

NEWSLTER 2020-21 TERM 1 ISSUE 1



TECH NEWS

OFFICIAL NEWSLETTER OF THE DEPARTMENT OF MCA
(P.E.S MODERN COLLEGE OF ENGINEERING , PUNE)

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Make this year count !

ABOUT US ...

From the Principal's desk : The aim of the institute is to develop not just top quality engineers but also well-developed persons. Our motto therefore is “the joy of excellence in a world of high technology ”As professionals you are required to gain knowledge and use it effectively even when you are exposed to pressure. You can surely face the challenges in the world with great courage if you can manage your valuable time and set your priorities, by having healthy competition and team spirit. Working in a team, effectively yields best results, even under tight deadlines. My congratulation to MCA Department for their consistent efforts in making newsletter and I wish that they will continue to do this in the years to come.

– Dr. Mrs. K. R. Joshi

From the HOD's desk : It 's a great pride to present our Master of Computer Application Department 's e- Newsletter “TechNews”, our very own newsletter which includes different activities articles and achievements of the MCA students. My congratulations to the team who took the responsibility for carrying out this task effectively .

- Dr. Mrs. Pradnya A .Muley

From the Editor's desk : It gives me an immense pleasure to present our biannual e- newsletter “TechNews” for the current semester. I would like to thank our HOD and my colleague's for their support in making of this issue. We have worked hard to bring up an exhilarating flashback of the events, achievements during the session 2018-19 Term I. I hope you find it interesting.

- Miss. Mugdha Dharmadhikari

About The Department : The department of Master of Computer Application (MCA) has been started in the academic year 2003- 04 and is permanently affiliated to Savitribai Phule Pune University and recognized by AICTE and DTE. The mission of the department is to contribute to the growth of technical education and to lead to its enrichment and advancement.

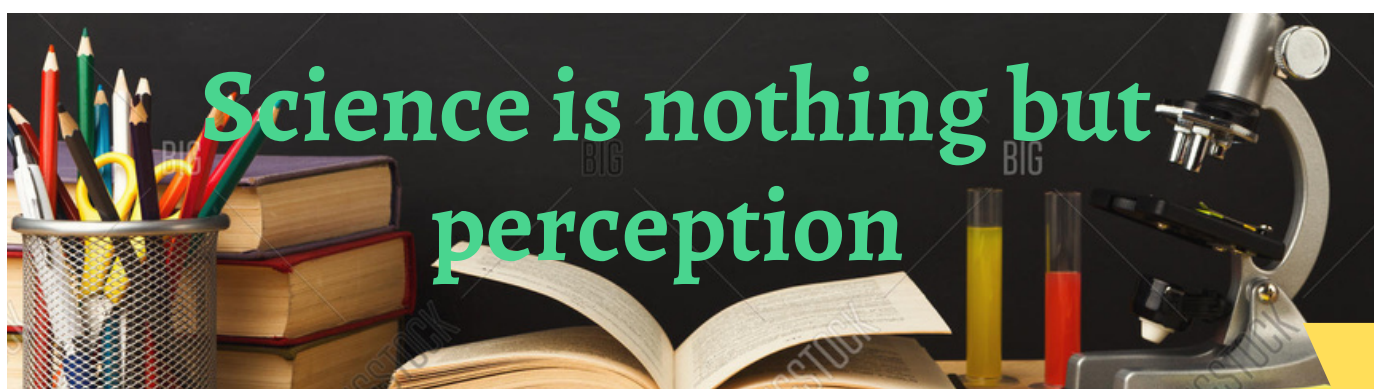
Department Vision : To develop Competent Technocrats in the field of Computer applications imbued with human values.

Department Mission : 1. To impart knowledge in the field of Computer applications with a focus on developing the required competencies.

2. To improve technical skill of the students through practical and hands-on experience.

3. To make students socially responsible citizens.

4. To enhance the quality of the students by collaboration with Alumni and Industry.



PROGRAM EDUCATIONAL OBJECTIVES:

- 1. Graduates will possess the broad knowledge of computer applications for successful careers in industry.**
- 2. Graduates will exhibit professionalism, ethical attitude, communication skills, team work in their profession and adapt to current trends by engaging in lifelong learning.**
- 3. Graduates will contribute as responsible citizens with a commitment to the sustainable development of society.**

Program Outcomes (PO's) : After completing MCA degree student will be able to:

