



**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  
and affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)  
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**List of Add-on/ Certificate Course offered During 2020-21**

<b>Sr.No.</b>	<b>Name of Program / Certificate Program Offered</b>	<b>Course Code</b>
1	Certification course on "Message Passing Interface Using C"	CSE202101
2	Certification course on " Python for Beginner"	CSE202102
3	Certification course on "Data Science"	IT202101
4	Certification course on "Hadoop"	IT202102
5	Certification course on "MongoDB"	IT202103
6	Certification course on "Hands on CCNA Networking IT Industry Concept "	EC202101
7	Certification course on "Exploring Robotic System on Software"	EC202102
8	Certification course on "Introduction to Database Management Software"	EC202103
9	Add-on Course on "Industry 4.0 and opportunities for Mechanical Engineers"	ME202101
10	Certificate Course on "Advance Manufacturing Design & Technology"	ME202102
11	Certification course on "Introduction of Earthquake Engineering"	CV202101
12	Certification course on "Water Pollution Awareness and Measures"	CV202102

**Certified Document from Page Number 2- Page Number 59**



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## Department of Computer Science and Engineering

2020-2021

### NOTICE

All the students of VI sem B. E. CSE are hereby informed that, Dept of CSE is organizing the Online Certificate Course. The details are as follows.

**Name of the course:** Message Paasing Interface Using "C"

**Duration:** 12<sup>th</sup> May 2021 to 17<sup>th</sup> June 2021

**Time:** 4.00 pm to 6.00 pm (In Online Mode)

**Resource Person:** Ms.Archana A Nikose,Assistant Professor,Priyadarshini Bhagwati College Of Engineering Nagpur.

All are informed to attend the same.

**Mr. K. N. Hande**

**HOD, CSE**

Head of Department

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



**Department of Computer Science and Engineering**  
**Academic session 2020-2021**

**Report of Online Certificate Course on Message Passing Interface Using**  
**“C”**

1. Event Title : Online Certificate Course on Message Passing Interface Using “C”
2. Event Date : 12 May 2021 to 17 June 2021
3. Event conduction duration : 4.00 PM To 6.00 PM
4. Event venue : In Online Mode through Google Meet
5. Sem/Branch : VI Sem B. E. CSE (48 students)
6. Event resource person : Ms.Archana A Nikose,Assistant Professor,PBCOE Nagpur.
7. Name of Event Coordinator:Ms.Archana A Nikose,Assistant Professor,PBCOE Nagpur
8. Objective : To make aware students about importance of MPI Language
9. Outcome : Students have been demonstrated the use of MPI Using “c”

```
computer@computer-desktop: ~/mdos
computer@computer-desktop:~$ cd mdos
computer@computer-desktop:~/mdos$ gcc pa.c
computer@computer-desktop:~/mdos$ ./a.out

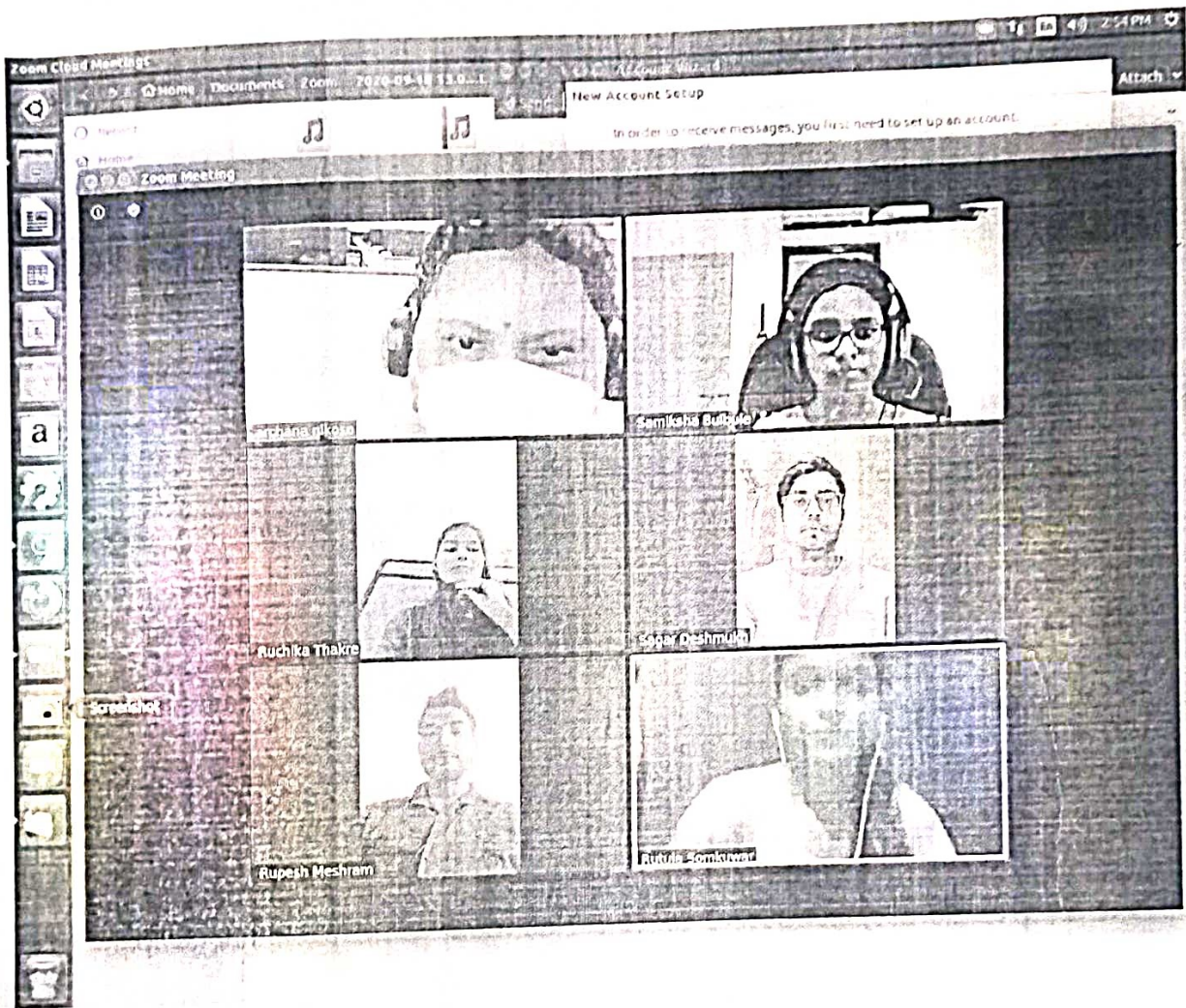
P1 Waiting for P2 on port 6000...

Count1=1
computer@computer-desktop:~/mdos$ █
```

```
computer@computer-desktop: ~/mdos
computer@computer-desktop:~$ cd mdos
computer@computer-desktop:~/mdos$ gcc lanportb.c
computer@computer-desktop:~/mdos$ ./a.out

P2 Waiting for P3 on port 5000...

original Count2=1
Recieved data from server=1
Adjust Count2=2
sending count: 2
Count2=3
Recieved data from server(P3)=5
Adjust Count2=6
computer@computer-desktop:~/mdos$ █
```



**Prof K N Hande**  
HoD

Head of Department  
Department of Computer Sc. & Engg.  
Priyadarshini Bhagwati College of Engg. & Tech.  
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

**Principal**  
Priyadarshini Bhagwati College of Engg. & Tech.  
Umred Road, Nagpur.



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**Department of Computer Science and Engineering**

**Session 2020-21 (ODD SEM)**


**Date:- 20/08/2020**

**NOTICE**

All the Students of B. E. VII Semester are hereby informed that our Department is organizing 30 days free Certificate courses on "PYTHON FOR BEGINNER". Interested students can enroll their name to Ms. S. S. Wankhede on or before 26/08/2020. 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.	PYTHON FOR BEGINNER	31/08/2020 MONDAY	Online Mode (Google Meet)

  
**Coordinator**  
Ms. S. S. Wankhede

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





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Department of Computer Science and Engineering

**ACADEMIC SESSION: 2020-21 (ODD SEM)**

**Free Certification Course**

**COURSE NAME:- PYTHON FOR BEGINNER**

Sr. No.	Contents	Date	Time
1.	Course Introduction, Basic Python Syntax introduction: Data Types, Variables	31-08-2020	4:00 pm to 5:00 pm
2.	Expressions, Numbers, and Type Conversions, Defining Functions, Returning Values	02-09-2020	4:00 pm to 5:00 pm
3.	The Principles of Code Reuse, Code Style, Comparing Things	04-09-2020	4:00 pm to 5:00 pm
4.	Branching with if Statements, else Statements, elif Statements	07-09-2020	4:00 pm to 5:00 pm
5.	Complex Branching with elif Statements, Basic Syntax Wrap Up	09-09-2020	4:00 pm to 5:00 pm
6.	Implicit vs Explicit Conversion	11-09-2020	4:00 pm to 5:00 pm
7.	Returning Values Using Functions	14-09-2020	4:00 pm to 5:00 pm
8.	Comparison Operators with Equations, Comparison Operators with Strings	16-09-2020	4:00 pm to 5:00 pm
9.	Logical Operators	23-09-2020	4:00 pm to 5:00 pm
10.	Introduction to Loops: while loop, Infinite Loops and How to Break Them	25-09-2020	4:00 pm to 5:00 pm
11.	For loop, Nested for Loops	28-09-2020	4:00 pm to 5:00 pm
12.	Common Errors in for Loops	07-10-2020	4:00 pm to 5:00 pm
13.	What is a string?	09-10-2020	4:00 pm to 5:00 pm



14.	The Parts of a String	16-10-2020	4:00 pm to 5:00 pm
15.	Creating New Strings	21-10-2020	4:00 pm to 5:00 pm
16.	More String Methods	23-10-2020	4:00 pm to 5:00 pm
17.	Formatting Strings	26-10-2020	4:00 pm to 5:00 pm
18.	What is a list?	28-10-2020	4:00 pm to 5:00 pm
19.	Modifying the Contents of a List	02-11-2020	4:00 pm to 5:00 pm
20.	Lists and Tuples	04-11-2020	4:00 pm to 5:00 pm
21.	Iterating over Lists and Tuples	27-11-2020	4:00 pm to 5:00 pm
22.	List Comprehensions	02-12-2020	4:00 pm to 5:00 pm
23.	What is a dictionary?	04-12-2020	4:00 pm to 5:00 pm
24.	Iterating over the Contents of a Dictionary	07-12-2020	4:00 pm to 5:00 pm
25.	Dictionaries vs. Lists	09-12-2020	4:00 pm to 5:00 pm
26.	String Indexing and Slicing	11-12-2020	4:00 pm to 5:00 pm
27.	Basic String Methods	14-12-2020	4:00 pm to 5:00 pm
28.	Advanced String Methods	16-12-2020	4:00 pm to 5:00 pm
29.	String Formatting	28-12-2020	4:00 pm to 5:00 pm
30.	Lists Defined, Modifying Lists	04-01-2021	4:00 pm to 5:00 pm

