toolbar, Creating Reference geometries, Fillet and Chamfer, Hole wizard, Calculating weight/mass & other geometric properties, Export/ Import of CAD files.	**6**
2	**Advanced Part Modeling:** Adding ribs and draft, Circular and rectangular pattern, Shell and Boss feature, Configuration and Design Tables, Material Library & Assigning Material, Library Features & Smart Fasteners, Boolean operations.	**6**
3	**Assembly Mode:** Getting started with Assembly, Inserting components in assembly, Top-Down Assembly, Feature Manager Design tree & Symbols, Hiding components & controlling transparency, Sub-Assemblies, Using mates in assembly, Use of Smart Fasteners, Bottom -Up Assembly, Interference detection and misalignment of holes, Exploding assemblies and adding explode lines.	**6**
4	**Generating detail drawings from Model:** Drafting overview, Drawing sheets and views, Adding drawing views, View settings and drawing properties, Smart Dimensioning, Annotations and Symbols, Sheet Formats and Templates, Ballooning for nomenclature, Adding Bill of Material and tables.	**6**

5	**Surface Modeling / Sheet Metal:** Introduction to surfacing tools, Sweep, Loft, Revolve, Offset etc., Filleting and trimming, Utilization of Sheet Metal & forming tools.	**6**

Course Outcomes

Sr. No.	CO Code	Course Outcomes
1	**CO_1**	Visualize and prepare 2D & 3D modeling of a given object using solid works software.
2	**CO_2**	Build solid model of a given object using solid works software.
3	**CO_3**	Generate assembly models of given objects using assembly tools.
4	**CO_4**	Perform product data exchange among CAD systems.
5	**CO_5**	Build solid model of a given object using surface modeling.

Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Approved By AICTE, New Delhi, DTE, Govt. of Maharashtra
Affiliated to the University of Mumbai
Shirgaon, Virar(E.), Dist: Palghar- 401305, Maharashtra

Mechanical Engineering Department

Course Name: ANSYS (Engineering Simulation)

No.of students enrolled: 18

Late Shree Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (E)

Department of Mechanical Engineering

VIVA/VIT/MECH/STUDENT/2017-18 Date: 29/12/2017

NOTICE

All the shortlisted students of Mechanical Engineering are hereby informed to attend the Value Added Course organized by Department of Mechanical Engineering on the topic of "**ANSYS (Engineering Simulation)**" from 02nd January to 06th January 2018.

Timing:-

1st Session:- 9.00 am - 12. pm

2nd session:- 1.00 pm – 4.00 pm

Venue:- CAD CAM Lab

Prof. Tejas Chaudhari
Faculty Co-ordinator

Prof. Niyati Raut
HOD Mechanical

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Syllabus & Course Outcomes

Course Name: **ANSYS (Engineering Simulation)**

Academic Term: **Jan 2018 to May 2018**

Syllabus:

Module	Details	Hours
1	**Solid Modeling:** An Overview of Solid Modeling Operations, Working with Boolean operations, Working Plane, Importing of 3D models.	**4**
2	**Meshing:** Free meshing or Mapped meshing, Setting Element Attributes, Selecting Element Type, Shape Function, Defining Element Types, Defining Section Properties, Assigning Element Attributes before meshing, Mesh Controls, The ANSYS Mesh Tool, Smart sizing, Meshing, Free Meshing, Mapped Meshing, Hybrid meshing, Mesh Extrusion, Volume Sweeping.	**8**
3	**Boundary Conditions:** Types of Loads, Applying loads. **Solvers:** Types of Solvers, Solver Setup, Load Step Options, Solving Multiple Load Steps.	**6**
4	**Tips & Tricks:** Using the Toolbar & Creating Abbreviations, Introduction to APDL, Using Parameters, Using the Start File, Using the Session Editor, Using Input Files.	**4**
5	**ANSYS Workbench:** Introduction to ANSYS Workbench, Graphical User Interface, Static Structural Analysis, Modal Analysis, Thermal Analysis, Contact Recognition.	**8**

Course Outcomes

Sr. No.	CO Code	Course Outcomes
1	**CO_1**	Apply basic aspects of Analysis to solve engineering problems.
2	**CO_2**	Select suitable meshing and perform convergence test.
3	**CO_3**	Apply basic aspects to solve engineering problems.
4	**CO_4**	Perform basics tricks and tips to solve engineering problems.
5	**CO_5**	Interpret the result.

Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Approved By AICTE, New Delhi, DTE, Govt. of Maharashtra
Affiliated to the University of Mumbai
Shirgaon, Virar(E.), Dist: Palghar- 401305, Maharashtra

Mechanical Engineering Department

Course Name: Introduction to Ultrasonic Non Destructive Testing (UT) Method

No.of students enrolled: 30

Late Shree Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Shirgaon, Virar (E)

Department of Mechanical Engineering

VIVA/VIT/MECH/STUDENT/2017-18 Date: 29/12/2017

NOTICE

All the shortlisted students of B.E. Mechanical Engineering are hereby informed to attend the Value Added Course organized by Department of Mechanical Engineering on the topic of "**Introduction to Ultrasonic Non Destructive Testing (UT) Method**" from 02nd January to 06th January 2018.

Timing:-

1st Session:- 9.00 am - 12.00 pm

2nd session:- 1.00 pm – 4.00 pm

Venue:- CAD CAM Lab

Prof. Tejas Chaudhari

Faculty Co-ordinator

Prof. Niyati Raut

HOD Mechanical

VIVA INSTITUTE OF TECHNOLOGY At: Shirgaon Post: Virar, Tal.: Vasai, Dist. Palghar VIRAR (EAST)

Syllabus & Course Outcomes

Course Name: **Introduction to Ultrasonic Non Destructive Testing (UT) Method**

MODULE	DETAILS	HOURS
1	**Module 1: Basic Principles of Non-Destructive Testing** Definition and importance of NDT Types of NDT methods Visual testing (VT) Liquid penetrant testing (PT) Magnetic particle testing (MT) Eddy current testing (ET) Radiographic testing method (RT) Ultrasonic testing (UT) Comparison of different NDT methods	5
2	**Module 2: Basic Ultrasonic Testing** Advantages of Ultrasonic Tests Limitations of Ultrasonic Tests Criteria for Successful Testing	4
3	**Module 3: Ultrasonic Waves in Materials** Definition of Wave and Wave Properties Ultrasonic Attenuation Nonlinear Elastic Waves	5

4	**Module 4: Implementation of Ultrasonic Testing** Transmission and Reflection Techniques Ultrasonic Test Systems Ultrasonic Sources Typical Transducer Characteristics Through-Transmission Systems Pitch and Catch Contact Testing Amplitude and Transit Time Systems	**8**
	B-Scan Presentation C-Scan Presentation System Calibration Major System Parameters	
5	**Module 5: Ultrasonic Testing Equipment** Basic Ultrasonic Test Systems Portable Instruments Capabilities of General Purpose Ultrasonic Test Equipment Modular Ultrasonic Equipment Special Purpose Ultrasonic Equipment Operation in Large Testing Systems	**8**

Course Outcomes:

SR. NO.	CO CODE	COURSE OUTCOMES
1	**CO_1**	Apply basic aspects of Inspection to solve engineering problems.
2	**CO_2**	Understand the basic concept of Ultrasonic Testing.
3	**CO_3**	Identify the various Ultrasonic Waves in Materials.
4	**CO_4**	Understand an implementation of Ultrasonic Testing.
5	**CO_5**	Understand the concept of Ultrasonic Testing Equipment.

Electrical Engineering Department

Course Name: Electrical Safety Practices

No.of students enrolled: 16

Name of Course:	Electrical Safety Practices	**Branch:**	Electrical Engineering
Duration:	30 Hours	**Coordinator:**	Prof. Piyali Mondal
Date of Commencement:	4 Jul 2017	**Date of Conclusion:**	4 Oct 2017

Course Outcomes	
Upon successful completion of the course, the student must be able to	
CO1	Understand the Indian power sector organization and Electricity rules, electrical safety in residential, commercial, agriculture, hazardous areas and use of fire extinguishers.
CO2	Outline the electrical safety during installation, testing, and commissioning procedures.
CO3	Make use of specifications of electrical plants and classification of safety equipment for various hazardous locations.
CO4	Distinguish various fire extinguishers and their classification.