- 1. Apply knowledge of mathematics, computer science appropriate for real world applications.**
- 2. Identify, formulate, analyze and solve complex computing problems using relevant domain disciplines.**
- 3. Design and evaluate solutions for complex computing problems that meet specified needs for real world applications.**
- 4. Apply programming logic including design of algorithm, programs, analysis and interpretation of data to provide valid solutions.**
- 5. Apply appropriate techniques and modern computing tools for development of real world applications.**
- 6. Understand and commit to professional ethics and cyber regulations, responsibilities, and norms of professional computing practices.**
- 7. Understand the need and develop the capacity to persistent learning for continual development as a computer professional.**
- 8. Participate as a member and leader in a team and stand out in multidisciplinary environments to demonstrate computing and management skills.**
- 9. Communicate effectively to comprehend and present effective technical Documentation.**
- 10. Apply the computing knowledge efficiently & effectively with concern for societal, environmental, and cultural aspects relevant to professional computing practices.**
- 11. To contribute effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.**
- 12. To identify a timely opportunity and innovation with entire effort to function as a successful entrepreneur.**

PROGRAM EDUCATION OBJECTIVES & PROGRAM OUTCOMES



QUANTUM COMPUTER?

The technology harnesses quantum physics to perform calculations faster than ever

By Donna Lu

Quantum computers are machines that use the properties of quantum physics to store data and perform computations. This can be extremely advantageous for certain tasks where they could vastly outperform even our best supercomputers.

Classical computers, which include smartphones and laptops, encode information in binary “bits” that can either be 0s or 1s. In a quantum computer, the basic unit of memory is a quantum bit or qubit.

Qubits are made using physical systems, such as the spin of an electron or the orientation of a photon. These systems can be in many different arrangements all at once, a property known as quantum superposition. Qubits can also be inextricably linked together using a phenomenon called quantum entanglement. The result is that a series of qubits can represent different things simultaneously.

For instance, eight bits is enough for a classical computer to represent any number between 0 and 255. But eight qubits is enough for a quantum computer to represent every number between 0 and 255 at the same time. A few hundred entangled qubits would be enough to represent more numbers than there are atoms in the universe.

This is where quantum computers get their edge over classical ones. In situations where there are a large number of possible combinations, quantum computers can consider them simultaneously. Examples include trying to find the prime factors of a very large number or the best route between two places.

However, there may also be plenty of situations where classical computers will still outperform quantum ones. So the computers of the future may be a combination of both these types.

For now, quantum computers are highly sensitive: heat, electromagnetic fields and collisions with air molecules can cause a qubit to lose its quantum properties. This process, known as quantum decoherence, causes the system to crash, and it happens more quickly the more particles that are involved.

DO YOU KNOW ?

A Quantum computer is 158 million times faster than the most sophisticated supercomputer we have in the world today.



KEY TAKEAWAY :

- QUANTUM COMPUTING USES PHENOMENA IN QUANTUM PHYSICS TO CREATE NEW WAYS OF COMPUTING.
- QUANTUM COMPUTING INVOLVES QUBITS.
- UNLIKE A NORMAL COMPUTER BIT, WHICH CAN BE EITHER 0 OR 1, A QUBIT CAN EXIST IN A MULTIDIMENSIONAL STATE.
- THE POWER OF QUANTUM COMPUTERS GROWS EXPONENTIALLY WITH MORE QUBITS.
- CLASSICAL COMPUTERS THAT ADD MORE BITS CAN INCREASE POWER ONLY LINEARLY.

DEPARTMENTAL ACTIVITIES 2020-21

Activities organized by MCA department

Title of the Activity : OneDayOnline FDPon “Computer networking and its laboratory”

Category of activity: Curricular

Objectives : 1.To enhance the technical and managerial skills of students.

2.To provide a platform to the students to show case their talent through technical skills and innovative ideas.



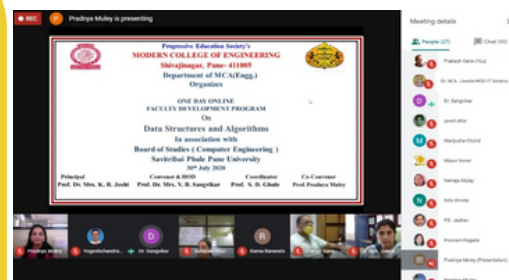
Title of the Activity : Orientation “Data Structures and Algorithms” for FYMCA (2020 Course)

Category of activity: Co-Curricular

Objectives : 1.To provide information to respective faculties regarding syllabus up gradation.

2.To get the insights on intricacies of topics from subject experts and Industry persons.

3.To discuss and solve the doubts of faculty members pertaining to revised syllabus.

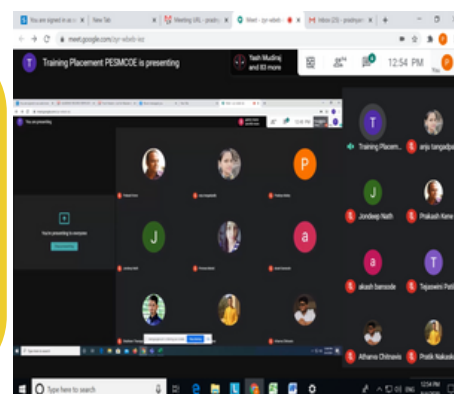


Title of the Activity : Placement Orientation Session

Category of activity: Co-Curricular

Objectives : 1. Create awareness among students regarding available career options and help them in identifying their career objectives.