  
Coordinator

Ms. S. S. Wankhede

  
HOD, CSE

Mr. K. N. Haude,  
Head of Department  
Department of Computer Sc. & Engg.  
Priyadarshini Bhagwati College of Engg.  
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Department of Computer Science and Engineering

**ACADEMIC SESSION: 2020-21 (ODD SEM)**

**Free Certification Course**

**Course Name:- PYTHON FOR BEGINNER**

Sr. No.	Contents	No. Of Hrs.
1.	Course Introduction, Basic Python Syntax introduction: Data Types, Variables	1
2.	Expressions, Numbers, and Type Conversions, Defining Functions, Returning Values	1
3.	The Principles of Code Reuse, Code Style, Comparing Things	1
4.	Branching with if Statements, else Statements, elif Statements	1
5.	Complex Branching with elif Statements, Basic Syntax Wrap Up	1
6.	Implicit vs Explicit Conversion	1
7.	Returning Values Using Functions	1
8.	Comparison Operators with Equations, Comparison Operators with Strings	1
9.	Logical Operators	1
10.	Introduction to Loops: while loop, Infinite Loops and How to Break Them	1
11.	For loop, Nested for Loops	1
12.	Common Errors in for Loops	1
13.	What is a string?	1
14.	The Parts of a String	1





15.	Creating New Strings	1
16.	More String Methods	1
17.	Formatting Strings	1
18.	What is a list?	1
19.	Modifying the Contents of a List	1
20.	Lists and Tuples	1
21.	Iterating over Lists and Tuples	1
22.	List Comprehensions	1
23.	What is a dictionary?	1
24.	Iterating over the Contents of a Dictionary	1
25.	Dictionaries vs. Lists	1
26.	String Indexing and Slicing	1
27.	Basic String Methods	1
28.	Advanced String Methods	1
29.	String Formatting	1
30.	Lists Defined, Modifying Lists	1



**Co-Ordinator**

**Ms. S. S. Wankhede**



**HOD, CSE**

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



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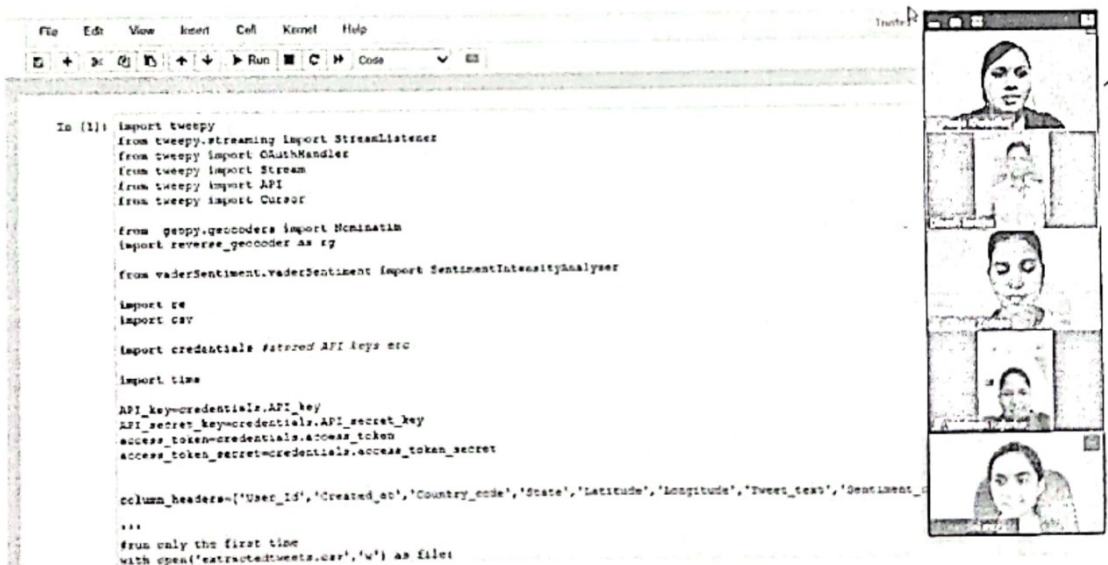
**Department of Computer Science and Engineering**  
**Academic session 2020-21 (ODD SEM)**


**Report of Free Certification course**

**on**


**Python for Beginner**

1. Event Title : Python for Beginner
2. Event Date : 31/08/2020 (Monday) To 04/01/2021 (Monday)
3. Event Venue : Online Mode (Google Meet)
4. Event Resource Person : Ms. Shrunkhala S. Wankhede
5. Name of Event Coordinator : Ms. Shrunkhala S. Wankhede
6. Sem/Branch : VII Sem B. E. CSE (59 Students)
7. Objective : To make student aware about Python
8. Outcome : After the completion of the Python Course, Students will be able to install, debug and run a Python program. It will help to understand why Python is a useful scripting language for developers. It will cover the basics of how a program is constructed from a series of simple instructions in Python



  
**Ms. S. S. Wankhede**  
 Co-ordinator

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

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

**PRIYADARSHINI BHAGWATI COLLEGE OF  
ENGINEERING, NAGPUR**

**Department of Information Technology**

**2020-21**



**Free Certification Course  
on  
Data Science**

**Time: 9:30 AM to 10:30 AM | DATE: 02/07/2020 to 06/08/20**

**Contacts**

**Mr. M.S. Chaudhari(HOD, IT)  
8806311511**

**Dr. Mrs. Radha A. Pimpale(Asst. Prof, IT)  
9423073189**

**Seat Capacity-50 only**



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Department of Information Technology  
Academic Session 2020-2021

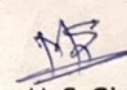
**NOTICE**

Date -26/06/2020

All the Students are hereby informed that Department of Information Technology is organizing free certification Course on Data Science from dated 02/07/2020. 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	Data Science	02/07/2020	Online	50

  
Mr. M.S. Chaudhari  
HOD  
Head

Information Technology Department  
Priyadarshini Bhagwati College of Engineering  
Umred Road, Nagpur.

### **Introduction to Python**

Python Introduction, History of Python, Introduction to Python Interpreter and program execution, Python Installation Process in Windows and Linux, Python IDE, Introduction to anaconda, Python variable declaration, Keywords, Indents in Python, Python input/output operations, Python's Built-in Data types String, List, Tuple, Set, Dictionary (characteristics and methods)

### **Python Function**

Function in python. Introduction to functions, Function definition and calling, Function parameters, Default argument function, Variable argument function, in built functions in python, Scope of variable in python, Dictionaries and Structuring Data: The Dictionary Data Type, Pretty Printing, Using Data Structures to Model Real-World Things

### **Introduction to Files**

Introduction to files and types of files (Text, Binary and CSV file), CSV file: import csv module, open/ close, write

### **Working with Strings**

String Manipulation: Basic Operations, Slicing, Functions and Methods

### **Introduction to Numpy Library**

Python for Data Handling-Basic of Numpy Array, Computation on Array, Comparison Mask

### **Introduction to Pandas Library**

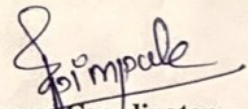
Introduction to dataframe, Logic Fancy Indexing, structured Array, Data Indexing , Selection , Data Hierarchical, Combining Datasets, Aggregation and grouping-pivot tables

### **Introduction to Matplotlib Library**

PYTHON for Data Visualization, Visualization with matplotlib, line plots, scatter plots, Histograms, binning and density, three dimensional plotting, Geographic data

### **Data Analysis using statsmodels and seaborn and Bokhm**

Data Analysis using statsmodels and seaborn, Graph plotting using plotly, Interactive data Visualization using Bokhm, Working with Bokhm



**Course Coordinator**

**Dr. Mrs. Radha A. Pimpale**

9423073189

**PRIYADARSHINI BHAGWATI COLLEGE OF  
ENGINEERING, NAGPUR**

**Department of Information Technology**

**2020-21**



**Free Certification Online Course  
on  
Hadoop**

**Time: 10:00 AM to 11:00 AM | DATE: 02/11/2020 to 10/12/2020**

**Contacts**

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

**8806011511**

Ms. Y Umar (Asst. Prof, IT)

Seat Capacity-50 only



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Department of Information Technology  
Academic Session 2020-2021

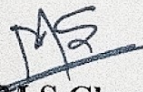
**NOTICE**

Date -30/10/2020

All the Students are hereby informed that Department of Information Technology is organizing free certification Online Course on Hadoop from dated 02/11/2020. 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	Hadoop	02/11/2020	Online	50

  
Mr. M.S. Chaudhari

HOD  
Head

Information Technology Department  
Priyadarshini Bhagwati College of Engineering  
Umred road, Nagpur.



