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## **Information and Communication Technology (ICT) Policy**

### **1. Preamble**

P. R. Pote (Patil) Welfare Trust's College of Engineering & Management, Amravati has, over the past three decades, been constantly endeavoring to train high quality scientific and technical man- power and provide solutions to a variety of challenging technological problems that may arise in different fields, through its well qualified faculty and highly skilled supporting staff, with the goal of becoming one of the leading centres of teaching, research and extension in Engineering and Technology and totally committed to excel in every sphere of its activity. It has been constantly encouraging scholarship, research, academic excellence, and innovation.

Recent advancements in ICT have played a vital role in redefining and realigning the teaching-learning processes. Moreover, the learning characteristics of the current generation students are increasingly inclined towards digital, web and mobile based technologies. ICT greatly facilitates the implementation of all types of educational learning theories and delivery models that support and encourage innovative teaching and learning modalities both for theoretical courses and lab courses as well as kinds of training components. It has been learnt that the integration of ICT in education, inter alia, does promote autonomous learning, curriculum differentiation, student-centered learning, higher order thinking, problem solving, cooperative learning, collaborative learning, social learning and self-paced learning and finally integrated learning.

The PRPCEM is committed and deeply engaged in the application of ICT to enhance administrative efficiency to optimize learning experiences and to innovate. The ICT Policy Framework is as follow-

### **ICT Policy- Objectives and Scope**

#### **Objectives:**

The key objectives and deliverables of the ICT Policy are to

- Make the Institute more accessible to the present and prospective stakeholders and empowering them through enhanced access to information and quality services while improving governance through the use of ICT.
- Facilitate effective communication for the learning enrichment and student engagement.
- Develop international linkages with a view to facilitate participation in national, regional, and international networks strengthening teaching, learning and research in the Institute.
- Create employment opportunities for the youth and improve their employability through ICT based educational initiatives and industry focused curricula and to help



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them participate in the ICT revolution, derive economic benefits, and eventually become self-reliant.

- Promote and strengthen new Information Technology Enabled Services (ITES)/ Information Technology (IT) destinations across the Institute by providing assistance in setting up quality IT infrastructure.
- Create world class ICT infrastructure for seamlessly connecting and integrating all ICT Service Providers and End Users.

### Scope

This policy applies to people, denoted as 'users' in this Policy, using the Institute ICT Resources including but not limited to:

- Students enrolled in various departments of the Institute;
- Teaching and non-teaching staff employed by the Institute

### The ICT Resources

This policy applies to ICT resources and systems made available to the users, by or on behalf of, the Institute including but not limited to:

- Personal computers, laptops and terminals.
- Peripherals e.g. printers, copiers, scanners and multimedia devices;
- Mobile devices e.g. smart phones and tablets;
- Networks with wired, wireless, dialup and/or internet connections.
- Internet services e.g. world wide web, blogs and wikis;
- Email and other messaging, social networking or collaboration services such as blogs, chats and forums;
- Application software, services and databases; • Removable media including CDs, DVDs and memory sticks

### Guiding Principles for ICT Application

An ICT Application is an ICT resource (hardware, software, or a digital resource) provided to a user by the Institute. The Institute and the ICT Center, while providing an ICT Application or taking decisions regarding the ICT related activities will be guided by the following principles.

- **Access:** Provide unrestricted access to teaching, learning and research information to its stakeholders using ICT and also access to Institute services to stakeholders through ICT.
- **Economy:** Application of ICT is to improve economy in the practice of the Institute. The Institute will use ICT to reduce operation costs and improve teaching, learning and research quality.
- **Efficiency and Effectiveness:** Use ICT with a view to increase Institute's efficiency in delivery of services and improve effectiveness in achieving the expected results of the



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Institute.

- **Relevance:** Improve relevance of the learning experiences of the students at the Institute, and continuously use and adopt relevant ICT for the Institute.
- **Transparency:** Use ICT to foster openness in Institute system management and delivery of services to the stakeholders.
- **Privacy:** Use of ICT within the Institute to protect individual privacy as per the applicable law.
- **Accountability:** ICT application in the Institute shall improve accountability of the system for its operation.
- **Sustainability:** Reduce the costs of ICT related energy consumption as well as promote the sustainability of ICT solutions and sustainability through the application of ICT.
- **Learner Centered:** Provide ICT tools that empower the students and enable them to be responsible for their own learning.
- **Pedagogy Driven:** Develop ICT resources that would support subject and course specific pedagogical innovations and create new learning experiences in classroom practices.
- **Quality Assurance:** Integrate quality assurance strategies and their continuous development into ICT processes and services.

