Lokmanya Tilak Jankalyan Shikshan Sanstha's
PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING
Harpur Nagar, Umred Road (Near Bada Tajbagh), Nagpur-24
(Approved by AICTE, New Delhi, Govt. of Maharashtra
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List of Add-on/ Certificate Course offered During 2021-22

Sr.No.	Name of Program / Certificate Program Offered	Course Code
1	Certificate Course on " R Language"	CSE212201
2	Certificate Course on " Introduction to NS2 Simulator"	CSE212202
3	Certificate Course on "IoT"	IT212201
4	Certificate Course on "Machine Learning"	IT212202
5	Certificate Course on "Skill Development on -No SQL"	IT212203
6	Certification course on "Data Science and Data Analytics"	EC212201
7	Certification course on "Hands on TMS320C5416 Processor using Code Composer Studio"	EC212202
8	Certification course on "5G Core Architecture"	EC212203
9	Certificate Course on "Importance of Automation"	ME212201
10	Certificate Course on "Advancements in Automobile Engineering"	ME212202
11	Add-on Course on "Trends in Industry 4.0"	ME212203
12	Certificate Course on "Watershed Management"	CV212201
13	Certificate Course on "Transportation Engineering"	CV212202
14	Certificate Course on "Effect of Air Pollution on Human, Plant and Animal"	CV212203

Certified Document from Page Number 2- Page Number 60

PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING
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Department of Computer Science and Engineering

Session 2021-2022(ODD SEM)

NOTICE   Date:- 01/10/2021

All the Students of III Semester are hereby informed that our Department is organizing

30 days free Certificate courses on "**R LANGUAGE**". Interested students can enroll

their name to Mr. D. V. Jamthe on or before **05/10/2021**. Certificate will be issued to

the students after successful completion of the course. The detail contents of the course

and other information is attached herewith.

Sr. No.	Name Of Course	Date Of Commencement	Venue
1.	R LANGUAGE	07/10/2021 THURSDAY	Computer Center, I Floor

Co-ordinator

Mr. D. V. Jamthe

HOD, CSE

Mr. K. N. Hande
Head of Department
Department of Computer Sc. & Engg.
Priyadarshini Bhagwati College of Engg.
Umred Road, Nagpur - 24.

Department of Computer Science and Engineering

Academic session 2021-22(Odd Sem)

Free Certification Course

Course Name:- R LANGUAGE

Sr. No.	Contents	No. Of Hrs.
1.	**Introduction to R and RStudio :** Introduction to R programming and its application	1
2.	Installing R and RStudio	1
3.	Basic Operation: arithmatic, variable, data types	1
4.	Managing R project and working Directories	1
5.	**Data Structure in R :** Vectors: creation, indexing, manipulation	1
6.	Matrices and arrays	1
7.	Lists and data frames	1
8.	Factors and character vectors	1
9.	**Data Input and Output :** Reading and Writing data from/to varies file format(CSV,Exel,Text, etc)	1
10.	Data preprocessing : cleaning, transforming and structuring data	1
11.	**Control Structures and Function :** Conditional statement if, else, Switch	1
12.	Loops : for, while, repeat	1
13.	Writing function in R	1
14.	Scope and Environment	1

15.	Data Visualization with ggplot2 : Introduction to data visualization	1
16.	Basic plotting using Base R Graphics	1
17.	Introduction to ggplot2 grammer	1
18.	Creating Various types of Plots : scatter plot, bar plots, line plots, etc.	1
19.	Data manipulation with dplyr and tidyr : Introduction to data manipulation	1
20.	Using dplyr for filtering , arranging	1
21.	summarizing and grouping data	1
22.	Reshaping data with tidyr:gathering, spreding and pivoting	1
23.	Statistical Analysis in R : Descriptive statistic and summury function	1
24.	Hypothesis testing and p-values	1
25.	Linear regression and correlation analysis	1
26.	Basic principle of statistical inference	1
27.	Advanced Topic : Writing efficient code : vectorization and optimization	1
28.	Working with dates and times	1
29.	Handling missing data	1
30.	Introduction to data modelling and machine learning in R	1

Co-Ordinator
Mr. D. V. Jamthe

HOD, CSE
Mr. K. N. Hande
Head of Dapartment
Department of Computer Sc. & Engg.
Priyadarshini Bhagwati College of Engg,
Umrad Road,Nagpur - 24.

Lokmanya Tilak Jankalyan Shikshan Sanstha's
PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING
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Department of Computer Science and Engineering
Academic session 2021-22(ODD SEM)

Report of Free Certification course

on

R LANGUAGE

1. Event Title　　　　　　　　: R Language
2. Event Date　　　　　　　　: 07/10/2021 (Thursday) To 04/12/2021 (Saturday)
3. Event Venue　　　　　　　: Computer Centre Lab, Dept of CSE, PBCOE
4. Event Resource Person　　: Mr. D. V. Jamthe
5. Name of Event Coordinator: Mr. D. V. Jamthe
6. Sem/Branch:　　　　　　　:III Sem, B. Tech CSE (50 Students)
7. Objective　　　　　　　　: To make student aware about R Language
8. Outcome　　　　　　　　　:After the completion of the R Language Course, you should
be able to understand - Basic R Language tools, How to use stastistic anf how to analyze
the data in R Language , How to clean and visualized data in R Language. it provide
tools for linear and nonlinear modeling, time-series analysis, clusturing,regression analysis
and more.

Mr. D. V. Jamthe	Prof. K. N. Hande	Dr.(Mrs.) A. R. Chaudhari	Dr. N. K.Choudhari
Co-ordinator	Head of Department	IQAC Co-ordinator	Principal
	Department of Computer Sc. & Engg.	IQAC Coordinator	Priyadarshini Bhagwati College of Engg
	Priyadarshini Bhagwati College of Engg.	Priyadarshini Bhagwati College of Engg.	Umred Road, Nagpur.
	Umred Road, Nagpur - 24,	Umred Road, Nagpur.	

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Department of Computer Science and Engineering

Session 2021-2022 (EVEN SEM)

NOTICE   Date:- 15/02/2022

All the Students of VI Semester are hereby informed that our Department is organizing **one month free Certificate courses on Introduction to NS2 Simulator.** Interested students can enroll their name to Mr. Kapil Hande on or before **18/02/2022** Certificate will be issued to the students after successful completion of the course. The detail contents of the course and other information is attached herewith.

Sr. No.	Name Of Course	Date Of Commencement	Venue
1.	Introduction to NS2 Simulator	21/02/2022	Computer Center, I Floor

Mr. K. N. Hande

Head of Department CSE
Department of Computer Sc. & Engg.
Priyadarshini Bhagwati College of Eng
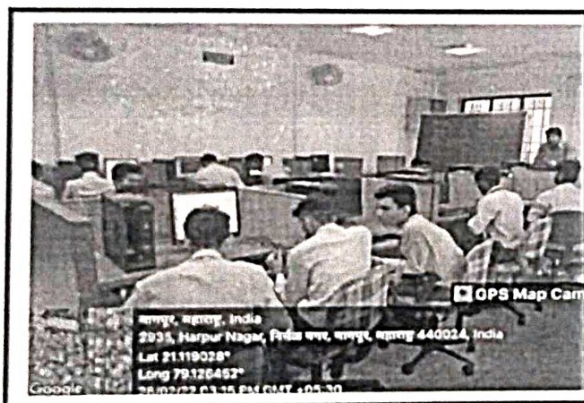Umred Road, Nagpur - 24.

Lokmanya Tilak Jankalyan Shikshan Sanstha's
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Department of Computer Science and Engineering

Academic session 2021-22 (EVEN Sem)

Free Certification Course Syllabus

Course Name:- Introduction to NS2 Simulator

Sr. No.	Contents	No. Of Hrs.
1.	Understanding of basic Linux commands for file handling	1
2.	Understanding of basic Linux commands for file handling	1
3.	Understanding of Shell programming in Linux	1
4.	Understanding of Shell programming in Linux	1
5.	Execution of otcl/tcl script	1
6.	Execution of otcl/tcl script	1
7.	Understating the working of nam	1
8.	Understating the working of nam	1
9.	Understating the working of xgraph	1
10.	Understating the working of xgraph	1
11.	Installation and configuration ns-2 network simulator	1
12.	Installation and configuration ns-2 network simulator	1
13.	Visualize, packet flow, queue build and packet drop using ns2 simulation environment	1
14.	Visualize, packet flow, queue build and packet drop using ns2 simulation environment	1
15.	Investigate the impact of contention window size on the performance of the IEEE 802.11 MAC protocol	1
16.	Investigate the impact of contention window size on the performance of the IEEE 802.11 MAC protocol	1
17.	Execution of carrier sensing mechanism in IEEE 802.11 and compare physical carrier sense and virtual carrier sense mechanisms	1
18.	Execution of carrier sensing mechanism in IEEE 802.11 and compare physical carrier sense and virtual carrier sense mechanisms	1

19.	Simulation of impact of MAC overhead and multiple hops on achievable data throughput in a wireless network	1
20.	Simulation of impact of MAC overhead and multiple hops on achievable data throughput in a wireless network	1
21.	Execution of some RF propagation models and their implementation in ns2	1
22.	Execution of some RF propagation models and their implementation in ns2	1
23.	Simulate the performance of DSDV routing protocol in adhoc network	1
24.	Simulate the performance of DSDV routing protocol in adhoc network	1
25.	Creating the scenario for simple LAN in ns2	1
26.	Creating the scenario for simple LAN in ns2	1
27.	Creating the scenario for Wireless sensor network in ns2	1
28.	Creating the scenario for Wireless sensor network in ns2	1
29.	Creating the scenario for Mobile adhoc network in ns2	1
30.	Creating the scenario for Mobile adhoc network in ns2	1

Co-Ordinator & HOD, CSE

Head of Department
Mr. K. N. Hande
Department of Computer Sc. & Engg.
Priyadarshini Bhagwati College of Engg.
Umred Road,Nagpur - 24.