**Big Data Introduction:**

What is Big Data

Evolution of Big Data

Benefits of Big Data

Operational vs Analytical Big Data

Need for Big Data Analytics

Big Data Challenges

**Hadoop cluster:**

Master Nodes

Name Node

Secondary Name Node

Job Tracker

Client Nodes

Slaves

Hadoop configuration

Setting up a Hadoop cluster

**MapReduce:**

What is MapReduce

Why MapReduce

How MapReduce works

Difference between Hadoop 1 & Hadoop 2

Identity mapper & reducer

Data flow in MapReduce

Input Splits

Relation Between Input Splits and HDFS Blocks

Flow of Job Submission in MapReduce

Job submission & Monitoring

MapReduce algorithms


Sorting

Searching

Indexing

Fault tolerance

Introduction to HDFS



**Course Coordinator**  
**Ms. Y Umar (Asst. Prof, IT)**  
**9730668629**

Session 2020-21  
Free Certification Course  
Course Name - Hadoop  
Syllabus

Day	Date	Topic
Day-1	2/11/2020	What is Big Data
Day-2	3/11/2020	Evolution of Big Data
Day-3	4/11/2020	Benefits of Big Data
Day-4	05/11/2020	Operational vs Analytical Big Data
Day-5	06/11/2020	Need for Big Data Analytics
Day-6	07/11/2020	Big Data Challenges
Day-7	09/11/2020	Master Nodes
Day-8	10/11/2020	Name Node
Day-9	11/11/2020	Secondary Name Node
Day-10	12/11/2020	Job Tracker
Day-11	13/11/2020	Client Nodes
Day-12	17/11/2020	Slaves
Day-13	18/11/2020	Hadoop configuration
Day-14	19/11/2020	Setting up a Hadoop cluster
Day-15	20/11/2020	What is MapReduce
Day-16	21/11/2020	Why MapReduce
Day-17	23/11/2020	How MapReduce works
Day-18	24/11/2020	Difference between Hadoop 1 & Hadoop 2
Day-19	25/11/2020	Identity mapper & reducer
Day-20	26/11/2020	Data flow in MapReduce
Day-21	27/11/2020	Input Splits
Day-22	28/11/2020	Relation Between Input Splits and HDFS Blocks
Day-23	02/12/2020	Flow of Job Submission in MapReduce
Day-24	03/12/2020	Job submission & Monitoring
Day-25	04/12/2020	MapReduce algorithms

<b>Day-26</b>	<b>05/12/2020</b>	<b>Sorting</b>
<b>Day-27</b>	<b>07/12/2020</b>	<b>Searching</b>
<b>Day-28</b>	<b>08/12/2020</b>	<b>Indexing</b>
<b>Day-29</b>	<b>09/12/2020</b>	<b>Fault tolerance</b>
<b>Day-30</b>	<b>10/12/2020</b>	<b>Introduction to HDFS</b>



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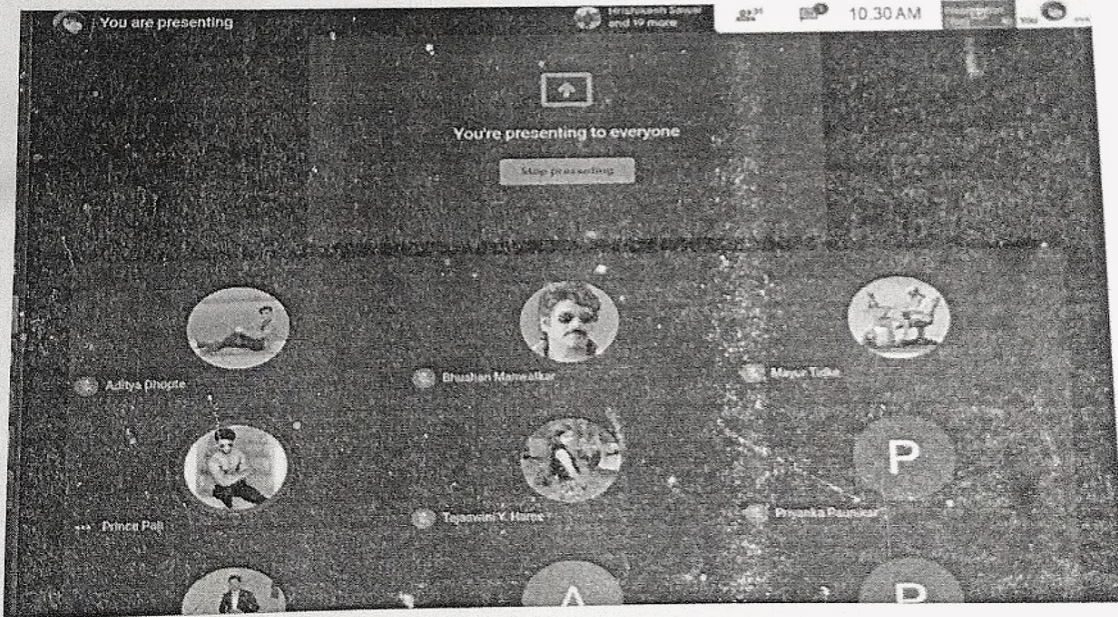


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**Department of Information Technology**  
**Academic session 2020-2021**

Report on Certification Course on Hadoop

1. Title of the Course : Certification Course on Skill Development on Hadoop
2. Course Code : IT202102
3. Course Date : 02-11-20 to 10-12-20
4. Event conduction duration : 30 Days
5. Event venue : Online
6. Event resource person/Co-ordinator : Ms. Y. Umar, PBCOE, Nagpur
7. Number of students : 58
8. Objective : To make students aware about how data in gigabytes to petabytes are stored and processed efficiently using Hadoop.
9. Outcome : This course focuses on the “technologies”, i.e., the tools/algorithms that are available for storage, processing of Big Data. It also helps a student to perform a variety of “analytics” on different data sets and to arrive at positive conclusions.



*[Signature]*  
 Program Co-ordinator/Resource Person

*[Signature]*  
 Head  
 Prof. M. S. Chaudhari

*[Signature]*  
 IQAC Co-ordinator  
 Dr. Ms. A. R. Chaudhari

*[Signature]*  
 Principal  
 Dr. N. K. Choudhary

Information Technology Department  
 Priyadarshini Bhagwati College of Engineering  
 Umred Road, Nagpur.

**IQAC Co-ordinator**  
 Priyadarshini Bhagwati College of Engineering  
 Umred Road, Nagpur.

Priyadarshini Bhagwati College of Engineering  
 Umred Road, Nagpur.

**PRIYADARSHINI BHAGWATI COLLEGE OF  
ENGINEERING, NAGPUR**

**Department of Information Technology**

**2020-21**



**Free Certification Course  
on  
MongoDB**

**Time: 10:00 AM to 11:00 AM | DATE: 28/01/2021 to 04/03/2021  
VENUE- Online Mode**

**Contact**  
Mr. M.S. Chaudhari(HOD, IT)  
8806011511

Ms. K. Pawar(Asst. Prof., IT Dept.)

Seat Capacity-30 only



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Academic Session 2020-21

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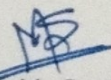
**NOTICE**

Date -20/01/2021

All the Students are hereby informed that Department of Information Technology is organizing free certification Course on MongoDB from dated 28/01/2021. 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	MongoDB	28/01/2023	Online Mode	30

  
Mr. M.S. Chaudhari  
HOD

Information Technology Department  
Priyadarshini Bhagwati College of Engineering  
Umred Road, Nagpur.

**Introduction to MongoDB (2 hours)**

Overview of MongoDB and its role in NoSQL databases  
Understanding document-oriented databases  
Installing and setting up MongoDB

**CRUD Operations (4 hours)**

Creating and managing databases and collections  
Inserting documents into collections  
Querying and retrieving documents  
Updating and deleting documents

**Querying and Aggregation (6 hours)**

Querying with MongoDB Query Language (MQL)  
Filtering documents using query operators  
Sorting and limiting query results  
Aggregation framework for complex queries and data manipulation  
Indexing for performance optimization

**Data Modeling (4 hours)**

Document data model and schema design  
Embedding vs. referencing data  
Designing relationships and handling joins  
Schema validation and data integrity

**Advanced Queries and Indexing (4 hours)**

Working with complex queries and query optimization  
Index types and index creation strategies  
Understanding query explain plans  
Geospatial queries and indexing  
Full-text search with MongoDB

**Data Replication and Sharding (4 hours)**

Replica sets: configuration, setup, and maintenance  
Failover and high availability  
Sharding concepts and implementation  
Horizontal scaling and data distribution



## MongoDB Atlas (4 hours)

Introduction to MongoDB Atlas cloud database service  
Creating and managing clusters  
Security and access control  
Automated backups and monitoring



Course Coordinator  
Ms. K. Pawar (Asst. Prof., IT Dept.)  
9881591265



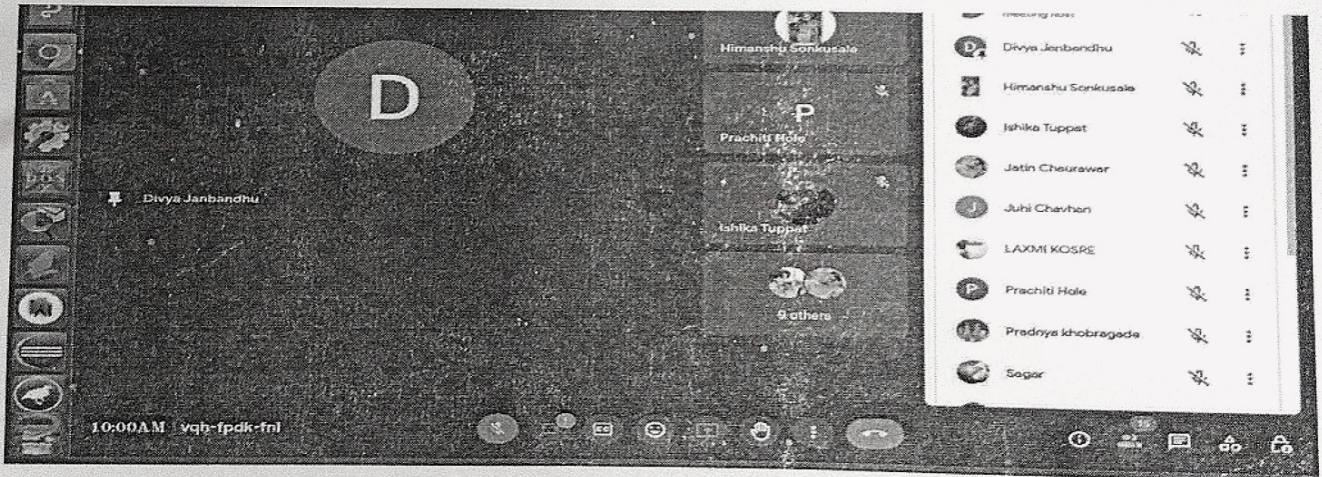
Lokmanya Tilak Jankalyan Shikshan Sanstha's  
**PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING**  
Harpur Nagar, Umred Road (Near Bada Tajbagh), Nagpur-24  
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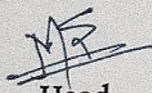
Department of Information Technology  
Academic session 2020-2021


### Report on Certification Course on MongoDB

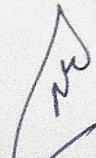
1. Title of the Course : MongoDB
2. Course Code : IT202103
3. Course Date : 28/01/2021-04/03/2021
4. Course conduction duration : 30 Hrs
5. Event venue : Online mode
6. Event resource person/Coordinator : Ms. K Pawar, PBCOE, Nagpur
7. Number of students : 33
8. Objective : To handle data storage, data modeling, ingestion, query, sharding, and data replication with MongoDB, along with installing, updating, and maintaining the MongoDB environment.
9. Outcome : Students get the knowledge of data handling with MongoDB, maintaining and installing MongoDB environment.