### **ICT Application Areas in the Institution**

The following is a description of areas where ICT resources may be developed and made available to stakeholders for their efficient use.

#### **Academic Research**

Increasingly, research challenges are tackled by interdisciplinary teams, often distributed across institutions or countries and so the researchers are required to depend heavily on ICT to compute, analyse data and information, and prepare reports for the dissemination of research results. Use of ICT in research could take a variety of forms, including qualitative and quantitative data analysis, data visualization and reporting in refereed journals and social media. The Institute will endeavour to make its ICT resources available for creating conducive research environment. The Institute may undertake a range of activities to support research through the use of ICT, but not limited to the following:

- Provide data capture, analysis and management tools for both qualitative and quantitative data. Ensure the credibility of research through use of appropriate tools to check plagiarism.
- Organise training and capacity building activities to help researchers to use latest tools for research. Structure this effort as ICT Ecosystem for Research.
- To collaborate with local and regional partners to further develop research and e-Infrastructure capability.
- Strengthen the use of ICT by providing centralised and structured access to online databases, journals and resources over the Internet (e.g. MOOCs, INFLIBNET, NKN,



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NPTEL, WHONET etc.).

- Provide improved administrative support systems to the researchers for efficient and effective management of research grants and other funding resources.
- Provide access to Institute's research publications and other products through a central repository
- Publish online editions of Institute journals for better reach and visibility
- Participate in regional, national and global discussions on collaborative research using ICT.

### **Admissions**

The Institute with various programs necessitates the use of ICT to ensure effectiveness, efficiency and transparency of the admission process. The Institute may undertake a range of activities to support the admission process through use of ICT, but not limited to the following:

- Publication of admission related information over the Internet for better reach and visibility
- Provide online registration facility for prospective students
- Maintain a follow up and help prospective students through online support system and FAQs
- Conduction of online Entrance Tests for admission to Institute programmes

### **Human Resources**

The increasing competitive environment and growing student volume poses a challenge to an academic institution. In this scenario, ICT can be used as a facilitator to increase effectiveness and efficiency of the services offered by the Institute. The Institute may undertake a range of activities to support human resources through the use of ICT, but not limited to the following:

- Support the non-teaching staff by standardising routine administrative activities, and automating their process flow
- Provide advance learning and up-gradation opportunities to the teaching staff through online training programmes and support
- Build an online community of teaching and non-teaching staff to provide horizontal communication channel
- Develop Knowledge Management Systems to capture and maintain the expertise for later use, particularly for curriculum development
- Document and share innovative practices through Knowledge Management System

### **Teaching and Learning**

The use of ICT to provide support to the teaching and learning process has become an ingrained activity in the Institute. A major benefit of ICT for the teachers is that they can make their classroom teaching more effective by making its judicious use. The students are also benefited due to possibilities for interaction beyond the classroom through ICT. ICT enabled



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teaching-learning encompasses a variety of techniques, tools, contents and resources aimed at improving the quality and efficiency of the teaching-learning process. Teachers in the higher education system today can use a variety of media and technologies inside and outside the classroom to make their teaching effective. ICT are used by teachers to catalyze the transformation of information into student learning. While using Internet related resources in the classroom, every care may be taken to address the appropriateness of the content and avoid inappropriate contents therein. The Institute may undertake a range of activities to support teaching and learning through use of ICT, but not limited to the following:

- Facilitate teachers to engage in selection and critical evaluation of digital content and resources (from Massive Open Online Courses - MOOCs, NPTEL etc.) to embed them into the teaching-learning process.
- Encourage teachers to contextualize open educational resources available on the Internet for the students of Institute.
- Encourage teachers to develop digital learning resources of their own. Facilitate teachers to collaborate and undertake projects to develop high quality digital learning materials for the students. The digital resources may include documents, presentations, animations, audio recordings and video clips. Institute needs to setup a media wing to professionally help teachers in this endeavour.
- Create appropriate online learning space through Learning Management System (LMS) to share the learning modules created by the teachers. Through LMS students will have authorised access to relevant modules.
- Provide recorded sessions across the campuses through podcasts (for audio sessions) and webcasts (for video sessions). Facilitate synchronous (e.g. chatting) and asynchronous (e.g. e-mail and forum) communication channels between teacher and student for off-campus academic discussion.
- Facilitate synchronous and asynchronous communication channels amongst students for peer learning.
- Provide real time sessions across the campus through webinars and virtual classrooms. Allow online completion of academic activities and submission of assignments, progress reports etc. in off-campus scenarios such as internships, fieldwork.
- Organize training on effective use of ICT for teaching and learning for every teacher. Such training may be organized within the Institute or faculty members may be deputed to attend external workshops.
- Provide training on effective use of ICT and social media in the Institute to the students.

### **Student Performance Evaluation**

Student performance evaluation is the most critical aspect of the Institute and act as the gatekeeper of academic quality and credibility of the organization. Use of ICT has improved administration of tests in both online and offline scenario. The objective of the student evaluation system using ICT should include providing an efficient mechanism to conduct examinations, improve transparency and credibility of the system, help declare the results



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error-free and in timely manner, and evaluate the students in a valid and reliable manner. The Institute may undertake a range of activities to support student evaluation through the use of ICT, but not limited to the following:

- Provide facilities for online registration for examinations and share results online.
- Students should be informed about examination schedules and changes to schedules, if any, online.
- Create online systems for internal assessment and integrate the same with final student examination.
- Encourage teachers to use online testing system to be provided by the Institute for internal assessment.
- Provide feedback to students on their performance on a regular basis, on-line. Create question banks and share them through a repository.
- Use ICT for improving the credibility of the examination by putting practices in place to check impersonation and other malpractices.
- Use ICT to analyze evaluation data for preparing reports on student performance, evaluator performance etc.

### **Student Support**

A support mechanism helps the students to excel and achieve their full potential. The traditional student support systems need to be supplemented with ICT to increase its scalability and availability. The Institute may undertake a range of activities to support students through use of ICT, but not limited to the following:

- Class-coordinators play an important role in student support system. An online communication and information distribution channel between a class-coordinator and his/her students need to be provided.
- Online support is required to drive Institute's centralized training and placement activity. It should integrate placement related services at programme-specific services to students through the activities such as Placement training, Placement related activities and management of students' portfolios.
- Continuous strategic contacts can be maintained with alumni through the use of ICT. An exhaustive alumni database needs to be prepared and made available to the Institute for use.
- Use ICT to provide various supplementary skills to students including soft skills, personality development. A blended learning approach can be adopted to facilitate online learning of such skills.
- Facilitate the data mining on learning analytics for student support. Use ICT to provide required information regarding hostel accommodation and to handle related complaints and feedbacks.
- ICT can be used to encourage students to actively participate in extracurricular activities. Individual student participations in these events can be recorded and made a part of their individual portfolios.



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## Administration

Apart from research and teaching, a major application of ICT can be in administration of the Institute. It will endeavour to connect all its departments and facility network and provide the services in a phased manner. It will develop a strategic plan to provide access to its key resources to all its students and teachers. The Institute may undertake a range of activities to support administration through use of ICT, but not limited to the following:

- Store the documents in digital form and provide authorized access to them
- Provide a communication channel between Institute and its department for information exchange
- Standardise and automate the activities involved in academic administration for class and course management
- Standardise and automate the administrative processes of the Institute through an integrated system. The stakeholders should be able to access the required information through personalised dashboards
- Automate the generation of various compliance reports
- Provide need-based automation support to Institute's staff to perform specific tasks
- Promote the use of office computing to support general office tasks

## Quality Assurance

The transparency brought by ICT encourages quality assurance in an organization. The Institute will certainly and with definite focus work towards the quality assurance (encouraged by the use of ICT) in administration, teaching learning and evaluation. The Institute may undertake a range of activities to support quality assurance through the use of ICT, but not limited to the following:

- ICT will help to improve the quality of administration and bring in transparency in the related processes through automated systems. They will also make the respective processes person independent. The increased speed of operations will provide timely information.
- ICT will be used to facilitate data mining on learning analytics of students for programme improvements; to encourage cooperation amongst teachers; to standardize study material across the campuses through learning modules and LMS; and like. The Institute will enhance transparency in evaluation processes and the quality of evaluation using ICT for collaboratively preparing question banks, developing automatic question paper generation systems, conducting online examinations wherever feasible, and for providing timely feedback to students etc.
- The quality assurance initiatives need to be supported by apt mechanisms for online feedback from various stakeholders and its analysis using ICT.
- Databases of teachers and domain-experts will be maintained and made available to concerned departments as per their teaching, evaluation and research requirements.



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## **ICT Infrastructure and System Maintenance**

The valuable ICT assets must be managed to ensure their integrity, security and availability for valid educational and administrative purposes. While the Institute seeks to promote academic freedom and free exchange of ideas, some guidelines for the use of ICT are required. The guidelines are as follows.

### **a) Institute's Responsibilities**

- ICT systems and infrastructure will be managed by the Institute's ICT Center.
- Institute will create adequate budgetary provision for maintenance of the ICT infrastructure and to implement this Policy.
- It will adequately ensure and provide for appropriate security, antivirus and password management systems.
- While the Institute will take all the necessary care to maintain its systems and servers, it accepts no responsibility for any loss or damage, consequential or otherwise, or loss of data arising from the use of its ICT Resources or due to the maintenance of its ICT Resources. Wherever possible, the Institute will use Open-Source applications for providing services and reduce the total cost of running the ICT infrastructure.

### **b) Undesirable uses of ICT resources of the Institute by the Users**

Undesirable use of the Institute's ICT resources may include but are not limited to the following.

- Attempt to access computers for which the concerned individual is not authorized
- Unauthorized access to another user's files
- Attempting to circumvent Network Access Control, including by-passing proxies and firewalls
- Monitoring or interception of network traffic without permission
- Probing for the security weaknesses of systems by methods such as port scanning, password cracking, without permission
- Unauthorized extension or retransmission of network traffic including the installation of unauthorized wireless access points, routers or switches
- Unauthorized reselling of Institute's ICT Systems and Services
- Unauthorized modification of Institute's data
- Unauthorized download, installation or running of programs or utilities that may flood the network, causing denial of service to other users
- Sharing of network access credentials with third parties for the purposes of defeating network authentication.
- Using the network to break into other networks
- Creation, retention, downloading or transmission of any offensive, obscene or indecent images or data, or any data capable of being resolved into obscene or indecent images or material Creation, retention or transmission of material with the intent to cause annoyance, inconvenience or needless anxiety
- Infringement of Intellectual property rights including copyright, trademark, patent,



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design and moral rights

- Sending electronic mail that purports to come from an individual other than the person actually sending the message using, for example, a forged address
- Using the resources for unsolicited advertising or transmission of electronic mail with intent to defraud, often referred to as "spamming"
- Deliberate unauthorized access to networked resources, local or remote
- Deliberate activities that may result in either wasting of support staff time in support of systems or corrupting or destroying other users data violating the privacy of other users
- Denying services to other users
- Actions or inactions which intentionally, or unintentionally, aid the distribution of computer viruses or other malicious software
- Download, installation and use of unlicensed software on the Institute network and computers
- Any activity which comes within the purview of cyber laws of the land.

### **c) Use of physical infrastructure**

Security refers to the measures that shall be taken to ensure that physical availability of all ICT equipment is not compromised in any way. ICT equipment at the Institute falls under two categories (a) The College/Institute/ Department/Section/ Faculty/ Staff or "unit's" equipment and (b) the backbone equipment. Physical security of the former is the responsibility of the respective unit while the latter is the responsibility of the ICT Center. The following guidelines will be adhered to by all concerned.

- All the constituent units and offices shall be required to define an 'owner' of each piece (e.g. a computer, laptop, printer in an office) or group (say in a computer lab or server room) of equipment and that individual shall take the responsibility of ensuring its security
- All backbone equipment (except that housed within units) shall be the responsibility of ICT Center
- All the students and staff shall be required to identify themselves (either physically or electronically) for access to any common Institute computing facilities
- Only authorized staff will be permitted to open computer or related systems
- Students and other staff shall not tamper with any components of computer systems for whatever reason beyond what is required to carry out the basic user services
- No computer equipment and related accessories shall be carried out of the computer labs without explicit permission from an authority
- The heads of the constituent units and sectional heads in the Institute shall maintain ICT asset registers in order to monitor and track the assets.