Lokmanya Tilak Jankalyan Shikshan Sanstha's
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Department of Computer Science and Engineering
Academic session 2021-22(EVEN SEM)

Report of Free Certification course on Introduction to NS2 Simulator

1. Event Title   : Introduction to NS2 Simulator
2. Event Date   : 21 February 2022 (Monday) To 25 April 2022
3. Event Venue   : Computer Centre Lab, Dept of CSE, PBCOE
4. Event Resource Person   : Mr. Kapil Hande
5. Name of Event Coordinator : Mr. Kapil Hande
6. Sem/Branch   : VI Sem, B. Tech CSE (55 Students)
7. Objective   : To Make Student's Aware on Network Simulator 2
8. Outcome   : Students can intuitively see the behavior of network protocols, understand the impact of various environments or other factors on the network.

Prof. K. N. Hande

Co-Ordinator & HOD., CSE
Head of Department
Department of Computer Sc. & Engg.
Priyadarshini Bhagwati College of Engg.
Umred Road, Nagpur - 24.

Dr. (Mrs.) A. R. Chaudhari

IQAC Coordinator
IQAC Coordinator
Priyadarshini Bhagwati College of Engg
Umred Road, Nagpur.

Dr. N. K.Choudhari

Principal
Priyadarshini Bhagwati College of Engg.
Umred Road, Nagpur.

PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING, NAGPUR

Department of Information Technology

2021-22

Free Online Certification Course
on
IoT

Time: 9:30 AM to 10:30 AM | DATE: 3/09/2021 to 9/10/2021

Contacts
Mr. M.S. Chaudhari(HOD, IT)
8806011511
Ms. S.H. Chaflekar (Asst. Prof, IT)
9096764935

Seat Capacity-50 only

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Department of Information Technology
Academic Session 2021-2022

NOTICE   Date -27/08/2021

All the Students are hereby informed that Department of Information Technology is organizing free online certification Course on IoT from dated 3/09/2021. Interested Students can enroll to the course, certificate will be issued after successful completion of the course.

The Details of the course and other information is attached herewith

Sr. No	Name of the Course	Date of Commencement	Mode	Seats
1	IoT	3/09/2021	online	50

Mr.M.S.Chaudhari
HOD

PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING, NAGPUR

Department of Information Technology

Session 2021-22

Free Online Certification Course

Course Name -Skill Development on IoT

Syllabus

1. Introduction to IOT

   Understanding IoT fundamentals

   IOT Architecture and protocols

   Various Platforms for IoT

   Real time Examples of IoT

   Overview of IoT components and IoT Communication Technologies

   Challenges in IOT

2. Arduino Simulation Environment

   Arduino Uno Architecture

   Setup the IDE, Writing Arduino Software

   Arduino Libraries

   Basics of Embedded C programming for Arduino

   Interfacing LED, push button and buzzer with Arduino

   Interfacing Arduino with LCD

3. Sensor & Actuators with Arduino

   Overview of Sensors working

   Analog and Digital Sensors

   Interfacing of Temperature, Humidity, Motion, Light and Gas Sensor with Arduino

   Interfacing of Actuators with Arduino.

   Interfacing of Relay Switch and Servo Motor with Arduino

4. Basic Networking with ESP8266 WiFi module

   Basics of Wireless Networking

Introduction to ESP8266 Wi-Fi Module

Various Wi-Fi library

5. IoT Protocols

M2M vs. IOT

Communication Protocols

6. Cloud Platforms for IOT

Virtualization concepts and Cloud Architecture

Cloud computing, benefits

Cloud services -- SaaS, PaaS, IaaS

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Department of Information Technology
Academic session 2021-2022

Report on Online Certification Course on Skill Development on IoT

1. Title of the Course   :   Certification Course on Skill Development on IoT

2. Course Code   :   IT212201

3. Course Date   :   03-09-21 to 09-10-21

4. Event conduction duration   :   30 Hrs

5. Event venue   :   Online mode

6. Event resource person/Co-ordinator : Ms. S.H.Chaflekar, PBCOE, Nagpur

7. Number of students   :   64

8. Objective   : To make students aware about the technical knowledge and skills to build Internet of Things (IoT) systems.

9. Outcome   :   Students realized revolution of Internet in mobile, sensors, cloud, understood communication between devices and sensors and communication protocols.
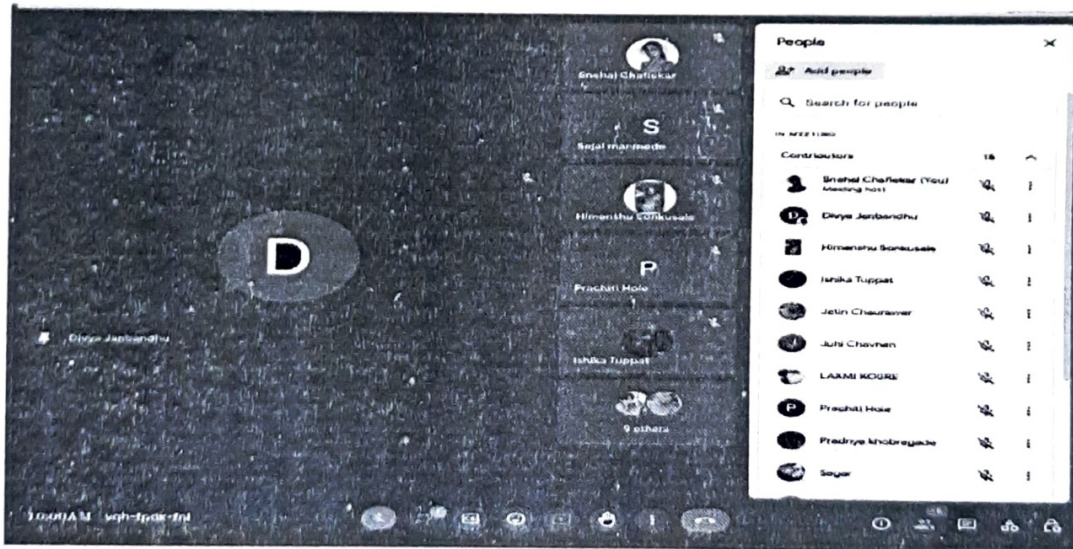
Program Co-ordinator/Resource Person	Head Prof. M. S. Chaudhari	IQAC Co-ordinator Dr. Ms. A. R. Chaudhari	Principal Dr. Nri Kci Choudhari

IQAC Coordinator Priyadarshini Bhagwati College of Engg.
Priyadarshini Bhagwati College of Engg.   Umred Road, Nagpur.
Umred Road, Nagpur.

PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING, NAGPUR

Department of Information Technology

2021-22

Free Certification Online Course
on
Machine Learning

Time: 9:30 AM to 10:30 AM | DATE: 13/12/2021 to 15/01/2022

Contacts
Mr. M.S. Chaudhari(HOD, IT)
8806011511

Ms. K. Ande(Asst. Prof, IT)
9561654556

Seat Capacity-50 only

Department of Information Technology
Academic Session 2021-2022

NOTICE   Date -09/12/2021

All the Students are hereby informed that Department of Information Technology is organizing free certification Online Course on Machine Learning from dated 13/12/2021. Interested Students can enroll to the course, certificate will be issued after successful completion of the course.

The Details of the course and other information is attached herewith

Sr. No	Name of the Course	Date of Commencement	Venue	Seats
1	Machine Learning	13/12/2021	Online	50

Prof.M.S.Chaudhari

HOD
Head
Information Technology Department
Priyadarshini Bhagwati College of Engineering
Harpur Nagar, Nagpur.