  
Program Co-ordinator

  
Head  
Prof. M. S. Chaudhari

  
IQAC Co-ordinator  
Dr. Ms. A. R. Chaudhari

  
Principal  
Dr. N. K. Choudhary

Priyadarshini Bhagwati College of Engineering  
Umred Road, Nagpur.

Priyadarshini Bhagwati College of Engineering  
Umred Road, Nagpur.



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## **Department of Electronic & Communication Engineering**

**Academic session 2020-21**

### **NOTICE**

Date: 20/05/2020

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 CCNA Networking IT Industry Concept"**. The interested students register their name to the undersigned faculty.

The detail of the course:

**Name of Course** : Hands on CCNA Networking IT Industry Concept  
**Course Code** : EC202101  
**Date of Commencement** : 28/05/2020  
**Total Hrs.** : 30  
**Seats** : 20

Dr. (Ms.) D. M. Kate

HOD, EC Deptt, PBCOE

**Head**  
**Electronic & Communication**  
Priyadarshini Bhagwati College of Engg  
Umred Road, Nagpur.

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

**REGISTER NOW**

**7755992509**

**7757972195**

Certification Course on  
**Hands on CCNA networking -  
IT Industry Concept**

**Course Details**

- **Duration:** 30 Hours
- **Sessions:** 1-2 Hours daily
- **Venue:** Online
- **Course Fee:** FREE
- **No. of Seats :** 50

**Course Highlights**

- Comprehensive Understanding
- Cutting Edge Networking Technologies
- Expert Led Sessions
- Hands-on training
- Problem solving approach
- Certification
- Career Advancement

Starting  
From

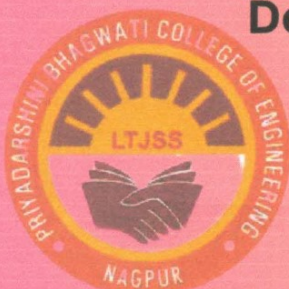


**MAY  
28  
2020**

**COURSE COORDINATOR**

**Ms. A. P. Thakare**  
Assistant Professor, EC

**Department of Electronics & Communication Engg.**



Lokmanya Tilak Jankalyan Shikshan Sanstha's

**PRIYADARSHINI BHAGWATI  
COLLEGE OF ENGINEERING**

**Harpur Nagar, Umred Road, Nagpur - 440024**




Lokmanya Tilak Jankalyan Shikshan Sanstha's  
**PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING**  
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**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**  
**Session 2020-21**

**A Certificate Course on**  
**"Hands on CCNA Networking IT Industry Concept"**  
**CONTENTS**

Sr. No.	Contents	No. of Hours
1	Introduction to Networking : Overview of computer networks, Benefits and applications of networking, Network topologies and architectures, OSI and TCP/P networking models	2 Hours
2	Introduction to Cisco Networking : Overview of Cisco Systems and its networking equipment, Cisco certifications and Career paths, Introduction to Cisco IOS (Networking Operating System)	2 Hours
3	Network Fundamentals : IP addressing and subnetting, Routing and switching concepts, TCP/IP protocols and services, Network troubleshooting methodologies	4 Hours
4	Ethernet and LAN Switching : Ethernet standards and operation, VANS (Virtual Local Area Networks), Switch configuration and management, Spanning Tree Protocol (STP)	4 Hours
5	IP Routing : Routing concepts and protocols, Static and dynamic routing, Routing protocols : RIP, OSPF, EIGRP, Inter-VLAN routing	4 Hours
6	WAN Technologies : Introduction to wide area networks (WANs), WAN connectivity options : leased lines, MPLs, Metro Ethernet, WAN protocols : HDLC, PPP, Frame Relay, Network Address Translation (NAT)	4 Hours
7	Network Services and Management : DHCP (Dynamic Host Configuration Protocol), DNS (Domain Name System), SNMP (Simple Network Management Protocol), Network monitoring and troubleshooting tools	4 Hours
8	Network Security : Introduction to network security, Firewalls and access control lists (ACLs), VPN (Virtual Private Network) and remote access, Security protocols : SSL/TLS, IPsec	4 Hours
9	Wireless Networking : Wireless LAN standards (Wi-Fi), Wireless security and encryption, Wireless network configuration and troubleshooting	2 Hours
10	Final Project and Hands-on Labs : Implementation of a small-scale network using Cisco equipment, Configuration and testing various networking concepts, Troubleshooting network issues	2 Hours
<b>Total</b>		<b>32 Hours</b>

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



**Lokmanya Tilak Jankalyan Shikshan Sanstha's  
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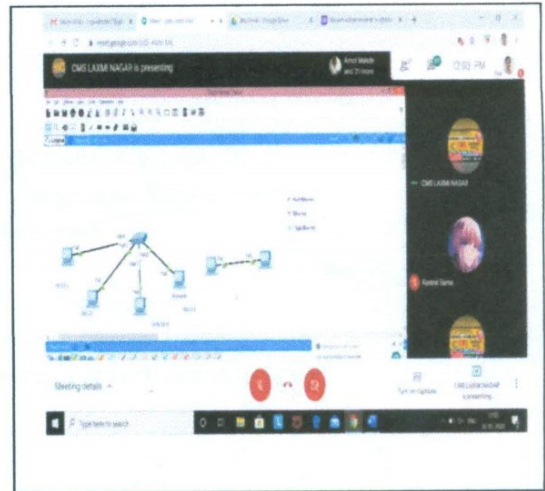
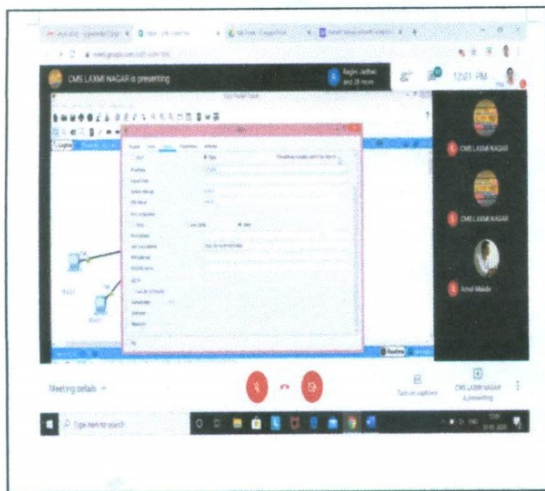
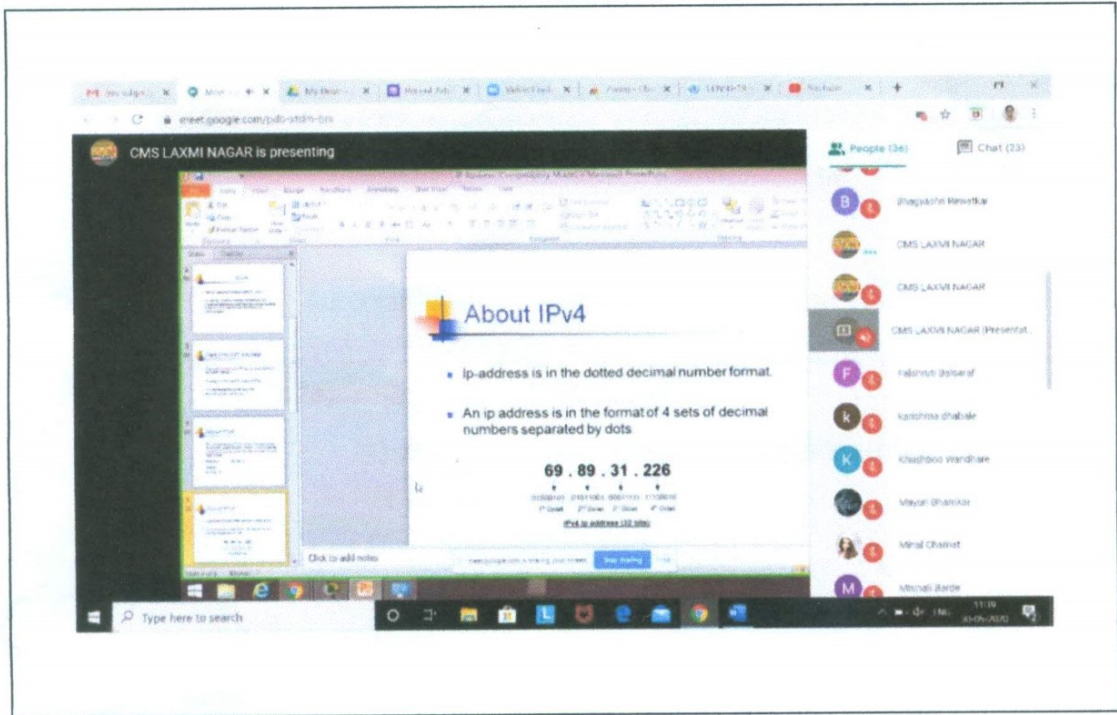


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**Department of Electronics & Communication Engineering  
Academic session 2020-21**

**Report of Certification Course**

1. Event Title : Certification Course on “**Hands on CCNA networking - IT Industry Concept**”.
2. Event Date : From 28/05/2020 onwards
3. Event conduction duration : 30 Hours
4. Event venue : Online
5. Sem/Branch : Electronics and Communication Engg.
6. Event resource person : Ms. A. P. Thakre
7. Name of Event Coordinator : Ms. A. P. Thakre
  
8. Objective : The objective of a certification course on “Hands-on CCNA Networking - IT Industry Concept” is to provide participants with practical knowledge and skills in Cisco Network Associate (CCNA) networking concepts and their application in the IT industry. The course aims to equip participants with a solid understanding of network fundamentals, hands-on experience with Cisco networking devices, and the ability to configure, troubleshoot and manage network infrastructures.
  
9. Outcome : Upon successful completion of the certificate course, participants should be equipped with the necessary practical skills, theoretical knowledge, and hands-on experience to confidently work with Cisco networking devices, manage network infrastructures, and pursue career opportunities in the IT industry as network administrators, network engineers, or CCNA-certified professionals.