Syllabus		
Unit No.	**Contents**	**Hours**
1	**Introduction To Electrical Safety, Shocks And Their Prevention:** Term and definitions, objectives of safety and security measures, Hazards associated with electric current and voltage, who is exposed, principles of electrical safety, Approach to prevent Accidents, the scope of subject electrical safety. Primary and secondary electrical shocks, possibilities of getting an electrical shock and its severity, medical analysis of electric shocks and its effects, shocks due to flash/ Spark over's, prevention of shocks, safety precautions against contact shocks, flash shocks, burns, residential buildings, and shop.	6

2	**Overview of the Safety Model:** Wiring and fitting, Domestic appliances, water tap giving a shock, shock from the wet wall, fan firing shock, multi-storied building, Temporary installations, Agricultural pump installation, Do's and Don'ts for safety in the use of domestic electrical appliances.	6
3	**Electrical Hazards recognizing and Evaluating** Preliminary preparations, safe sequence, the risk of plant and equipment, safety documentation, field quality, and safety, personal protective equipment, safety clearance notice, safety precautions, safeguards for operators, safety.	6
4	**Controlling Hazards: Safe Work Environment:** Hazardous zones, class 0, 1 and 2, spark, flashovers, and corona discharge and functional requirements, Specifications of electrical plants, equipment for hazardous	6
	locations, Classification of equipment enclosure for various hazardous gases and vapors, classification of equipment/enclosure for hazardous locations.	
5	**Controlling Hazards: Safe Work Practices:** Fundamentals of fire, initiation of fires, types; extinguishing techniques, prevention of fire, types of fire extinguishers, fire detection and alarm system; CO_2 and Halogen gas schemes; foam schemes, Ladder safety fact sheet, Avoid wet working conditions and other dangers, Avoid overhead powerlines	6

Learning Resources

Text Books:

1. Rao, S. and Saluja, H.L., "Electrical Safety, Fire Safety Engineering and Safety Management", Khanna Publishers, 1988.

Reference Books:

1. Cooper. W.F, "Electrical safety Engineering", Newnes-Butterworth Company, 1978.
2. John Codick, "Electrical safety handbook", McGraw Hill Inc., New Delhi, 2000.
3. Nagrath, I.J., and Kothari, D.P., "Power System Engineering", Tata McGraw Hill, 1998.
4. Wadhwa, C.L., "Electric Power Systems", New Age International, 2004.

Electrical Engineering Department

Course Name: Printed circuit board design

No.of students enrolled: 10

Name of Course:	Printed Circuit Board (PCB) Designing	**Branch:**	Electrical Engineering
Duration:	30 Hours	**Instructors:**	Aadil Sheikh
Date of Commencement:	14 July 2017	**Date of conclusion:**	10 Nov 2017

Course Outcomes	
Upon successful completion of the course, the student must be able to	
CO1	To understand the requirements of designing a PCB using software.
CO2	To understand various components required for PCB design and their electrical ratings.
CO3	To use development tools for PCB designing
CO4	To understand design standards and flow charts

Syllabus		
Unit No.	**Contents**	**Hours**
1	**Introduction to PCB designing concepts:** Introduction & Brief History: What is PCB, Difference between PWB and PCB, Types of PCBs: Single Sided (Single Layer), Multi-Layer (Double Layer), PCB Materials. Prototyping, eCAD and PCBs, Purpose and Intent, Equipment Computer Circuit Programming and Testing Hardware, PCB Component Hardware, Software, MPLAB X IDE and XC8 Compiler,Understanding the Walkthrough	6

2	**Component introduction and their categories:** Types of Components: Active Components, Passive Components Component Package Types: Axial lead, Radial Lead, Single Inline Package(SIP), Dual Inline Package(DIP), Transistor Outline(TO), Pin Grid Array(PGA), Metal Electrode Face(MELF), Leadless Chip Carrier (LCC), Small Outline Integrated Circuit(SOIC), Quad Flat Pack(QPF) and Thin QFP (TQFP), Ball Grid Array (BGA), Plastic Leaded Chip Carrier(PLCC)	6
3	**Introduction to Development Tools:** Introduction to PCB Design using OrCAD tool, Introduction to PCB Design using PROTEUS tool	6
4	**Detailed description and practical of PCB designing**	6
	PCB Designing Flow Chart, Description of PCB Layers, Keywords & Their Description, PCB Materials, Rules for Track, Study of IPC Standards	
5	**Lab practice and designing concepts:** Starting the PCB designing, Auto routing, PCB Designing Practice, Post Designing & PCB Fabrication Process, Testing and Troubleshooting Methods	6

Learning Resources	
Text Books:	
	1. Kraig Mitzner, "Complete PCB Design Using OrCad Capture and Layout", 2011
Reference Books:	
	1. "PCB Design for Real-World EMI Control (The Springer International Series in Engineering and Computer Science)" by James Drewniak and Bruce R Archambeault. 2. "PCB Design: Printed Circuit Board" by Michael Dsouza and Dsouza Michael

Electrical Engineering Department

Course Name: ELECTRICAL INSTALLATION

No.of students enrolled: 15

Name of Course:	ELECTRICAL INSTALLATIO N	**Branch:**	Electrical Engineering
Duration:	30 Hours	**Instructors:**	SUSHANT BANSAL
Date of Commencement:	24 JAN 2018	**Date of conclusion:**	10 April 2018

Course Outcomes	
Upon successful completion of the course, the student must be able to	
CO1	To understand practices followed in industries for safety of equipment and personnel.
CO2	To understand basic electrical and electronics concepts, devices and their electrical ratings.
CO3	To understand power transfer systems and their installation practices in industry
CO4	To understand documentation required for installation.