Machine Learning

Introduction
How Machine Learning Works
Installation
Configuring Machine Learning With Eclipse
Machine Learning RC Vs Machine Learning
Programming your tests in WebDriver
Debugging WebDriver test cases
Troubleshooting
Handling HTTPS and Security Pop-ups
Running tests in different browsers
Handle Alerts / Pop-ups and Multiple Windows using WebDriver

Automation Test Design Considerations

Introducing Test Design
What to Test
Verifying Results
Choosing a Location Strategy
UI Mapping
Handling Errors

Handling Test Data

Reading test data from excel file
Writing data to excel file
Reading test configuration data from text file
Test logging
Machine Learning Grid Overview

Building Automation Frameworks Using Machine Learning

What is a Framework
Types of Frameworks
Modular framework
Data Driven framework
Keyword driven framework
Hybrid framework
Use of Framework
Develop a framework using TestNG/WebDriver

Course Coordinator
K. A. Ande(9561654556)

Lokmanya Tilak Jankalyan Shikshan Sanstha's
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Department of Information Technology
Academic session 2021-2022

Report on Certification Course on Machine Learning

1. Title of the Course : Certification Course on Machine Learning

2. Course Code : IT212202

3. Course Date : 13-12-21 to 15-01-22

4. Course conduction duration : 30 Days

5. Event venue : Online

6. Event resource person/Coordinator : Mrs. K.A. Ande, PBCOE, Nagpur

7. Number of students : 59

8. Objective : To discover patterns in the user data and then make predictions based on these and intricate patterns for answering business questions and solving business problems

9. Outcome : Students understand how to evaluate models generated from data. optimize the models learned and report on the expected accuracy that can be achieved by applying the models.

| Program Co-ordinator/Resource Person | Head
Prof. M. S. Chaudhari | IQAC Co-ordinator
Dr. Ms. A. R. Chaudhari | Principal
Dr. N. K. Choudhary |

PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING, NAGPUR

Department of Information Technology

2021-22

Free Certification Course
on
Skill Development on NoSQL

Time: 9:30 AM to 10:30 AM | DATE: 02/03/2022 to 08/04/2022
VENUE- Project Lab, Department of Information Technology

Contacts
Prof. M.S. Chaudhari(HOD, IT)
8806011511

Ms. Ashwini Tikle(Asst. Prof, IT Dept)
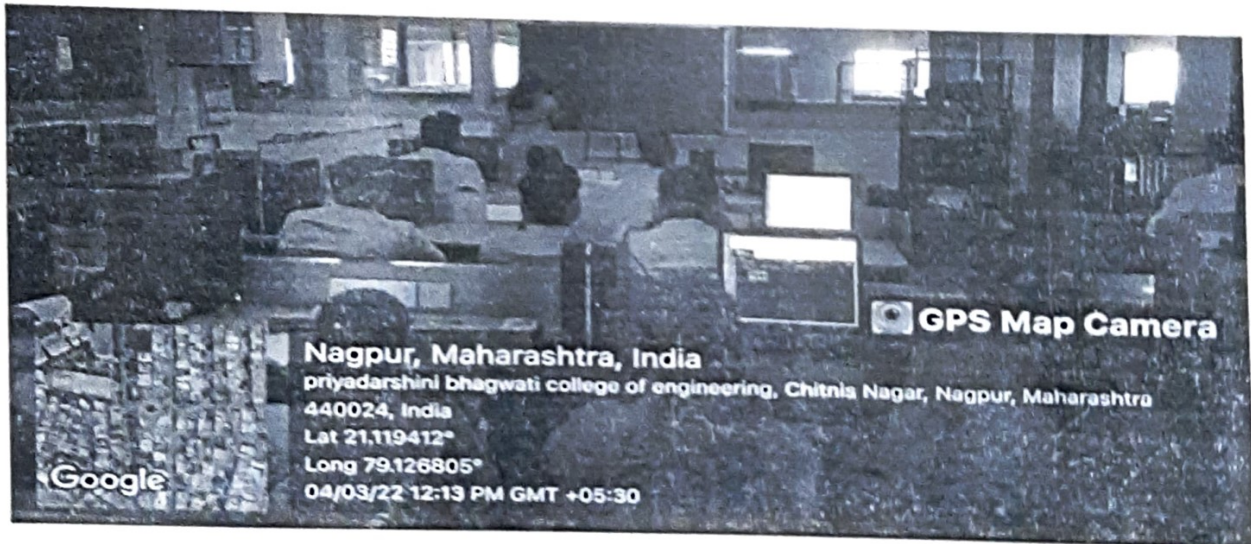**9168096070**

Seat Capacity-50 only

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Department of Information Technology
Academic Session 2021-2022

NOTICE   Date -26/02/2022

All the Students are hereby informed that Department of Information Technology is organizing free certification Course on Skill Development on **NoSQL** from dated 02/03/2022. Interested Students can enroll to the course, certificate will be issued after successful completion of the course.

The Details of the course and other information is attached herewith

Sr. No	Name of the Course	Date of Commencement	Venue	Seats
1	Skill Development on NoSQL	02/03/2022	Project lab, IT Department	50

Dr.M.S.Chaudhari
HOD
Head
Information Technology Department
darshini Bhagv... ...ege of Enginec...
Umred Road, Nagpur.

PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING, NAGPUR
Department of Information Technology
Session 2021-22
Free Certification Course
Course Name -Skill Development on NoSQL
Syllabus

Introduction to NoSQL (2 hours)

Overview of traditional SQL databases and their limitations

Introduction to NoSQL databases and their advantages

Types of NoSQL databases: document, key-value, columnar, and graph databases

Document Databases (6 hours)

Understanding document-oriented databases and their structure

Document data model and schema-less design

CRUD operations (Create, Read, Update, Delete) in document databases

Querying and indexing documents

Examples of popular document databases: MongoDB, Couchbase

Key-Value Databases (4 hours)

Introduction to key-value databases and their characteristics

Key-value data model and basic operations

Working with key-value pairs and storing unstructured data

Consistency, availability, and partition tolerance (CAP theorem)

Examples of popular key-value databases: Redis, Amazon DynamoDB

Columnar Databases (4 hours)

Overview of columnar databases and their use cases

Columnar data model and column-oriented storage

Querying and aggregating data in columnar databases

Compression techniques for efficient storage and retrieval

Examples of popular columnar databases: Apache Cassandra, Apache HBase

Graph Databases (6 hours)

Introduction to graph databases and their unique features
Graph data model: nodes, edges, and properties
Querying and traversing graphs using graph query languages (e.g., Cypher)
Indexing and optimizing graph queries
Examples of popular graph databases: Neo4j, Amazon Neptune

Scaling and Replication (4 hours)

Scaling strategies for NoSQL databases: horizontal and vertical scaling
Sharding and partitioning data across multiple nodes
Replication and data consistency in distributed systems
High availability and fault tolerance considerations

NoSQL Database Design Patterns (4 hours)

Design considerations for NoSQL databases
Data modeling and schema design approaches
Handling relationships and denormalization
Case studies and real-world examples of NoSQL database design

A-Tikle

Course Coordinator
Ms. Ashwini Tikle(Asst. Prof, IT Dept)
9168096070

Lokmanya Tilak Jankalyan Shikshan Sanstha's
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Department of Information Technology
Academic session 2021-2022

Report on Certification Course on Skill Development on No SQL

1. Title of the Course   : Certification Course on Skill Development on No SQL

2. Course Code   : IT212203

3. Course Date   : 02/03/22-08/04/22

4. Event conduction duration   : 30 Hrs

5. Event venue   : Project Lab, IT Department, PBCOE

6. Event resource person/Coordinator   : Ms. Ashwini Tikle, PBCOE, Nagpur

7. Number of students   : 57

8. Objective   : To address specific technical requirements, to provide high throughput, fault-tolerant horizontally scalable simple data storage and retrieval with a bare minimum of additional functionality.

9. Outcome   : Students can manage data using SQL and can store and retrieve data using functionalities which they learnt.

Nagpur, Maharashtra, India
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440024, India
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Long 79.126805°
04/03/22 12:13 PM GMT +05:30

Program Co-ordinator/Resource Person	Head Prof. M. S. Chaudhari	IQAC Co-ordinator Dr. Ms. A. R. Chaudhari	Principal Dr. N. K. Choudhari

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Email: principalpbcoe@gmail.com, Website: www.pbcoe.edu.in
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Department of Electronic & Communication Engineering

Academic session 2021-22

NOTICE

Date: 01/02/2022

All the students of Electronics and Communication Engineering Department are hereby informed that the department is going to organize **free Certification course on "Data Science and Data Analytics".** The interested students register their name to the undersigned faculty.

The detail of the course:

Name of Course	:	Data Science and Data Analytics
Course Code	:	EC212201
Date of Commencement	:	10/02/2022 to 25/03/2022
Total Hrs	:	30
Seats	:	30

Dr. (Ms.) D. M. Kate
HOD, EC Dept. PBCOE
Nagpur

Head
Electronics & Communication
Priyadarshini Bhagwati College of Engg.
Umrer Road, Nagpur.

Copy to:

Principal Sir for kind information,
Dean Academics,
For circulation to faculty members,
For display on notice board of Deptt.