*Dr. D.M. Kate*

**Dr.D.M.Kate  
HOD**

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

*Dr. Mrs A R Chaudhari*

**Dr. Mrs A R Chaudhari  
IQAC Coordinator**

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

*Dr. N. K. Choudhari*

**Dr. N. K. Choudhari  
Principal  
Principal**

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



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## Department of Electronic & Communication Engineering

Academic session 2020-21

### NOTICE

Date: 01/06/2020

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

The detail of the course:

**Name of Course** : Exploring Robotics System and Automation  
**Course Code** : EC202102  
**Date of Commencement** : 16/06/2020  
**Total Hrs** : 30  
**Seats** : 20

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

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For display on notice board of Deptt.





Lokmanya Tilak Jankalyan Shikshan Sanstha's

# PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING

Harpur Nagar, Umred Road, Nagpur - 440024

Department of Electronics & Communication Engg.



A Certification Course on

## Exploring Robotic Systems & Automation

From 16th June 2020  
Onwards

### Key Features

- Learn the foundation of Robotics
- Hands-on practical session
- Explore robot components
- Programming Language
- Industry Insights
- Certification

### Course Details

- **Duration:** 30 Hours
- **Sessions:** 1-2 Hours daily
- **Venue:** Online
- **Course Fee:** FREE
- **No. of Seats :** 50

**COURSE COORDINATOR**



**Dr. (Ms) S.B. Dhoble**  
Assistant Professor, EC



**9765775401**



saraj.rinke5@gmail.com

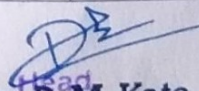


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**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**  
**Session 2020-21**  
**A Certificate Course on**  
**"Exploring Robotic Systems & Automation"**  
**CONTENTS**

Sr. No.	Contents	No. of Hours
1	Introduction to Robotics : Definition and scope of robotics, Brief history and evolution of robotics, Applications of robotics in various fields, Challenges and future prospects in robotics	2 Hours
2	Robotic Components and Architecture : Robot Anatomy : Actuators, sensors, controllers, Types of robots : industrial robots, mobile robots, collaborative robots, Robot Kinematics and dynamics, Robot programming methods	4 Hours
3	Sensors and Perception in Robotics : Introduction to robot sensors : proximity, vision, force and tactile sensors, Sensor fusion and data integration, Perception algorithms : object recognition, localization and mapping, Understanding and procession sensor data	4 Hours
4	Robot Control Systems : Robot control architectures : centralized, decentralized and hybrid, Robot motion control : Trajectory planning, inverse kinematics, PIC control and feedback control systems, Real time control and motion synchronization	4 Hours
5	Robot Localization and Mapping : Localization Methods : odometry, GPS, Landmarks, Simultaneous Localization and Mapping (SLAM), Map representation and data structures, Navigation algorithms and path planning	4 Hours
6	Robot Manipulation and Grasping : Introduction to robot manipulation, Forward and inverse kinematics for robot arms, Grasping and dexterous manipulation, Robot arm control and trajectory generation	3 Hours
7	Robot Vision and Image Processing : Image acquisition and preprocessing, Feature extraction and object recognition, Camera calibration and 3D vision, Vision-guided robot control	4 Hours
8	Human-Robot Interaction : Collaborative robots and their applications, Safety considerations in human-robot interaction, Programming interfaces for human-robot interaction,	2 Hours
9	Industrial Automation and Robotics : Introduction to industrial automation, Robotics in manufacturing and production lines, Automated control systems : PLCs, SCADA, Integration of robots in industrial environments	4 Hours
<b>Total</b>		<b>31 Hours</b>

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



Lokmanya Tilak Jankalyan Shikshan Sanstha's  
**PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING**

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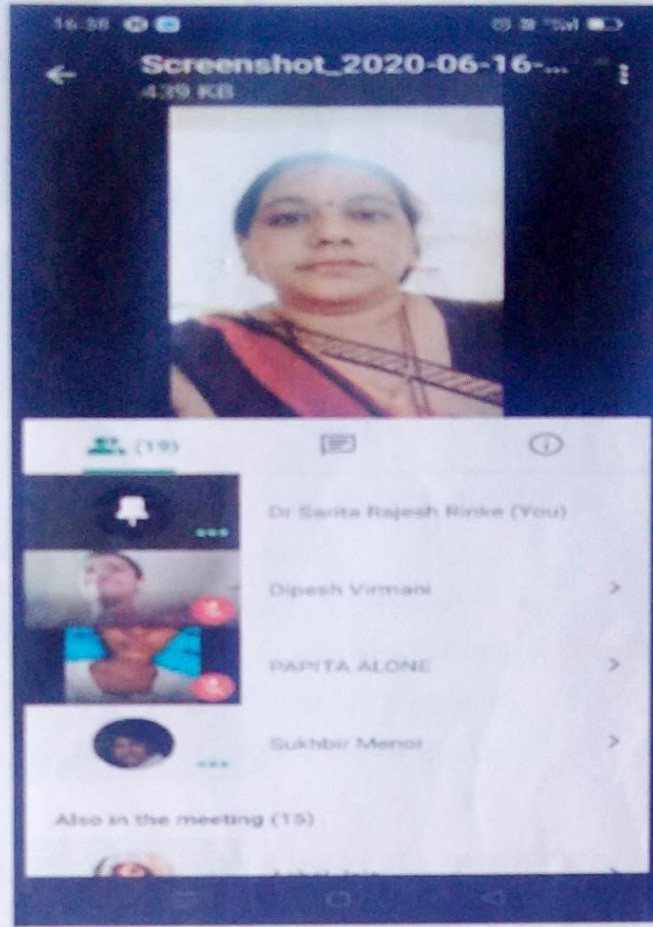
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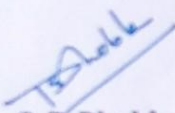
**Department of Electronics & Communication Engineering**  
**Academic session 2020-21**

**Report of Certification Course**

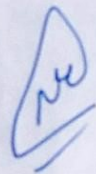
1. Event Title : Certification Course on **"Exploring Robotic Systems and Automation"**.
2. Course Code : EC202102
3. Event Date : From 16/06/2020 to 20/07/2020
4. Event conduction duration : 30 Hours
5. Event venue : Online (Google Meet)
6. Sem/Branch : Electronics and Communication Engg.
7. Event resource person : Dr. (Ms) Sarita B. Dhoble
8. Name of Event Coordinator : Dr. (Ms) Sarita B. Dhoble
  
9. Objective : The objective of a certification course on "Exploring Robotic Systems and Automation" is to provide participants with a foundational understanding of robotics, its principles, and applications. This course aims to familiarize participants with the fundamental concepts, components, and programming techniques involved in robotics.
  
10. Outcome : By completing a certification course on "Exploring Robotic Systems and Automation", participants will acquire a solid foundation in robotics principles, programming and applications. They will be prepared to pursue further studies or careers in robotics engineering, automation or related fields. Additionally, participants will be equipped with the knowledge and skills to contribute to the design, development and deployment of robotic systems in various industries.

Photograph:



  
Dr. S. B. Dhoble  
Program Coordinator

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

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



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## Department of Electronic & Communication Engineering

Academic session 2020-21

### NOTICE

Date: 01/09/2020

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

The detail of the course:

**Name of Course** : Introduction to Database Management Software  
**Course Code** : EC202103  
**Date of Commencement** : 09/09/2020  
**Total Hrs** : 30  
**Seats** : 20

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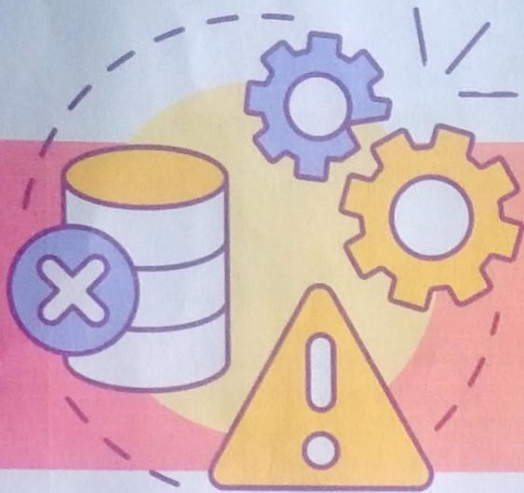


Lokmanya Tilak Jankalyan Shikshan Sanstha's

# PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING

Harpur Nagar, Umred Road, Nagpur - 440024

Department of Electronics & Communication Engg.



Certification Course on

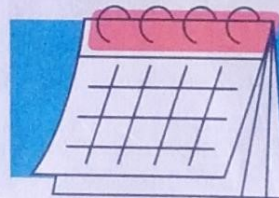
## Introduction to Database Management Softwares

### Course Highlights :

- Hands-on training on various platforms for database management
- Learn fundamentals of database management
- Explore advanced database management tools
- Practical exercises and projects for real-world application
- Experienced instructor
- Certificate of completion upon successful course fulfillment

### Course Details :

- **Duration:** 30 Hours
- **Sessions:** 1-2 Hours daily
- **Venue:** Online
- **Course Fee:** FREE
- **No. of Seats :** 50



From 9th September,  
2020 onwards



**Mr. P. N. Aerkewar**

Instructor & Course Coordinator

**CONTACT**



praful.yerkewar@gmail.com



9309866074



Lokmanya Tilak Jankalyan Shikshan Sanstha's  
**PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING**  
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**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**  
**Session 2020-21**