C
The objective of this vocational course is to make students understand various installation practices followed in industries for electrical equipment. This course is designed to make students job-ready for the industry by instilling multiple skills in them like electrical drawing and reading, IEEE and IS standards followed in industries, documentation for industries, etc.

Syllabus		
Unit No.	**Contents**	**Hours**
1	**Health and safety industry practices** The regulations, laws and guidance documents associated with the electrical industry, Use equipment on a construction site, Follow safety procedures, practices and policies on construction sites, Carry out electrical safety procedures and practices, Understand environmental protection, structure and roles of individuals and organizations	6
2	**Electrical science** Understand direct current principles, Understand electromagnetic properties associated with devices under installation, Understand electronic components required for installation with data sheets and drawings.	6
3	**Electrical installation** Tools commonly used in electrical installation practices, Erect cable containment/management systems used in electrical installation, Install wiring systems and supports used in electrical installation activities, Install accessories and terminate using a range of connections.	6
4	**Power transfer technology** Understand how electricity is supplied and the characteristics of consumer's equipment, Understand isolation and protection, Understand automatic disconnection of supply, Understand the principles of final circuits	6
5	**Technical documentation with clients** Understand technical information with help of IEEE standards, manufacturer guidelines, Drawings used to plan electrical activities, Types of financial information, Types of handover information	6
Learning Resources		
Text Books:		
	1. Trevor Linsley, "Basic electrical installation work", 1989 2. J. B. Gupta, "A Course in Electrical Installation Estimating and Costing", 2013.	
Reference Books:		
	1. Tarlok Singh, "Installation Commissioning & Maintenance Of Electrical Equipments", 2013 2. Brian Scaddan, "Electrical Installation Work", 2015	

Civil Engineering Department

Course Name: MSP & PRIMAVERA

No.of students enrolled: 26

Objectives:

1. Plan for a project in detail
2. To use templates which creates projects in project 2017
3. To create, manage, schedule and track all the imputed resources
4. To create, manage, assign and track tasks of all inputted resources
5. To work with deadline and constraints
6. To use dependencies to help schedule tasks
7. To run reports

Course Outcomes

At the end of the course, learners will be able to understand:

1. The functions involved in software related to civil engineering projects.
2. How to prioritize tasks, define expectations and prepare schedule.
3. Will know tracking and managing resources throughout the project.
4. To create and tracking budgets and sharing calendars with the team.
5. Learn about risk management involved in project management.

Chapter 1: An Introduction to Project Management 03hours

Recognize when to use project management, role as a project manager is to deliver a project, communications, influence, and careful use of authority all play a major factor in the support you receive to complete the project, Project managers frequently find themselves with the challenge of adding new scope to a project with an already tight timeline. Typically, the job of

the project manager is to work with their team to determine what this new scope will mean and how it will affect the project, building and tracking project schedules.

Chapter 2: The Microsoft Project User Interface 05 hours

To recognize best practices when running ms project for the first time, microsoft project user interface, the ribbon area icons, tabs, and access to the backstage, microsoft project scheduling engine, preparing a new project, estimating the project, ribbon actions (icons) you may need to perform within microsoft project, backstage is a full-screen area that allows you to open, save, share, and print your project, using views and tables

Chapter 3: The Microsoft Project Scheduling Engine 06 hours

constraint based scheduling, calculates dates for you based on constraints you place on tasks and resources, critical path and user-controlled scheduling, user-controlled scheduling can effectively break the ability to identify the critical path because durations, start dates, and finish dates are not required when using this feature,

configure project options, microsoft project offers many options for you to configure the user interface, scheduling engine, and task tracking for your project most of these options are located in the backstage using the options menu item.

Chapter 4: Preparing a New Project 6 hours

Create a new project before you create a new project, make sure you have all the project options configured as you want them unless you have a unique reason to do otherwise, it is a good practice to start with a blank project configure a project calendar learn the differences between the Microsoft project calendars and when to use them.