INTERNAL QUALITY ASSURANCE CELL INITIATES

CERTIFICATE COURSE ON
"Data Analytics & Data Science"

USING PYTHON & MS-EXCEL

FOR WHOM?

- All Semester Students
- Who want to learn and master in Data Analytics & Data Science.
- Who want to make career as Data Analysists, Data Scientists, Data Engineer, Data Architect, Data Administrator, Business Analysists etc.
- Who has learning curve towards Artificial Intelligence and Machine Learning.

CERTIFICATE

Certificates will be given to all participants with minimum 80 % attendance and passed in terminal examination

10TH FEBRUARY TO 15 MARCH, 2022

3.30 PM TO 4.30 PM EVERYDAY

EXPERT

Dr. Pramod Bokde
Ph.D., M.Tech., B.E.
Assistant Professor, EC

ORGANIZERS

DR. N. K. CHOUDHARI	**DR. (MRS) A. R. CHAUDHARI**	**DR. (MRS) D. M. KATE**
Principal, PBCOE	IQAC Incharge	Head of Department, EC

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGG.
PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING
Harpur Nagar, Umred Road, Nagpur-24

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
Session 2021-22

A Certificate Course on
"DATA SCIENCE AND DATA ANALYTICS"
CONTENTS

Sr. No.	Contents	No. of Hours
1	**Advanced Python Review** : A python development environment, A review of data type, A new class structure, Python Best Practices	2 Hours
2	**Ipython Notebook** : Functionality provided-Why use them?, CRUD for notebooks, Interface & Shortcuts	1 Hours
3	**Numpy** : Datatypes, universal functions, Indexing, summary methods, Sorting, Computation and broadcasting	3 Hour
4	SciPy : Overview of SciPy, Statistical Functions	2Hours
5	Pandas Series : Pandas series structure, Series CRUD, Indexing and Access Techniques, Data methods, Dataframe construction, Dataframe change and reorganization, grouping, pivoting, reshaping	4 Hours
6	Pandas DataFrame - Data Manipulation : statistics, data method, Missing data tools	2 Hours
7	Understanding Data Visualization : Visualization is storytelling, Types of charts, common mistakes, Best practices, reproducibility	3 Hours
8	Matplotlib for data visualization : steps for creating data visualization, Jupyter notebook and matplotlib, ,matplotlib styles, small multiples, Pandas series plotting, Pandas dataframe plotting	4 Hours
9	Data Cleaning : Importing data, CSV,xml, html, xls, Problems of PDF data sources, Data Transformations, Missing data, time series problems	3 Hours
10	Statistics for understanding Data: Exploratory Data Analysis : PMF, CDF, Correlation, Least Squares, A/B testing, Hypothesis Test, Statistical Significance, P-Values and Confidence intervals	3 Hours
11	Introduction to statistical techniques : Regression & prediction, Classification, K-nearest neighbour	3 Hours
	Total	30 Hours

Ms. D. M. Kate
Head of Department
Electronics & Communication
Priyadarshini Bhagwati College of Engg.
Umrer Road, Nagpur.

Department of Electronics & Communication Engineering
Academic session 2021-22
Report of Certification Course

1.	Event Title	: Certification Course on **"Data Science and Data Analytics"**.
2.	Course Code	: **EC212201**
3.	Event Date	: From 10/02/2022 onwards
4.	Event conduction duration	: 35 Hours
5.	Event venue	: Online
6.	Sem/Branch	: EC/CSE/IT (All Semester)
7.	Event resource person	: Dr. Pramod R. Bokde
8.	Name of Event Coordinator	: Dr. Pramod R. Bokde

9. Objective :

The objective of a certification course on "Data Science and Data Analytics" is to provide participants with a comprehensive understanding of the principles, techniques and tools used in data science and data analytics. This course aims to equip participants with the knowledge and skills to extract insights from data, make data-driven decisions, and solve complex problems, using analytical approaches.

10. Outcome :

By completing a certificate course on "Data Science and Data Analytics", participants will acquire the knowledge and skills necessary to extract insights and value from data. They will be prepared to work as data scientists, data analysts or business analysts, applying data-driven approaches to solve complex problems and make informed decisions. Additionally, participants will have a strong foundation to further explore advanced topics in data science, such as deep learning, natural language processing, or advanced statistical modeling.
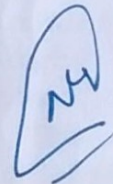
Dr. P. R. Bokde
Program Coordinator

Dr. D.M.Kate
Head of Department
Head
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Umrer Road, Nagpur.

Dr. N. K.Choudhari
Principal
Principal
Priyadarshini Bhagwati College of Engg.
Umred Road, Nagpur.

Department of Electronic & Communication Engineering

Academic session 2021-22

NOTICE

Date: 15/03/2022

All the students of Electronics and Communication Engineering Department are hereby informed that the department is going to organize **free Certification course on "Hands on TMS320C5416 Processor using Code Composer Studio"**. The interested students register their name to the undersigned faculty.

The detail of the course:

Name of Course :   Hands on TMS320C5416 Processor using Code Composer Studio
Course Code   :   EC212202
Date of Commencement   :   01/04/2022 to 30/04/2022
Total Hrs   :   30
Seats   :   30

Dr. (Ms.) D. M. Kate
HOD, EC Deptt. PBCOE
Head
Electronics & Communication
Nagpur
Priyadarshini Bhagwati College of Engg
Umrer Road, Nagpur.

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Dean Academics,
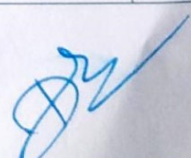For circulation to faculty members,
For display on notice board of Deptt.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
Session 2021-22

A Certificate Course on
"HANDS ON TMS320C5416 PROCESSOR USING CODE COMPOSER STUDIO"
CONTENTS

Sr. No.	Contents	No. of Hours
1	Introduction and Course Overview, Introduction to architecture of TMS320C4X Processor, Bus structure, Bus Architecture and Memory	4 Hours
2	Data Addressing Capabilites, Address Generation Unit, Assembly language instruction syntax, Simple ALP-Pipeline structure	3 Hours
3	Operation , Block Diagram of DSP starter kit	1 Hour
4	Data Addressing modes of TMS320C54XX DSPs, Program Control, On-chip peripheral, Interrupts of TMS320C54XX processors, Pipeline operation of TMS320C54XX processors,	5 Hours
5	Block diagrams of Internal Hardware buses, Internal Memory organization, Comparison of the features of DSP family processors.	3 Hours
6	TMS320C54XX Instructions, Programming	2 Hours
7	Introduction to CSS studio, Connection and testing of TMS320C54XX with CSS studio software, Programming and configuring TMS320C54XX Processor with CSS studio software, Testing the designed program on CSS studio	4 Hours
8	Hands-on on TMS320C54XX by performing different operations and programs	8 Hours
	Total	30 Hours

Ms. D. M. Kate
Head of Department
Head
Electronics & Communication
Priyadarshini Bhagwati College of Engg
Umrer Road, Nagpur.

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Ms. A. P. Thakare
Program Coordinator

Dr. D.M.Kate
Head of Department
Head
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Priyadarshini Bhagwati College of Engg
Umrer Road, Nagpur.

Dr. N. K.Choudhari
Principal
Principal
Priyadarshini Bhagwati College of Engg.
Umred Road, Nagpur.

Lokmanya Tilak Jankalyan Shikshan Sanstha's
PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING
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(Approved by AICTE, New Delhi, Govt. of Maharashtra
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Name of Course: Certificate course on "Hands on TMS320C5416 Processor using Code Composer Studio"

Course Duration : 30 Hrs. (from 11/04/2022 to 30/04/2022)

Registration Detail:

Sr. No.	Name of Student	Signature
1.	Pratik Mohadikar	Prra
2.	Aditya Dixit	A.M
3.	Bhavesh Anturkar	Bhish.
4.	Shubham . Bawankar	Shubham
5.	Nayan Waghmare	fn.
6.	Harshal chute	H.shuts
7.	Rushikesh G Bedre	Bedr
8.	Sahil R. Kharwade.	S.Kharwade
9.	Rahul S. Yeole	B Yeole
10.	Suraj v Agham	
11.	Sumit badhe.	Sumt Bathe
12.	Pranay Hiwanj	Rth
13.	Twinkle Daph	Twinkly
14.	mitanshu Dhapodkar	Mepodr
15.	Prathom Bagmare	Bagmare
16.	Dipanshu Y. Bisen	DB

Department of Electronic & Communication Engineering

Academic session 2021-22

NOTICE

Date: 01/05/2022

All the students of Electronics and Communication Engineering Department are hereby informed that the department is going to organize **free Certification course on "5G Core Architecture".** The interested students register their name to the undersigned faculty.

The detail of the course:

Name of Course	:	5G Core Architecture
Course Code	:	EC212203
Date of Commencement	:	11/05/2022 to 10/06/2022
Total Hrs	:	30
Seats	:	30

Dr. (Ms.) D. M. Kate
HOD, EC Dept. PBCOE
Nagpur
Head
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Umrer Road, Nagpur.