**A Certificate Course on**  
**"Introduction to Database Management Softwares"**  
**CONTENTS**

Sr. No.	Contents	No. of Hours
1	<b>Introduction to Databases</b> : What is Database?, Importance of databases in modern applications, Types of database : relational, NoSQL, Object-oriented, etc, Overview of database management systems (DBMS)	2 Hours
2	<b>Relational Database concepts</b> : Relational model fundamentals, Entities, attributes and relationships, Keys and constraints, Understanding table structures	4 Hours
3	<b>Introduction to SQL</b> : Overview of SQL and its importance in database management, Basic SQL syntax and commands (SELECT, INSERT, UPDATE, DELETE), Retrieving data with SELECT statements, Modifying data with INSERT, UPDATE and DELETE statements	4 Hours
4	<b>Database design and Normalization</b> : Understanding database design principles, Entity-relationship (ER) modeling, Normalization: 1NF, 2NF, 3NF and BCNF, Designing efficient and scalable databases.	4 Hours
5	<b>Introduction to Database Management Systems</b> : Overview of popular DBMS platforms (MySQL, Oracle, SQL server, PostgreSQL, Understanding the architecture of a DBMS, Installation and setup of a DBMS	4 Hours
6	<b>Data Manipulation with SQL</b> : Advanced querying techniques (JOIN, GROUP BY, Having), Subqueries and derived tables, Appregation Functions and working with sets, Data Manipulation using SQL Functions	4 Hours
7	<b>Database Administration</b> : User management and security, Backup and recovery strategies, Performance tuning and optimization, Monitoring and maintenance of databases	4 Hours
8	<b>Introduction to NoSQL Databases</b> : Overview of NoSQL databases and their characteristics, Different types of NoSQL databases (document, key-value, columnar, graph, Comparing NoSQL databases with relational databases	2 Hours
9	<b>Introduction to Data Warehousing and Business Intelligence</b> : Understanding data warehousing concepts, Extract, Transform, Load (ETL) processes, Introduction to business intelligence tools and reporting,	2 Hours
10	<b>Emerging Trends in Database Management</b> : Big data and its impact on databases, Cloud databases and database-as-a service, Introduction to blockchain databases, Exploring future advancements in database management	2 Hours
<b>Total</b>		<b>32 Hours</b>

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



Lokmanya Tilak Jankalyan Shikshan Sanstha's  
**PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING**

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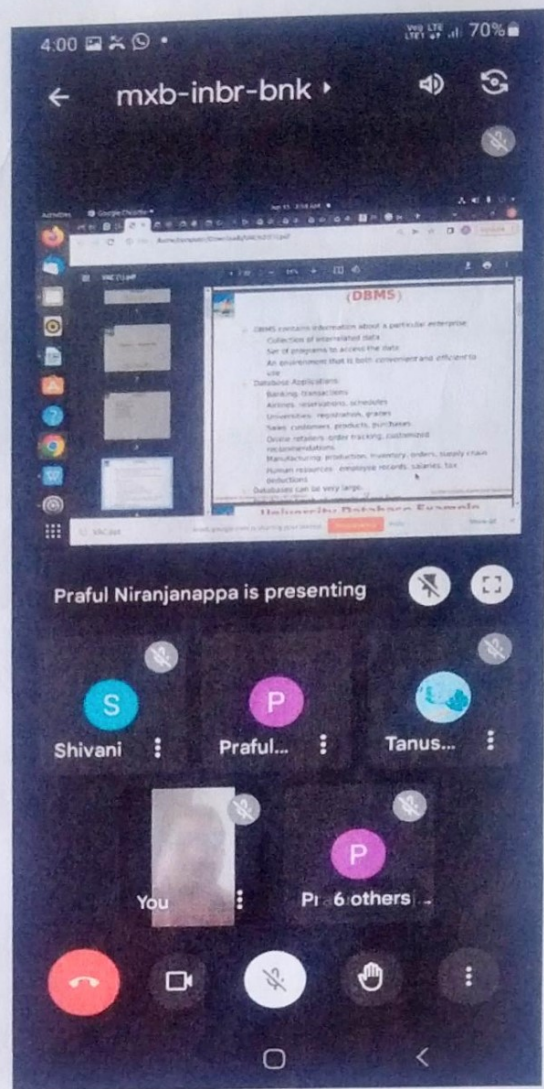
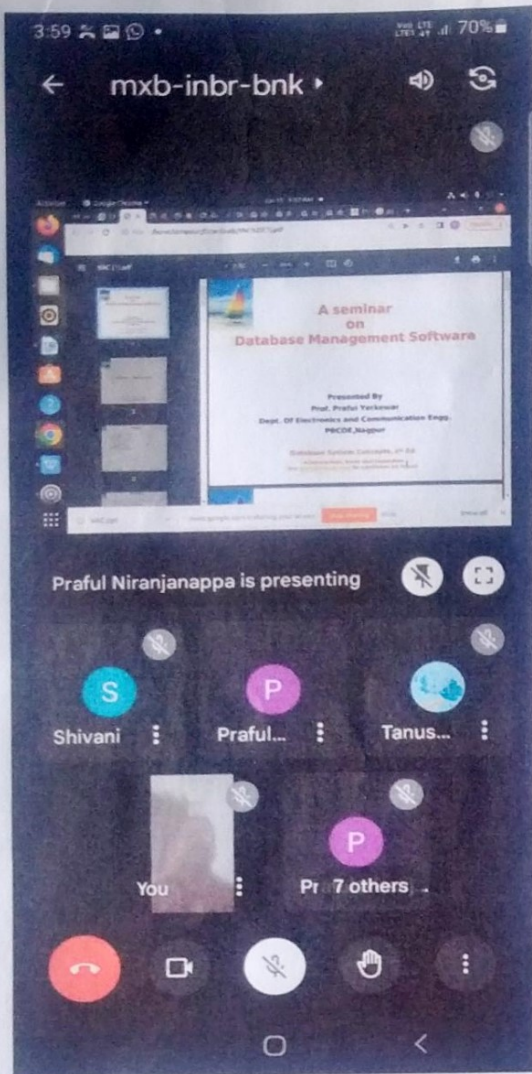
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**Department of Electronics & Communication Engineering**  
**Academic session 2020-21**

**Report of Certification Course**

1. Event Title : Certification Course on **"Introduction to Database Management Softwares"**.
2. Course Code : **EC202103**
3. Event Date : From 09/09/2020 to 09/10/2020
4. Event conduction duration : 30 Hours
5. Event venue : Online
6. Sem/Branch : Electronics and Communication Engg.
7. Event resource person : Dr. Praful N. Yerkewar
8. Name of Event Coordinator : Dr. Praful N. Yerkewar
  
9. Objective : The objective of a certification course on "Introduction to Database Management Software" is to provide participants with a comprehensive understanding of database management systems (DBMS) and hands-on experience with popular database software. The course aims to equip participants with the fundamental concepts, principles, and practical skills required to design, implement, and manage databases effectively.
  
10. Outcome : By completing a certificate course, participants should be equipped with the necessary knowledge, skills and practical experience to confidently work with database management software, design and implement databases, perform essential database administration tasks, and pursue career opportunities in fields such as database administration, data analysis, software development, or data management within various industries.





**Dr. P. N. Yerkewar**  
Program Coordinator

**Dr. D.M. Kate**  
Head of Department  
**Head**

**Electronics & Communication**  
Priyadarshini Bhagwati College of Engg  
Umred Road, Nagpur.

**Dr. N. K. Choudhari**  
Principal  
**Principal**

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



Lokmanya Tilak Jyotibhawan Shikshan Sanstha's  
**PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING**  
Haripur Nagar, Umred Road (Near Bada Tajbagh), Nagpur-24  
(Approved by AICTE, New Delhi, Govt. of Maharashtra  
and affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)  
Email: principalpbcoe@gmail.com, Website: www.pbcoe.edu.in  
**NAAC Accredited**



**Department of Mechanical Engineering**  
**Academic session 2020-2021**

**NOTICE**

Date: 11/06/2020

All the students of Final Year Mechanical Engineering are hereby inform that our department is organising a one month free add on course on **“Industry 4.0 & Opportunities for Mechanical Engineers”** with the objective to make our students aware about the current trends going on in Industry 4.0 perspective in manufacturing sectors and the opportunities for Mechanical Engineering students in same. 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.	“Industry 4.0 & Opportunities for Mechanical Engineers”	15/06/2020	Online mode via Google Meet

  
**Prof.S.M.Pimpalgaonkar**

**Head,ME Dept.**





## Department of Mechanical Engineering

Academic session 2020-2021

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### 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: "Industry 4.0 & Opportunities for Mechanical Engineers"**

<b>Sr. No</b>	<b>Modules</b>	<b>No. of Hours</b>
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, data analytics. Application of black chain technology, predictive analytics in smart manufacturing.	05
3.	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
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.	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
6.	Employment opportunities for Mechanical and Industrial engineers. An industrial insight expectation session by experts.	05
	<b>Total</b>	<b>30</b>



Ms.S.P.Gurway

**Course Coordinator**



Prof. S.M.Pimplagaonkar

**Head,ME Dept.**

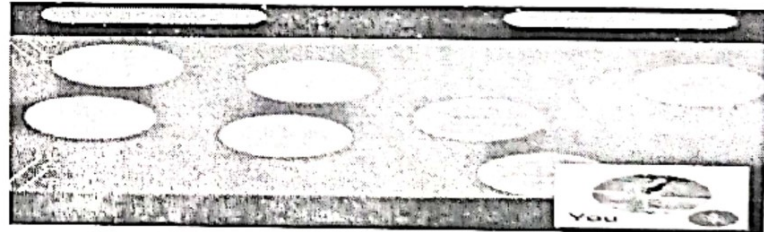
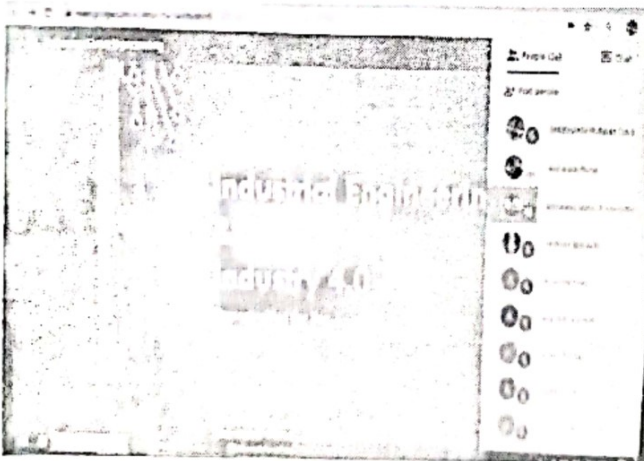


**Department of Mechanical Engineering**

**Academic session 2020-2021**

**Report on Add-on Course on "Industry 4.0 & Opportunities for Mechanical Engineers"**

1. Title of Course : Add-on course on "Trends in Industry 4.0"
2. Course Code : ME202101
3. Course Date : 15/06/2020 – 20/06/2020
4. Course duration : 30Hrs
5. Event venue : Online platform via Google meet
6. Name of Event Coordinator : Asst.Prof. S.P.Gurway
7. Number of students : 67
8. Objective : To provide knowledge to students related to industrial insights like Expectations of industry from the engineers, 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 of Industrial engineering techniques. Similarly students will be able to know the practical insights of Industry 4.0 and IoT Trends. Like increasing the efficiency and productivity through end to end integrated digital supply chains. Real life examples on industrial process improvements through the use of IoT.