Chapter 5: Estimating the Project……..3 hours

Add tasks to the project, add durations to each task, add predecessors to each task to link tasks together, create the critical path, add resources to the project, create resource assignments, build

a work breakdown structure, add costs to the project, add milestones to the project, add lag and review the critical path, adjust resource allocations.

Chapter 6: Tracking the Project **2 hours**

To create a baseline baselines, custom views and fields project reporting task status updates updating task status from your team and update the project progress. resource assignment status updates .

Chapter 7: Custom Views and Fields **3 hours**

To create custom views and tables views, create custom fields microsoft project, create graphical indicators when you create a custom field, further enhance it to use graphical indicators. these indicators allow you to display things like red, yellow, and green flag

Chapter 8: Project Reporting… **2 hours**

working with the timeline, multiple timelines in project 2016, 2019 and online, working with the reporting module, about agile projects, using the task board, using sprints, using project online desktop, tips and tricks conclusion go to goskills.com using boards and the gantt chart, sharing boards

Civil Engineering Department

Course Name: Recent trends in Civil Engineering

No.of students enrolled: 138

Schedule

Date	Pre-Lunch (9am-12pm)	Post-Lunch (1pm-4pm)
26/06/2017	Ramya Raju	Akshay Mistry
27/06/2017	Lissy Jose	Monica More
28/06/2017	Akshay Mistry	Lissy Jose
29/06/2017	Ashish Shetty	
30/06/2017	Ramya Raju	Monica More

Day 01: Introduction to concrete trends on site

Session 01: Cube casting techniques as per IS codes

W/c ratio proportion as per IS codes and actually used Varying size of aggregates and its disadvantages Type of sand used for casting purpose

Session 02: Mix design as per IS codes

Mix design calculations and assumptions

Day 02: Construction Management implementation

Session 01: flowchart of construction

industry Role of

construction Supervisor

Session 02: Introduction to estimation in construction

work Planning for equipment

Day 03: Construction advance equipment's

Session 01: planning and process of equipment and

methods Required planning of equipment's

Session 02: Geotechnical materials, compaction and stabilization

Day 04: Water field Technologies

Day 05: Usage materials testing equipment

Session 01: Compression testing

machine Universal

testing machine

Session 02: Abrasion test on aggregate Impact value test on

aggregate

Report:

One week course was conducted by civil engineering faculty in order to provide basic knowledge about recent trends and upcoming methods in civil engineering to final year students. It has helped students to learn and understand the method of using various equipment's for various task on field.

Course Objectives:

1. To understand the knowledge of construction management
2. To learn about various methods in concrete technology
3. To learn how various equipments can be used
4. To learn how material testing equipments can be used
5. To understand water field technologies

Course outcomes:

1. Students will be able to understand how construction management methods can be used in various cases
2. Students will be able to understand various testing methods carried out according to material availability
3. Students will be able to understand where advance equipments can be used
4. Students will be able to operate various material testing equipments
5. Students will be able to analyze various water field technologies

CO PO MAPPING

CO	Program Outcomes												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	CO target
C01	2												2
CO2		2			2								2
CO3		2									1		1.5
C04		2		2									2
CO5		2		2									2
	2	2		2	2						1		

Humanities and Applied Sciences Department
Course Name: Soft Skills
No.of students enrolled: 30

NAME	SOFT SKILLS
DURATION	(1 WEEK) 30 HRS
DATE & TIME	2nd Jan to 6th Jan 2018/9.30am -12.30am and 1.30am -4.30am
RESOURSE PERSON	Mr. Prashant Pawar & Mrs.Trupti Patil

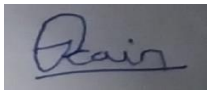
COURSE OBJECTIVE:

To help the future engineers to understand and implement soft skills in the work environment.

Aim: The course can help future engineers to improve their communication, problem-solving and presentation skills with an aim to land a better job.

SESSIONS ON SOFT SKILLS FOR FIRST YEAR ENGINEERING STUDENTS

Session 1.	Soft Skills and You
Session 2.	Interpersonal Communications
Session 3.	Leadership Management
Session 4.	Preparing for Employment
Session 5.	Group Discussion
Session 6.	Resume Building
Session 7.	Mock Interview
Session 8.	Presentation Skills
Session 9.	Communication at Workplace
Session 10.	Workplace Etiquette



CO-ORDINATOR
PROF. Jayesh Jain

H.O.D
DR. Ajazul Haque