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For display on notice board of Deptt.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
Session 2021-22

A Certificate Course on
"5G Core Architecture"
CONTENTS

Sr. No.	Contents	No. of Hours
1	**Introduction to 5G Core Architecture** : Evolution of 5G from 4G, Key features and benefits of 5G, Overview of 5G , use cases and requirements, High level architecture of 5G core network.	3 Hours
2	**5G core network Functions and Entities** : Core network functions and their roles, Network functions virtualization (NVF), Network slicing and its significance, Key entities in the 5G network	4 Hours
3	**Service Based Architecture in 5G** : Principles and advantages of service-based architecture, Service-based interfaces and protocols (SB1, N11, N2 etc), Service-based network slicing, Service orchestration and management.	4 Hours
4	**5G Core Network Protocols** : Overview of 5G core network protocols, Control plane and user plane separation, Protocols for mobility management, session management and authentication, Quality of service mechanisms and protocols.	4 Hours
5	**5G Core Network Security** : Security challenges in 5G networks, Authentication and authorization mechanisms, Security architecture and protocols, Privacy and data protection in 5G	3 Hours
6	**Network Management and Orchestration** : Management and orchestration of virtualized network functions (VNFs), Lifecycle management of network services, Fault management and troubleshooting, Performance monitoring and optimization	4 Hours
7	**Integration and Interoperability** : Interworking with legacy networks, Interoperability challenges and solutions, Migration strategies and considerations, Testing and validation of 5G core network	4 Hours
8	**Emerging Trends and Future Directions** : Overview of 5G advanced features (Network slicing, Edge Computing, URLLC etc), Evolution beyond 5G, Industry applications and use cases, Regulatory and policy considerations for 5G deployment.	4 Hours
	Total	**30 Hours**

Dr.(Ms.) D. M. Kate
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Head
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Umrer Road, Nagpur.

Lokmanya Tilak Jankalyan Shikshan Sanstha's
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Department of Electronics & Communication Engineering
Academic session 2021-22
Report of Certification Course

1. Event Title : Certification Course on **"5G Core Architecture"**.
2. Course Code : **EC212203**
3. Event Date : From 11/05/2022 onwards
4. Event conduction duration : 30 Hours
5. Event venue : Departmental Library & Computer Lab
6. Sem/Branch : VI Sem – Electronics and Communication Engg.
7. Event resource person : Ms. Pooja V. Gawande
8. Name of Event Coordinator : Ms. Pooja V. Gawande

9. Objective :

The objective of a certification course on "5G Core Architecture" is to provide participants with the in-depth knowledge and understanding of the core architectural components and principles of 5G networks. This course aims to equip participants with the necessary skills to design, deploy and manage 5G

10. Outcome :

By completing a certificate course on "5G Core Architecture", participants will be equipped with the knowledge and skills to design, implement and manage 5G core networks. They will be prepared to work as 5G network architects, engineers, or consultants, contributing to the deployment and

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Ms. P. V. Gawande
Program Coordinator

Dr. D.M.Kate
Head of Department
Head
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Department of B. Tech Mechanical Engineering

Academic session 2021-2022

<div align="center">NOTICE</div>   Date: 09/12/2021

All the students of B. Tech III year are hereby inform that our department is organising a one month free certification course on "Importance of Automation" .Dr. Akshay D. Anjikar will be coordinating the course conduction. Participation certificates will be provided to all the students who registered for the same. The detailed content of the course and schedule is attached herewith the notice.

Sr.No	Name of Course	Date of Commencement	Venue
1.	"Importance of Automation"	13/12/2021	Automation in Production lab

Prof. S.M. Pimpalgaonkar
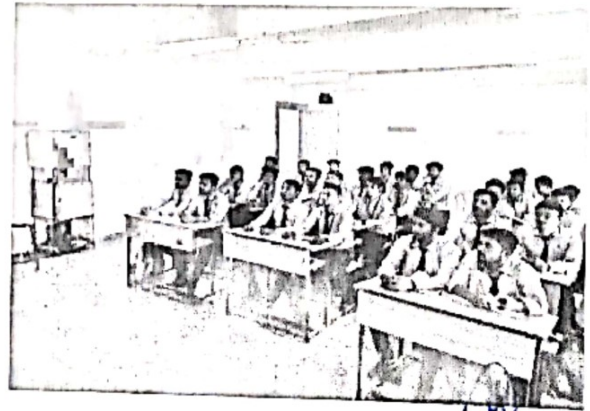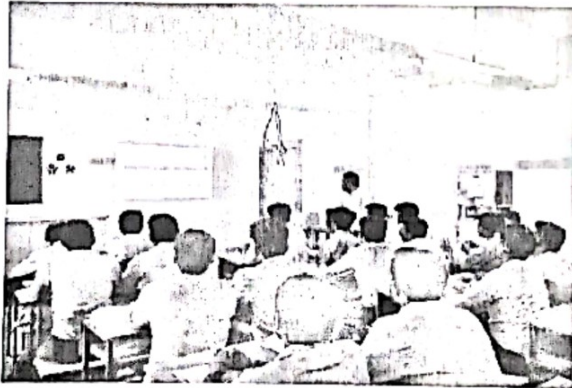
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Mechanical Department

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PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING
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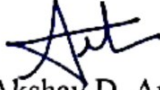Email: principalpbcoe@gmail.com, Website: www.pbcoe.edu.in
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Department of Mechanical Engineering

Academic session 2021-2022

Syllabus

Introduction

Mechanical is the core branches of engineering finding its application in every aspect of common as well as technical life. To make aware about some important yet simple technicalities as well as applications of the basics of thisbranch, we have designed a certificate course on **"Importance of Automation."** This module is gist of application based practical of mechanical engineer including use of software in for the same. Students of III year B.Tech will undergone this course followed by test and evaluation and summative assessment grade certificate to the students who clear the assessment.

Objective of the Course:

1. To make the student aware about the practical based application of engineering mechanics.

2. To make the student aware about working of machines for manufacturing application.

3. To make the student aware about use of software for drafting and designing.

4. To make the student aware about automated machining like CNC.

Course Outcomes:

After completion of this Course Student will be able to:

1. Describe the concept of Engineering mechanics & its application.
2. Explain the concept of friction and its application.
3. Explain the concept of lami's theorem and free body diagram.
4. Perform the basic machining operation on lathe machine.
5. Draw basic geometric shapes using FREECAD Software.
6. Write a part program using G and M code in CNC part programming.
7. Perform simple miscellaneous operations on CNC lathe machine.

Course Name: "Importance of Automation"

Sr. No	Modules	No. of Hours
1.	Automation – Performance and simulation with CNC milling software. Progamming with automatically programmed tools.	05
2.	Automated material handling & storage - Conveyor systems: Automated Guided Vehicle Systems - Types: - Driverless trains, AGVS pallet trucks, AGVS unit-load carriers. Vehicle guidance & Routing. Traffic control & safety. System management, Analysis of AGVS systems, AGVS applications. Automated Storage & Retrieval System.	05
3.	Automated inspection & Group technology: Automated inspection methods -100% automated inspection, off-line & on -line inspection, distributed inspection & final inspection; coordinate.	05
4.	Automation - Definition, types, reasons, strategies for automating, arguments for and against automation. Automated Flow 'Lines - Methods of work part transport, Buffer storage	05
5.	Machine control unit and other components. part programming and tape formats, method of part programming. Introductionof manual part programming (NC words): APT programming in details, Directed numerical control. Computer numerical control. Adaptive control. Applications of NC.	05
6.	Numerical Control Production Systems-Basic concepts, coordinate system and machine motion. Types of NC systems -Point to point, straight cut and continuous path.	05
	Total	30

Dr. Akshay D. Anjikar

Prog. Coordinator

Prof. Sandeep M. Pimpalgaonkar

HOD Mechanical

Lokmanya Tilak Jankalyan Shikshan Sanstha's
PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING
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Department of B.Tech Mechanical Engineering
Academic session 2021-2022

Report on Certificate Course on "Importance of Automation"

1. Title of Course   : Certificate course on "Importance of Automation"

2. Course Code   : ME212201

3. Course Date   : 13/12/2022 to 18/12/2022

4. Course conduction duration   : 30Hrs

5. Venue   : Automation in Production lab

6. Name of Event Coordinator   : Dr. Akshay D. Anjikar

7. Number of students   : 48

8. Objective   : To make the student aware about the practical based application of Industrial Robotics and automated machines like CNC Machine.

9. Outcome: After completion of this Course Student will be able to describe the concept of Automation, Robotics configurations and basics of CNC machines.

Dr. Akshay D. Anjikar   Prof. S.M. Pimpalgaonkar   Dr.N.K.Choudhari

Prog. Coordinator   **HOD,ME Dept**   **Principal**

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Department of Mechanical Engineering

Academic session 2021-2022

NOTICE   Date: 03/12/2021

All the Students of V I I Semester are hereby informed that our Department is organizing one- m o n t h free Certificate courses on **Advancements in Automobile Engineering**. Interested students can enroll their name to Mr. S. G. Ghugal on or before 1 0 /12/2021 Certificate will be issued to the students after successful completion of the course. The detail contents of the course and other information is attached herewith.