27/06/2020  
Nice session sir  
Lakshya Sharma 7 mins  
Informative session sir  
Bhupham Kumar 6 mins  
Nice session sir  
SHUBHAM KAWADKAR 1 min  
Very informative session sir  
Shubham Amnerkar 1 min  
Very knowledgeable session sir

Ms.S.P.Gurway

Course. Coordinator

Prof.S.M.Pimpalgaonkar

Head, ME Dept.

Dr.N.K.Choudhari

Principal



Lokmanya Tilak Lakshman Shikshan Samithi  
**PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING**  
Harpur Nagar, Umred Road (Near Bada Tajbagh), Nagpur-24  
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and affiliated to Rashtrasant Tukdoji Maharaj Nagpur University)  
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**Department of Mechanical Engineering**  
**Academic session 2020-2021**

**NOTICE**

Date: 01/07/2020

All the students of B. Tech Mechanical Engineering are hereby inform that our department is organising a one month free certification course on "Advance Manufacturing Design and Technology" with the objective to impart knowledge to the students regarding the techniques adopted by the industries these days for their working. Mr.S.P.Daf and Ms. 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.	"Advance Manufacturing Design and Technology"	06/07/2020	Online Platform via Google Meet

  
**Head**  
**Mechanical Engg. Deptt.**  
**Priyadarshini Bhagwati College of Engg.**  
**Umred Road, Nagpur.**  
**V. Pimpalgaonkar**

**HOD**

**Mechanical Department**



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 and Affiliated to RTM Nagpur University)

Email- [principalpbcoe@gmail.com](mailto:principalpbcoe@gmail.com) , website: [www.pbcoe.edu.in](http://www.pbcoe.edu.in)

**Department of Mechanical Engineering**  
**Free Certification Course on**

**“Advance Manufacturing Design and Technology”**



**By:**

**Mr.S.P.Daf**

**Ms.S.P.Gurway**

Who can Join: For Second and Third Year Student Mechanical Engineering

**Organized By:**

***Department of Mechanical Engineering***

**Event Coordinator: Asst.Prof.S.P.Daf**

**Asst.Prof.S.P.Gurway**

**Dr.N.K.Choudhari**

Principal

**Dr.(Mrs.)A.R.Chaudhari**

IQAC Coordinator

**Asst.Prof.S.M.Pimpalgaonkar**

HOD Mechanical Dept

Registration Link: <https://forms.gle/ArwvfEBuxfueoeet6>



## **Department of Mechanical Engineering**

**Academic session 2020-2021**

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### **Syllabus**

#### **Introduction**

Advanced manufacturing is the use of innovative technology to improve products or processes, with the relevant technology being described as advanced, innovative or cutting edge. Advanced manufacturing industries increasingly integrate new innovative technologies in both products and processes. The rate of technology adoption and the ability to use that technology to remain competitive and add value to define the advanced manufacturing sector.

#### **Objective of the Course:**

1. Plan a machine procedure, program parts, set up and operate CNC operated equipment according to prints.
2. Exhibit personal standards accepted in the business and working world.
3. Utilize computer-aided design/computer-aided machining (CAD/CAM) software to produce a part with multi-axis machining procedures.
4. To make the student aware about occupational safety while operating the machines.

#### **Course Outcomes:**

##### **After completion of this Course Student will be able to:**

1. Define Machining process.
2. Define CNC machining
3. Form a part program for simple turning operations.
4. Form a part program for simple milling operations.
5. State the safety measures to be taken while operating the machine



Course Name: "Advance Manufacturing Design and Technology"

Sr. No	Modules	No. of Hours
1.	Print reading and precision measurement.	05
2.	Machine Planning, Machining Procedure, Manufacturing/Planning/Machine planning	05
3.	Introduction to part programing and CNC control	05
4.	CNC Programming on CNC Turning and simulation through simulation software.	05
5.	CNC Programming on CNC Milling and simulation through simulation software.	05
6.	Introduction to Occupational safety	05
	<b>Total</b>	<b>30</b>



Mr.S.P.Daf  
Course. Coordinator



Ms.S.P.Gurway  
Course. Coordinator



Prof. S.M.Pimpalgaonkar  
Head, ME-Department  
Mechanical Engg. Deptt.  
Priyadarshini Bhagwati College of Engg  
Umred Road, Nagpur.

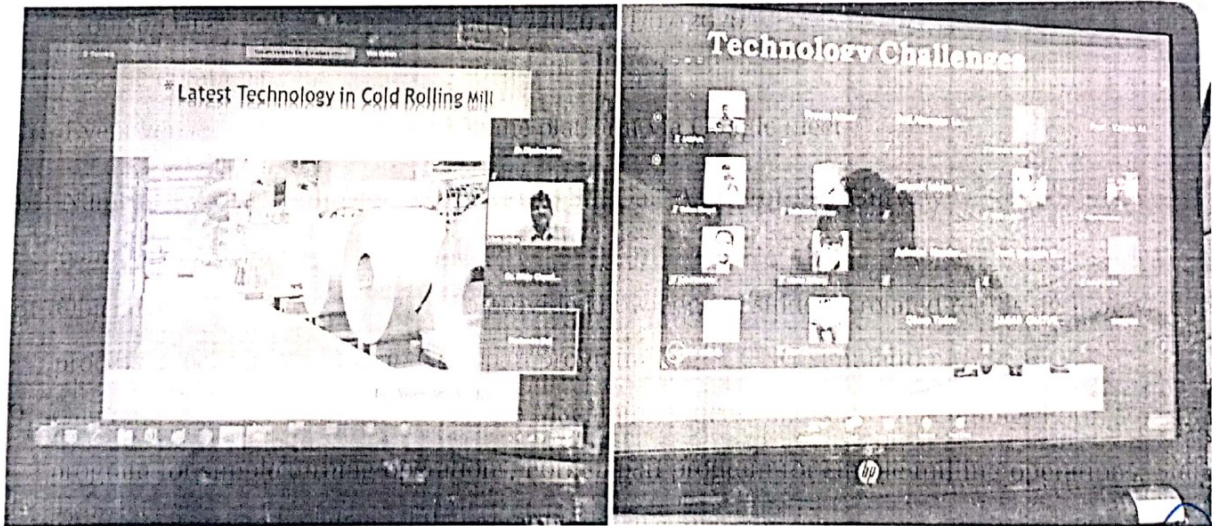


**Department of Mechanical Engineering**

**Academic session 2020-2021**

**Report on Certificate Course on "Advance Manufacturing Design and Technology"**

1. Title of Course : Certificate Course on "Advance Manufacturing Design and Technology"
2. Course Code : ME202102
3. Course Date : 06/07/2020- 11/07/2020
4. Course duration : 30Hrs
5. Event venue : Online platform via Google meet
6. Name of Event Coordinator : Asst.Prof. S.P.Daf Asst.Prof. S.P.Gurway
7. Number of students : 119
8. Objective : To provide knowledge to students related real insight of Machining process, precision measuring, CNC part programming & CNC simulation.
9. Outcome : Define Machining process and CNC machining, Form a part program for simple turning operations, Form a part program for simple milling operations, State the safety measures to be taken while operating the machine.



  
Mr.S.P.Daf

  
Ms.S.P.Gurway

  
Prof. S.M.Pimpalgaonkar

  
Dr.N.K.Choudhari

Course. Coordinator

Course. Coordinator

Head, Mechanical Engg. Dept.  
Priyadarshini Bhagwati College of Engg.  
Umred Road, Nagpur.

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



Lokmanya Tilak Jankalyan Shikshan Sanstha's  
**PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING**  
Harpur Nagar, Umred Road (Near Bada Tajbagh), Nagpur-24  
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Ref. Civil / Odd Sem /2020-21

Date: 16/09/2020

### NOTICE

All the students are hereby informed that department is going to organised Add on/ certificate programme from 27/09/2020 on "**Introduction to Earthquake Engineering**". The duration of programme is 30 Hours and the programme will be coordinate by Prof. N. B. Thikare, Asst. Professor Civil Engineering Department. Students should enroll their names upto 25/09/2020

Venue - Online Platform via Google Meet

Time - 09 am to 11 am

  
Dr. Ranjeet Patil

HOD, Civil Engg. PBGOE  
Priyadarshini Bhagwati College of Engg  
Umred Road, Nagpur.



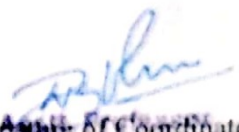
Lokmanya Tilak Jankalyan Shikshan Sanstha's  
**PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING**  
Harpur Nagar, Umred Road (Near Bada Tajbagh), Nagpur-24  
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Email: principalpbcoe@gmail.com, Website: www.pbcoe.edu.in  
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**Department of Civil Engineering**  
**Academic session 2021-2022 (Odd semester)**  
**Value Added Course**  
**On**  
**“Introduction to Earthquake Engineering”**

Sr. No.	Content	No. of Hrs.
<b>Module-I : Earthquake Basics</b>		
1	Earth and its interior, Plate Tectonics	1
2	Convection Currents, The Earth quake	1
3	Inter Plate Earthquake (Convergent Boundaries, Divergent Boundaries and Transform Boundaries)	1
4	Intra Plate Earthquake (Faults and Types of Faults)	2
5	Seismic Waves, Basic Terminology, Measuring Units and Instruments	2
6	Inertia forces in structures	2
<b>Module-II : Behaviour of structures</b>		
7	Behavior of Brick Masonry Structures: Behavior of Brick Masonry Walls, Box Action, Different types of Bands	2
8	Behavior of Stone Masonry Structures: Behavior of Stone Masonry Walls, Earthquake Resistant Features of Stone Masonry Structures	3
9	Behavior of RC Structures: Load Transfer Path, Strength Hierarchy, Reversal of Stresses, Importance of Beam Column Joints	2
<b>Module-III : Ductility and various detailing</b>		
10	Importance of Stiffness and Ductility (Capacity Design Concept) in Structures	1
11	Effect of Short Column, Effect of Soft Storey	1
12	Ductile Detailing	2

13	Improper Detailing, Effect of Masonry Infill Walls, Effect of Eccentricity, Effect of Pounding, Effect of Floating Column, Effect of Flexibility and Effects of Setbacks, Earthquake Resistant Features of RC Structures	1
<b>Module IV : Special Topics</b>		
14	Earthquake Design Philosophy	1
15	Introduction to Soil Liquefaction	2
16	Structural Controls	2
17	Seismic Strengthening	2
<b>Total Hours</b>		<b>30</b>

  
 Signature of Coordinator  
 CIVIL Engg. Deptt.  
 Priyadarshini Engineering College of Engg.  
 Mysore, Karnataka



Lokmanya Tilak Jankalyan Shikshan Sanstha's  
**PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING**  
Harpur Nagar, Umred Road (Near Bada Tajbagh), Nagpur-24  
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Email: principalpbcoc@gmail.com, Website: www.pbcoc.edu.in



**NAAC Accredited**

**Department of Civil Engineering**  
**Academic session 2020-21**

**Report of Online Certificate Course on "Introduction of Earthquake Engineering"**

1. Event Title : **Online Certificate Course on Introduction of Earthquake Engineering**
2. Event Date : 27 September 2020 To 26 October 2020
3. Event conduction duration : 9.00 AM To 11.00 PM
4. Event venue : Online Mode through Google Meet
5. Sem/Branch : V and VII Sem B. E. Civil Engineering (105 students)
6. Event resource person : Prof. N. B. Thikare, Asst. Professor, Civil Engineering Department, PBCOE, Nagpur.