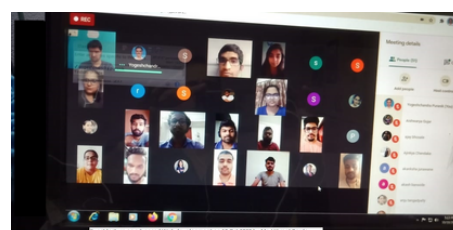
2. Guide the students in developing skills and job search strategies required to achieve their career objective.



Title of the Activity : Online Guest lecture on Advanced Web development TYMCA2020 - 21batch

Category of activity: Co-Curricular

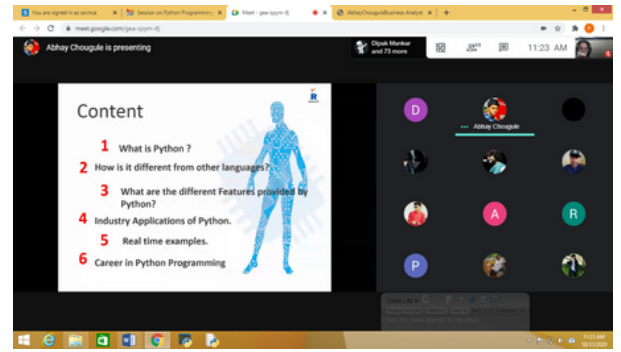
Objectives : To get acquainted the students of TYMCA with the advanced web development tools.



Title of the Activity : Session on Python Programming

Category of activity : Co-Curricular

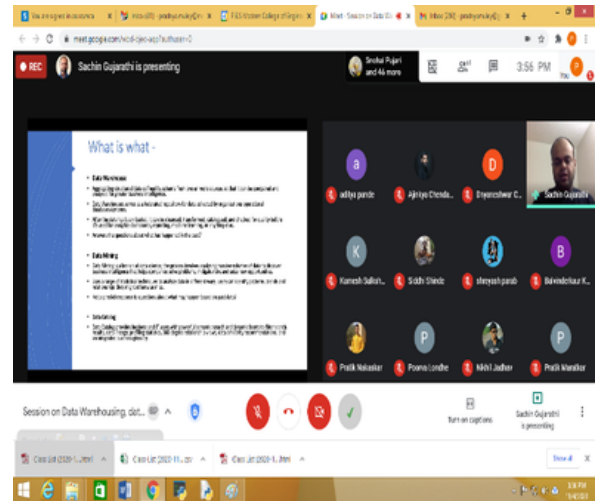
- Objectives :**
- 1.To guide the students in developing skills to learn Python
 - 2.To introduce students with IT Applications of Python Programming
 - 3.To create awareness among students regarding available career options in Python.



Title of the Activity : Guest Lecture on “Data Warehousing and Business Intelligence”.

Category of activity : Co-Curricular

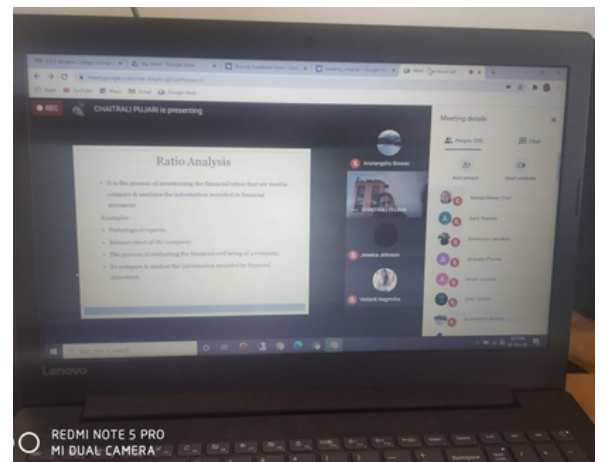
- Objectives :**
- 1.To introduce students with DW/BI Tools
 - 2.To get basic knowledge Traditional on-premise DW/BI Solutions
 - 3.Traditional cloud DW/BI Solution



Title of the Activity : Session on Elements of Cost and Ratio Analysis (Banking and Finance)