Sr. No	Name of Course	Date of Commencement	Venue
1.	"Advancements in Automobile Engineering. "	13/12/202 1	Mechanical Department Seminar Hall.

Head
Mechanical Engg. Deptt.
Priyadarshini Bhagwati College of Engg.
Mr. S. M. Pimpalgaonkar

HOD

Mechanical Department

Lokmanya Tilak Jankalyan Shikshan Sanstha's
PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING
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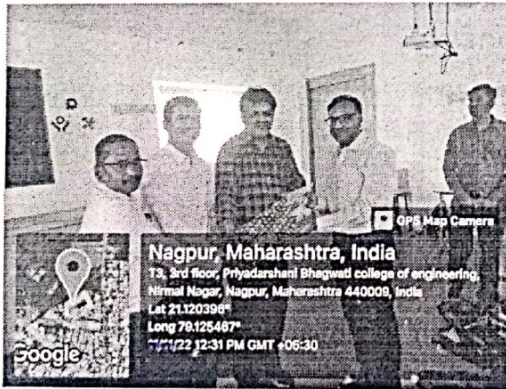Email: principalpbcoe@gmail.com, Website: www.pbcoe.edu.in
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Department of Mechanical Engineering

Academic session 2021-2022

Syllabus

Introduction

Mechanical is the core branch of engineering finding its application in every aspect of common as well as technical life. To make aware about some important yet simple technicalities as well as applications, we have designed a certificate course on **"Advancements in Automobile Engineering."** This module is gist of application based practical mechanical engineer including use of software in for the same. Students of seventh semester B. Tech will undergone this course followed by test and evaluation and summative assessment grade certificate to the students who clear the assessment.

Objective of the Course:

1. To make the student aware about the practical based application of engineering mechanics.

2. To make the student aware about working of automobiles.

3. To make the student aware about use of software for drafting and designing.

Course Outcomes:

After completion of this Course Student will be able to:

1. Describe the concept of Engineering mechanics & its application.
2. Explain the concept of carburation.
3. Explain the concept of fuel-injection.
4. Perform the basic machining operation like bore on lathe machine.

Course Name: "Advancements in Automobile Engineering"

Sr. No	Contents	No. of Hrs.
1	Function requirements of Flywheel and clutch	1
2	Types of Single plate clutch.	1
3	Clutch control systems.	1
4	Clutch center plate construction and Direct release clutch.	1
5	Centrifugally operated clutches and Multi-plate clutches.	1
6	Angle spring clutch, Wet clutch and Fluid Coupling.	1
7	Purpose and Necessity of gear box, Constant mesh gear box general arrangement and description of electric transmissions.	1
8	Sliding mesh gear box, Synchromesh gear box and Gear selector mechanism.	1
9	Heavy vehicle gear boxes, Torque convertors and Epicycle gear box operation.	1
10	Semi – Automatic and Automatic transmission, Hydraulic control systems, Electro hydraulic control systems.	1
11	Automatic lay shaft gear boxes, Dual mode transmission with sequential gear change, Direct shift gear boxes, Over drive gears.	1
12	Continuously variable transmissions, Electric drives.	1
13	Working principle and control, Advantages and limitations of electric drives.	1
14	Drive Lines, Universal joints, Constant velocity joints. Propeller shaft construction.	1
15	Drive line arrangement, Rear-wheel drive and front-wheel drive layouts, Front-wheel drive shafts.	1
16	Tandem axle drive for heavy vehicles, Drive lines for public service vehicles.	1
17	Final drive gears and bearings, Differential gears Differential- All types.	1
18	Rear axle construction, Heavy vehicle rear axles, Four-wheel drive systems.	1

19	Basic consideration of four-wheel drive, Part time four-wheel drive, Full time four-wheel drive	1
20	Braking System, Requirement and Types-Block Brakes, Band Brakes, Hydraulic brake, Air Brake, Endurance Brake.	1
21	Suspension System, Basic ride considerations, Types of suspension systems, Types of suspension spring.	1
22	Tandem axle suspension, Shock dampers, Adaptive suspension systems, Active roll control systems.	1
23	Steering systems, Steering principles and layout, Front end geometry and wheel alignment.	1
24	Steering and suspension ball joints, Manual steering gears.	1
25	Steering axles for heavy vehicles, Hydraulic power-assisted steering	1
26	Speed-sensitive hydraulic power-assisted steering, Electro-hydraulic power-assisted steering	1
27	Electrical power-assisted steering, Types of four-wheel steering.	1
28	Tires, Road wheels and Hubs.	1
29	Introduction to Tire characteristics.	1
30	Tire construction, Road wheels and hubs.	1
	Total	30 hours

Prof.S.G.Ghugal

Co-ordinator

HOD MECH

Lokmanya Tilak Jankalyan Shikshan Sanstha's
PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING
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Department of Mechanical Engineering

Academic session 2021-2022

Report on Certificate Course on "Advancements in Automobile Engineering"

1. Title of Course   : Certificate course on

   "Advancements in Automobile Engineering"

2. Course Code   : ME212202

3. Course Date   : 13/12/2021 to 18/12/2021

4. Course conduction duration   : 30Hrs

5. Venue   : Mechanical Department Seminar Hall.

6. Name of Event Coordinator   : 1. Asst.Prof .S. G. Ghugal

   Number of students   : 69

7. Objective   : To make student aware about

   Advancements in Automobile Engineering.

Prof.S.G.Ghugal

Co-ordinator

Prof.S.M.Pimpalgaonlar
Head
Mechanical Engg. Deptt.
Priyadarshini Bhagwati College of Engg.
HOD MECH
Umred Road, Nagpur.

Dr.N.K.Choudhari
Principal
Priyadarshini Bhagwati College of Engg.
Umred Road, Nagpur.
Principal

Department of Mechanical Engineering

Academic session 2021-2022

NOTICE
Date: 17/11/2021

All the students of Final Year Mechanical Engineering are hereby inform that our department is organising a one month free add on course on **"Trends in Industry 4.0"** with the objective to make our students aware about the current trends going on in Industry 4.0 perspective in manufacturing sectors. Prof. S.P.Gurway will be coordinating the course conduction. Participation certificates will be provided to all the students who registered for the same. The detailed content of the course and schedule is attached herewith the notice.

Sr.No	Name of Course	Date of Commencement	Venue
1.	"Trends in Industry 4.0"	22/11/2021	Mechanical Dept. Classrooms & Automation Lab

Prof.S.M.Pimpalgaonkar

Head,ME Dept.

Lokmanya Tilak Janhalyan Shikshan Sanstha's
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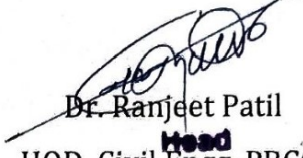Email: principalpbcoe@gmail.com, Website: www.pbcoe.edu.in
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Department of Mechanical Engineering

Academic session 2021-2022

Syllabus

Introduction

The term Industry 4.0 refers to the **digitalization of production processes**, more specifically: the development of networked systems and self-control technologies. Until now, employees have been responsible for evaluating information provided by systems. In the future, however, machines will be equipped with special sensors and will be able to control communication and optimization processes themselves. In this course we are trying to cover the basic fundamentals which are recently trending in Industry 4.0 scenario for smart technologies and manufacturing.

Objective of the Course:

1. To make the student aware about the basics of Industry 4.0.

2. To make the student aware about industrial automation and robotics.

3. To make the student aware about the fundamentals of additive manufacturing.

4. To make the student aware about IoT, sensor technologies, energy efficient robotics highly implemented under the umbrella of Industry 4.0.

5. To give exposure to students about the opportunities for Mechanical engineers in industry 4.0.
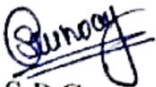
Course Outcomes:

After completion of this Course Student will be able to:

1. Know The use of **AI-supported systems** in industry 4.0
2. Explain the use of sensors to collect critical data and parameters such as temperature, position, pressure, force, humidity, distance or air quality.
3. Perform simple miscellaneous operations on CNC machine.
4. Use of robots enhances productivity, safety and quality, leading to business continuity and increased efficiency of operations.