7. Name of Event Coordinator : Prof. N. B. Thikare

8. Course Description :

The purpose of course is to help students understand the theory and terminology of earthquake and seismic loading for the analysis and design of civil infrastructure. Coverage will include basic concepts of earthquake, seismology, seismic hazards, and ground motion development and selection, as well as the soil site effects. The course complements the undergraduate curriculum, providing students with helpful background for the seismic portion of the RTMNU, Nagpur examination, and also provides an important foundation for subsequent graduate courses in geotechnical and structural engineering.

9. Course Objective :

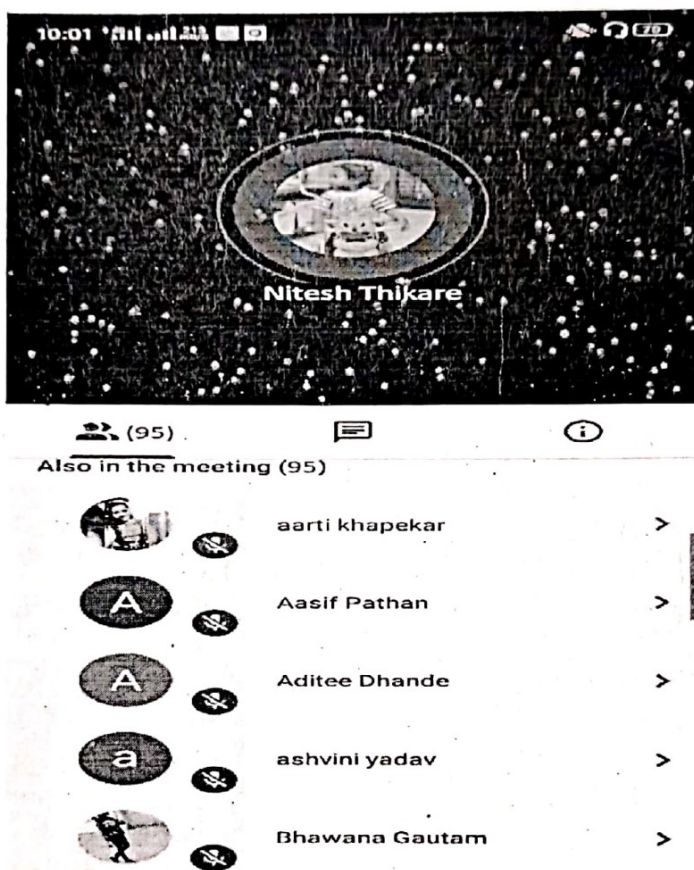
The objective of course is to provide students with a fundamental understanding of earthquakes and their effects on the built environment. The course aims to familiarize students with


the principles and concepts of earthquake engineering, enabling them to understand earthquake characteristics, comprehend seismic hazards, study structural response to earthquakes, investigate seismic design principles, and evaluate seismic Performa.


**10. Course outcome :**


Course outcomes aim to provide students with a solid foundation in earthquake engineering and equip them with the knowledge and skills necessary to contribute to the design, analysis, and assessment of structures in seismic regions.

Photographs



  
**Prof N. B. Thikare**  
**Event Coordinator**  
Priyadarshini Bhagwati College of Engg.  
Umred Road, Nagpur.

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

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



Lokmanya Tilak Jankalyan Shikshan Sanstha's  
**PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING**  
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Ref. Civil / Even Sem /2020-21

Date: 11/03/2021

**NOTICE**

All the students are hereby informed that department is going to organised online Add on/ certificate programme from 16/03/2021 on "Water Pollution Awaireness and Measures". 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 14/03/2021

Venue - Online Platform via Google Meet/ Zoom

Time - 09 am to 10 am

  
Dr. Ranjeet Patil

HOD, Civil Engg. PBCOE  
CIVIL Engg. Dept.  
Priyadarshini Bhagwati College of Engg  
Umred Road, Nagpur





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


**Academic session 2020-2021**

**Certificate Course Content**

**Subject – WATER POLLUTION AWARENESS AND MEASURES**

Sr. No	Contents	Hours
<b>Module-I</b>		
1	Fresh Water Ecosystem	2
2	Sources of water pollutions	2
3	Water quality assessment	2
4	Water quality Standards	2
5	Water pollutants	3
<b>Module-II</b>		
6	Marine Water Ecosystem	2
7	Characteristic of Marine water ecosystem	2
8	Zonation in marine ecosystem	2
9	Types and methods of analysis	2
10	Effects of water pollution on human, Animals & Plants	3
<b>Module-III</b>		
11	Hydrological Cycle	2
12	Precipitation- causes	2
13	variation and measurement	2
14	Evapotranspiration-	2
15	Infiltration and soil water processes	3

  
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



Lokmanya Tilak Jankalyan Shikshan Sanstha's  
**PRIYADARSHINI BHAGWATI COLLEGE OF ENGINEERING**  
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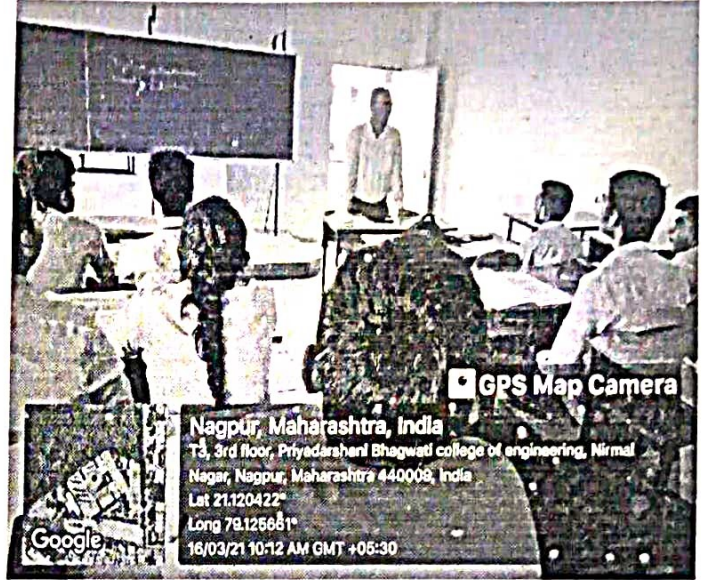
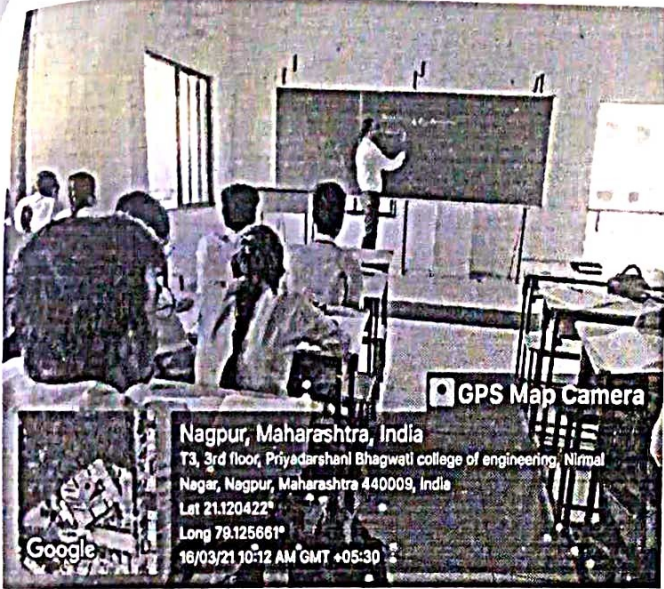
**DEPARTMENT OF CIVIL ENGINEERING**  
**ACADEMIC SESSION- 2020-21**


**COURSE NAME: WATER POLLUTION AWARENESS AND MEASURES**


**REPORT OF CERTIFICATE COURSE**


1. **Event Title** : Certificate Course on "Water Pollution Awareness And Measures"
2. **Event Date** : 16<sup>th</sup> March 2021 To 19<sup>th</sup> April 2021
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 and VI sem Civil Engineering (52 students)
6. **Name of Event Coordinator** : Dr. R. N. Patil
7. **Objective** : Systems designed to remove waterborne wastes from communities, industries, and so on while protecting the health of people and the environment.
  - (1) to collect wastewater from residences, industries, institutions, and so on,
  - (2) to find a place to discharge the wastewater (usually the nearest water course is chosen, but wastewater could also be used for groundwater recharge or even recycled to water supply),
  - (3) to remove water pollutants that would produce adverse impacts to the receiving water or adversely affect the health of people subsequently using the water and
  - (4) to do all the above in a cost - effective manner.
8. **Outcome** : The student will be able to:
  - 1) To know the basics, importance of water pollution.
  - 2) To study the various Effects of water pollution.
  - 3) To learn the importance of methods of control of water pollution.To understand the various Water Pollution control act.

9. Photographs :



  
**Dr. R. N. Patil**  
Coarse Co-Ordinator

  
**Dr. R. N. Patil**  
HOD, Civil Engg. Dept.  
CIVIL Engg. Dept.  
Priyadarshini Bhagwati College of Engg  
Nirmal Nagar, Nagpur

  
**Dr. N. K. Choudhari**  
Principal  
Principal  
Priyadarshini Bhagwati College of Engg  
Nirmal Nagar, Nagpur