Category of activity :Co-Curricular

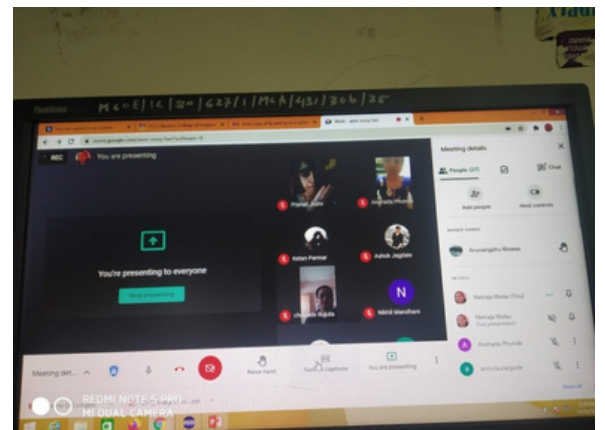
- Objectives :**
1. To Introduce cost related concepts.
 2. To get insight of the concept of ratio analysis.
 3. To create cost sheet and solve examples of ratio analysis.



Title of the Activity : Constitution Pledge

Category of activity :Extra-Curricular

- Objectives :**
- To make the students aware of their Constitutional values



STUDENT ACHIEVEMENTS

Name of the Student :- Rutuja Chopade
Name of the Event :- Kala-Darpan
Organized By :- Modern Institute of Business Management
Position :- Participation
Date of Activity :- 27/02/2020
Level :- Local

Name of student :- Sakshi N Jadhav
Name of event :- A National Level E-Poetry Writing Compilation
Organized By :- A.R.Burla College
A National Level E-Poetry Writing Competition
Position :- Participation
Date of Activity :- 8/8/2020
Level :- National



**Intelligence is the ability
to adapt to change.**

Stephen Hawking

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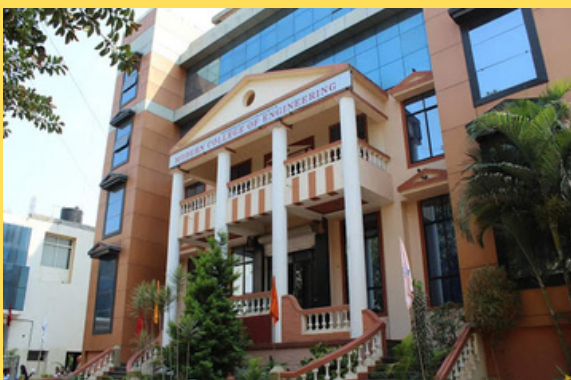
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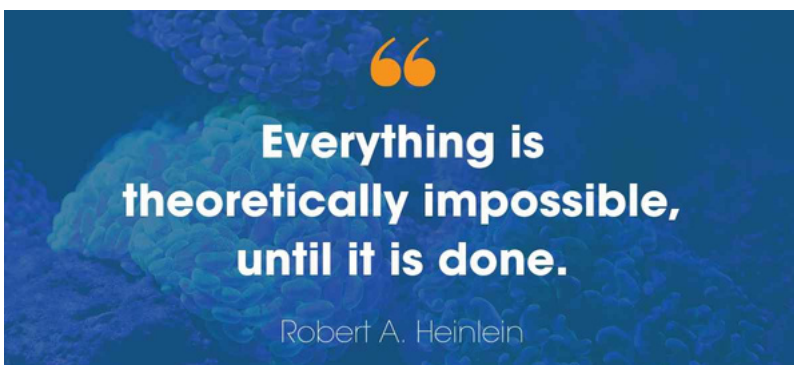
ROBOTIC PROCESS AUTOMATION (RPA)

Automation software to end repetitive tasks and make digital transformation a reality.

Robotic process automation (RPA) is a software technology that makes it easy to build, deploy, and manage software robots that emulate human actions interacting with digital systems and software. Just like people, software robots can do things like understand what's on a screen, complete the right keystrokes, navigate systems, identify and extract data, and perform a wide range of defined actions. But software robots can do it faster and more consistently than people, without the need to get up and stretch or take a coffee break.

RPA technology is changing how the world gets work done. Software robots—instead of people—do repetitive and lower-value work, like logging into applications and systems, moving files and folders, extracting, copying, and inserting data, filling in forms, and completing routine analyses and reports. Advanced robots can even perform cognitive processes, like interpreting text, engaging in chats and conversations, understanding unstructured data, and applying advanced machine learning models to make complex decisions.

When robots do these types of repetitive, high-volume tasks, humans are freed to focus on the things they do best and enjoy more: innovating, collaborating, creating, and interacting with customers. Enterprises get a boost too: higher productivity, efficiency, and resilience. It's no wonder that RPA is rewriting the story of work.



DO YOU KNOW ?

RPA allows computers to log into websites and apps in the same way as humans do, and also send and receive emails without the need for human interaction



Benefits of RPA :

- Greater Productivity
- Greater Accuracy
- Cost Savings & Fast ROI
- Integrate Across Platforms
- Customer Experiences
- Harness Artificial Intelligence (AI)
- Scalability