Course Name: "Trends in Industry 4.0"

Sr. No	Modules	No. of Hours
1.	Introduction to Industry 4.0 and related concepts: Definition, technologies, Benefits. Case based Application of IIOT, ERP, and Supply chain Management, Smart Manufacturing.	05
2.	Concept of smart manufacturing: Introduction to smart manufacturing, goal of Smart Manufacturing, use of automation tools, Automation Concept like manufacturing through CNC machines, part programming etc.	05
3.	Additive Manufacturing: introduction to additive manufacturing technology, concept of AM technologies like binder jetting, material extrusion, powder bed fusion, sheet lamination and vat polymerization. Concept of 3D printing.	05
4.	Energy Management through IoT. concept of IoT based intelligent energy monitoring system, Application of IoT tools like Advance analytics, real time energy monitoring, predictive analysis in efficient energy management in company, Benefits of IoT energy management system.	05
5.	IoT based inventory control: What is IoT and inventory management? Use of IoT devices like sensors, barcodes and RFID in inventory management. Application of IoT in smart warehouses. Case based example of real time application of IoT in warehouse management in Amazon & Walmart.	05
6.	Other advanced manufacturing techniques emerges during industry 4.0 era.	05
	Total	30

Ms.S.P.Gurway
Course Coordinator

Prof. S.M.Pimplagaonkar
Head,ME Dept.

Lokmanya Tilak Jankalyan Shikshan Sanstha's
PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING
Harpur Nagar, Umred Road (Near Badi Tajbagh), Nagpur-24
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Department of Mechanical Engineering

Academic session 2021-2022

Report on Add-on Course on "Trends in Industry 4.0"

1. Title of Course   : Add-on course on "Trends in Industry 4.0"

2. Course Code   : ME212203

3. Course Date   : 22/11/2021-27/11/2021

4. Course duration   : 30Hrs

5. Event venue   : Automation Lab & ME Dept. Classrooms

6. Name of Event Coordinator   : Asst.Prof. S.P.Gurway

7. Number of students   : 62

8. Objective   : To provide knowledge to students related to industrial insights like Advance manufacturing like CNC, addtitive manufacturing, application of Industry 4.0 techniques & its implementation in industrial engineering to improve the employability skills.

9. Outcome   : Students will be able to learn the advance tools of Industry 4.0 & implementation automated manufacturing like CNC machining. Similarly students will be able to know the practical insights of Industry 4.0 and IoT Trends. Real life examples on industrial process improvements through the use of IoT will give real insight to students.

T3, 3rd floor, Priyadarshani Bhagwati college of engineering, Nirmal Nagar, Nagpur, Maharashtra 440009, India
Latitude 21.1204681°
Longitude 79.1256903°

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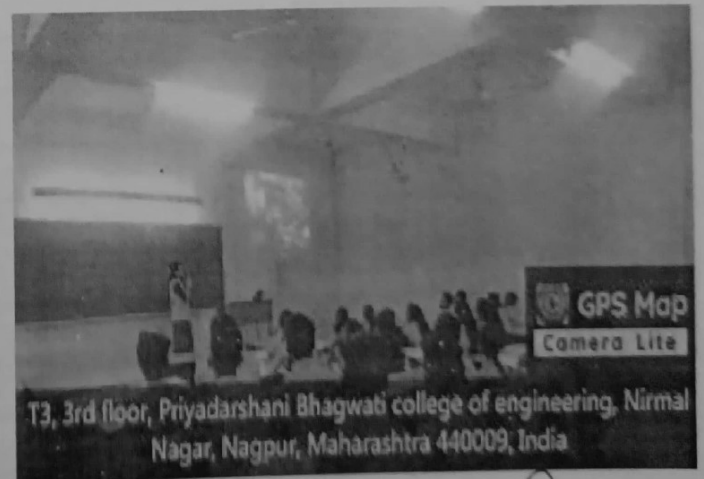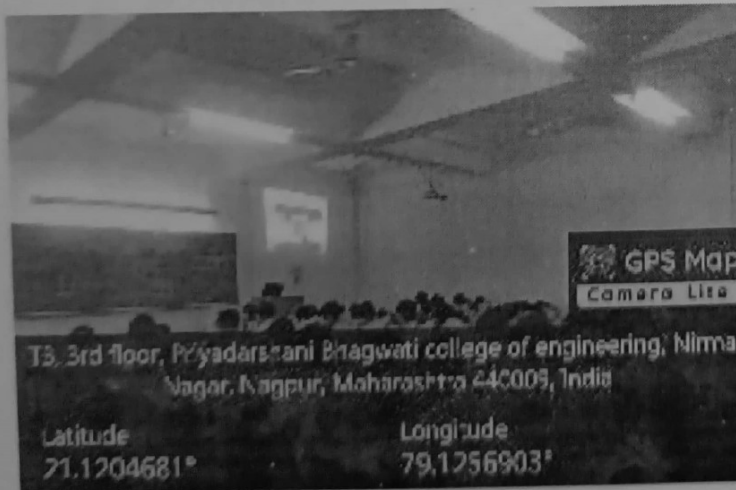
Ms.S.P.Gurway

Course. Coordinator

Prof.S.M.Pimpalgaonkar

Head, ME Dept.

Dr.N.K.Choudhari

Principal

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Ref. Civil / Even Sem /2021-22   <u>Date: 16/04/2022</u>

<u>NOTICE</u>

All the students are hereby informed that department is going to organised Add on/ certificate programme from 26/04/2022 on **"Watershed Management".** The duration of programme is 30 Hours and the programme will be coordinate by Prof. A. N. Burile, Asst. Professor Civil Engineering Department. Students should enroll their names upto 22/04/2022

Venue – Tutorial Room, Second Floor, Civil Engineering Department

Time – 09 am to 10 am

Dr. Ranjeet Patil
Head
HOD, Civil Engg, PBCOE
CIVIL Engg Dept.
Priyadarshini Bhagwati College of Engg
Umred Road, Nagpur

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Department of Civil Engineering
Session 2021-2022
Value added course

WATERSHED MANAGEMENT

Modules	Particular	Hrs.
Module-I Introduction and basic concepts		
01	Concept of watershed, Introduction to watershed management, different stack holders and their relative importance, Watershed management policies and decision making	08
Module-II : Watershed Modelling		
02	Standard modelling approaches and classification, system concept for watershed modelling, overall description of different hydrologic processes, modelling of rainfall runoff process, subsurface flows and groundwater flow.	08
Module-III: Soil Erosion Modelling & Management of Water Quality		
03	Soil Erosion, Estimation of soil erosion. Water quality and pollution, types and sources of pollution, water quality modelling, environmental guidelines for water quality.	07
Module-IV: Storm Water and Flood Management & Drought Management		
04	Storm water management, design of drainage system, flood routing through channels and reservoir, flood control and reservoir operation, case studies of flood damage. Drought assessment and classification, drought analysis techniques, drought mitigation planning.	07
	Total	30

Signature of Coordinator
Assistant Professor
CIVIL Engg. Deptt.
Priyadarshini Bhagwati College of Engg
Umred Road, Nagpur.

Lokmanya Tilak Jankalyan Shikshan Sanstha's
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Department of Civil Engineering
Academic session 2021-2022 (Even semester)
Certificate Course Date wise Schedule
Subject – **WATERSHED MANAGEMENT**

Sr.No	Contents	Date
Module-I Introduction and basic concepts		
1	Concept of watershed,	26/04/2022
2	Concept of watershed,	27/04/2022
3	Introduction to watershed management,	28/04/2022
4	Introduction to watershed management,	29/04/2022
5	Different stack holders and their relative importance,	02/05/2022
6	Different stack holders and their relative importance,	03/05/2022
7	Watershed management policies and decision making	04/05/2022
8	Watershed management policies and decision making	05/05/2022
Module-II : Watershed Modelling		
9	Standard modelling approaches and classification	06/05/2022
10	Standard modelling approaches and classification	07/05/2022
11	System concept for watershed modelling,	09/05/2022
12	System concept for watershed modelling,	10/05/2022
13	Overall description of different hydrologic processes,	11/05/2022
14	Overall description of different hydrologic processes,	12/05/2022
15	Modelling of rainfall runoff process	13/05/2022
16	subsurface flows and groundwater flow.	14/05/2022
Module-III: Soil Erosion Modelling & Management of Water Quality		
17	Soil Erosion,	16/05/2022
18	Soil Erosion,	17/05/2022
19	Estimation of soil erosion.	18/05/2022
20	Water quality and pollution	19/05/2022
21	Types and sources of pollution,	20/05/2022
22	Water quality modelling,	21/05/2022
23	Environmental guidelines for water quality.	23/05/2022
Module-IV: Storm Water and Flood Management & Drought Management		
24	Storm water management,	24/05/2022
25	Design of drainage system,	25/05/2022
26	Flood routing through channels and reservoir	26/05/2022
27	Flood control and reservoir operation, case studies of flood damage	27/05/2022
28	Drought assessment and classification,	28/05/2022
29	Drought analysis techniques,	29/05/2022
30	Drought mitigation planning.	30/05/2022

Prof. A. N. Burile
Asst. Professor
Course Co-Ordinator
CIVIL Engg. Deptt.
Priyadarshini Bhagwati College of Engg.
Umred Road, Nagpur.

Dr R.N.Patil
H.O.D.
Head
CIVIL Engg. Deptt.
Priyadarshini Bhagwati College of Engg.

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Department of Civil Engineering
Academic session 2021-22

Report of Certificate Course on WATERSHED MANAGEMENT

1. Event Title   : **Certificate Course on WATERSHED MANAGEMENT**
2. Event Date   : 26 April 2022 To 30 May 2022
3. Event conduction duration : 9.00 a.m to 10 a.m
4. Event venue   : Class Room (C-11) Department of Civil Engineering.
5. Sem/Branch   : V & VII Sem B. E. CV (51 students)
6. Name of Event Coordinator : Prof Ajay N. Burile
7. Objective   : To make aware students about importance of Watershed Management
8. Outcome   : To understands control pollution of the water and other natural resources in the watershed by identifying the different kinds of pollution present in the watershed and how those pollutants are transported, and recommending ways to reduce or eliminate those pollution sources.

Prof A. N. Burile
Asstt. Professor
Coarse Co-Ordinator
CIVIL Engg. Deptt.
Priyadarshini Bhagwati College of Engg.
Umred Road, Nagpur.

Dr. R. N. Patil
H.O.D.
CIVIL Engg. Deptt.
Priyadarshini Bhagwati College of Engg.
Umred Road, Nagpur.

Dr. N. K.Choudhari
Principal
Priyadarshini Bhagwati College of Engg.
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Ref.Civil/odd sem/2021-22   Date: 20/08/2021

NOTICE

All the students are hereby informed that department is going to organise Add on/certificate programme from 30/08/2021 on **"Transportation Engineering"**. The duration of programme is 30 hours & the programme will coordinate by Prof. Ms. K. M. Neware. Asst. Professor Civil Engineering department. The mode of programme will be online through Google meet. Students should enroll their names upto 27/08/2021. Time - 9.00 AM To 10.00 AM

Dr. R.N. Patil
HOD, Civil Engg.
Priyadarshini PBCOE, Nagpur.
Umred Road, Nagpur.

Lokmanya Tilak Jankalyan Shikshan Sanstha's
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Department of Civil Engineering
Academic session 2021-2022 (Odd semester)
Value Added Course
On
Transportation Engineering

Sr. No.	Content	No. of Hours
Module-I Introduction & Highway development		
1	Importance of transportation, different modes of transportation	2
2	Development of road construction, Highway projects, Highway planning in India, scope of highway engineering	3
Module-II Highway project preparation & geometric design		
3	Soil & subgrade for construction of road, Soil Stabilisation, Materials used in highway construction.	3
4	Highway alignment, highway surveys, highway cross section element, sight distances, design of horizontal & verical alignment	4
Module-III Pavement management & road side developement		
5	Pavement maintainance & management systems, Drainage of slopes & erosion control, Maintainance problems on hill roads	3
6	Land use for transportation, Environmental & social issues in Highway development, Road side development & Arboriculture	3
Module-IV Traffic engineering Introduction		
7	Definition, Importance of traffic engineering under Indian condition, Human factors governing road user behaviour, Need for traffic forecasting	3
8	Passenger car unit, Delay studies	1
Module-V Traffic management, Traffic aids, Education		
9	Traffic management, Importance and types of traffic signs, Pedestrian crossings, Traffic regulatory measures for on street parking	4
10	Accident situation in India, Accident studies, Traffic control aids, Legislation, Enforcement, Education & propoganda, Detrimental effects of traffic on the Environment, Promotion for public transport	4

Prof. K. M. Neware
Course Co-ordinator

Dr. R. N. Patil
HOD, Civil Engineering
Priyadarshini Bhagwati College of Engineering
Umred Road, Nagpur.

Department of Civil Engineering
Academic session 2021-22

Report on Online Certificate Course on Transportation Engineering

1. Event Title   : **Online Certificate Course on Transportation Engineering**

2. Event Date   : 30 August 2021 To 05 October 2021

3. Event conduction duration   : 9.00 AM To 10.00 AM

4. Event venue   : In Online Mode through Google Meet in Tutorial room

5. Sem/Branch   : IIIrd, Vth, VIIth Sem B. E. Civil Engineering (47 students)

6. Name of Event Coordinator : Prof K. M. Neware

7. Objective   : To make aware students about importance of Transportation Engineering field

8. Outcome   : Students have understood the need and importance of Transportation Engineering field

Participants (14)

Q Find a participant

Kumudini Neware (Host, me)	🎤	📷
DA D-24 Anurag golhar	🎤	📷
JI Jagruti Itiwale	🎤	📷
Ketan Hedau	🎤	📷
ND Nishant Doye	🎤	📷
PZ Parag Zode	🎤	📷
PD Prachi Damke	🎤	📷
PD Priya Dekate	🎤	📷
Priyanshu Yadav	🎤	📷
SB Sahil Binekar	🎤	📷
S Shruti Patriwar	🎤	📷
Vaibhav Dudhankar	🎤	📷
Vaibhav Thuse	🎤	📷
VL Vinit Lanjewar	🎤	📷

Prof. K. M. Neware
Course Co-ordinator

Dr. R. N. Patil
HOD, Civil Engineering
CIVIL Engg. Deptt.
Priyadarshini Bhagwati College of Engg
Umred Road, Nagpur.

Dr. N. K. Choudhari
Principal

Ref. Civil / Even Sem /2021-22   Date: 12/02/2022

NOTICE

All the students are hereby informed that department is going to organised Add on/ certificate programme from 18/02/2022 on **"Effect of Air Pollution on Human, Plant and Animal".** The duration of programme is 30 Hours and the programme will be coordinate by Dr. R. N. Patil, Asst. Professor Civil Engineering Department. Students should enroll their names upto 16/02/2022

Venue – Tutorial Room, Second Floor, Civil Engineering Department

Time – 09 am to 10 am

Dr. Ranjeet Patil
HOD, Civil Engg. PBCOE
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Department of Civil Engineering

Academic session 2021-2022

Certificate Course Content

Subject – EFFECT OF AIR POLLUTION ON HUMAN, PLANT AND ANIMALS

Sr. No	Contents	Hours
	Module-I	
1	Introduction to Air pollution	1
2	Diffrent types of Air pollutants	1
3	Causes of Air Pollution	1
4	Sources of Air pollution	2
5	Effect of Air pollution on Human life	2
6	System affected by Air pollution	1
	Module-II	
7	General study of plants	1
8	Pollutant and their effects on plant	1
9	Acid Rain and their effects	1
10	Global warming and their effects	2
11	Ozone Depletion and their effects	2
12	Soil Pollution and their effects	2
	Module-III	
13	General study of Animal behavoir	1
14	Altered animal behavoir	2
15	Diseases and Mortality	3
16	Biodiversity loss	2
17	Change in species distribution	3
18	Eating Plants with Pollutants	2

Dr. R. N. Patil
Course Co-Ordinator

Dr. R. N. Patil
H.O.D Civil Engg.
CIVIL Engg. Dept.
Priyadarshini Bhagwati College of Engg
Umred Road, Nagpur.

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# DEPARTMENT OF CIVIL ENGINEERING
ACADEMIC SESSION- 2021-22
COURSE NAME: EFFECT OF AIR POLLUTION ON HUMAN, PLANT AND ANIMALS

REPORT OF CERTIFICATE COURSE

1. **Event Title** : **Certificate Course on "Effect of Air Pollution on Human, Plant And Animals"**

2. **Event Date** : 18th Feb. 2022 To 30th March 2022

3. **Event conduction duration** : 9.00 a.m to 10 a.m

4. **Event venue** : Class Room, Second Floor, Civil Engg., Department

5. **Sem/Branch** : IV Sem/ IInd Year Civil Enginering (38 students)

6. **Name of Event Coordinator** : Dr. R. N. Patil

7. **Outcome** :

   1: Provides the knowledge on classification of elements and fundamentals of environmental chemistry

   2: Understand the knowledge on the sources, impacts of air pollution and controlling methods

   3: Familiarise with different sources and sinks of common air pollutants

   4: Able to do sampling and analysis of air pollutant

   5: Develop an understanding of working of air pollution control devices

8. **Photographs** :
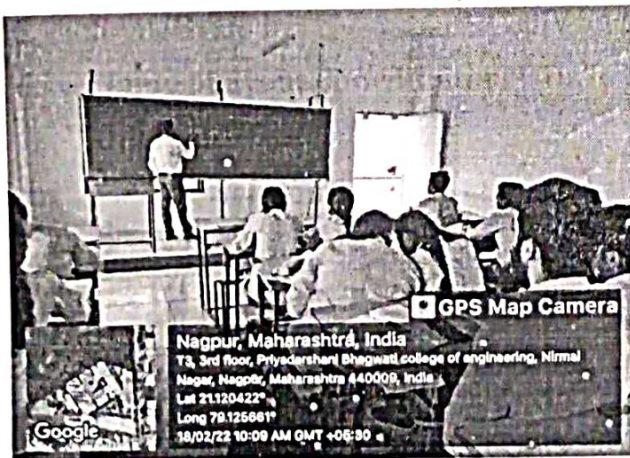
Dr. R. N. Patil
Coarse Co-Ordinator

Dr. R. N. Patil
HOD, Civil Engg. Dept.
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Dr. N. K. Choudhari
Principal
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