### **d) Data Security**

The purpose of these guidelines is to identify and disseminate the framework and principles that guide institutional actions and operations in generating and sharing data and information.



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**User Responsibilities** The electronic data of the Institute either reside on central servers or on desktops, laptops and other mobile devices belonging to individual users. In either case, users must be aware of policy issues governing their protection and access. The following policy statements thus apply.

- All Institute data should be stored on centrally maintained corporate networked disc storage. In the event that such data is stored on user desktops, laptops and other mobile devices, it is the responsibility of the user to ensure its security, confidentiality and integrity with regular backup, password protection etc.
- All access to data stored in the central databases must be through standard interfaces provided for by the various information systems. Any attempt to gain access through any other means other than those sanctioned by the Institute constitutes security breach.
- Requests for access to all administrative data and the central systems in general need to be authorized by the relevant Data Owner after recommendation by the head of department or the section head.
- In the event that confidential information is protected by technical security mechanisms (physical or electronic) using passwords etc. and these mechanisms fail or are absent, users themselves are obliged to protect confidential information from public access.

### **Responsibilities of the technical staff**

The responsibility for protecting all corporate data stored in Institute's central systems (servers, database, network storage etc.) is the responsibility of the ICT Center. The guiding policies for this role are as stipulated below.

- All department data residing on the central network storage must be kept backed up on a regular basis. Frequency of backup needs to be determined by the frequency with which the data changes and the effort required to recreate the information if lost.
- Backup must be tested periodically to ensure that they support full system recovery. All restore procedures must be properly documented and tested on a regular basis, at least annually.
- Backup media must be stored in an off-site location and retrievable within 24 hours, 365 days a year. Data owners in their role as custodians of Institute data are responsible for defining and documenting the length of time during which data must be retained. ICT Center is responsible for ensuring that these requirements are adhered to.

### **e) Web content publishing**

Institute has worked hard to attain the high level of excellence in education, research, and outreach experiences. To maintain and build upon that reputation, it must concern itself with the image it projects. The web content publishing guidelines facilitate usability and consistency. Each unit, department, forum, and office, while having its own agenda, as a part of the whole, needs to be clearly identified with the Institute brand. Avoid redundancy:



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Departments should not repeat static information maintained elsewhere by the Institute. Instead, their websites should provide link to that specific Institute information. Redundant information, especially different published versions, often causes confusion among the audience and there may be severe consequences if incorrect information is posted.

### **Ensure content Validity:**

- The Institute controlled sites must be registered according to the guidelines
- Individual units at the Institute are responsible for the content on all of their Web pages • Content must be continuously updated. It will follow all sections of this policy, as well as national laws and codes
- No official unit may go outside the Institute Web structure and represent itself on another Web server or domain without written approval from the Institute.

### **Copyright:**

- All Department Web pages should follow copyright laws
- Publishers of content must obtain permission from copyright holders to use text, photos, graphics, sounds, or movies to which the Institute does not hold copyrights.

### **Capacity Building for ICT Use**

The Institute will take care of the following measures for the development of Human Resource in ICT.

- For the ICT Center staff to perform effectively and efficiently, they shall be continuously trained to enhance their skills so that they can meet the changing needs of the users. The ICT Centre shall put in place training and development plans to address the skill competencies of the staff
- Appoint at least one member of staff from each constituent institution as ICT Coordinator. ICT Coordinators will act as links between ICT Center of the Institute and respective departments and facilities
- Provide technical training, on efficient use of ICT services, to all teaching and non-teaching staff
- Provide training to the faculty on content development and to develop e-learning modules
- Provide functional training to all teaching and non-teaching staff to improve their ICT competency.
- Train all the faculty members in the use of ICT for administration and for teaching and learning purposes.
- Train at least one staff member from each of the department and facility in software, hardware and network maintenance

### **Quality Assurance of ICT Resources and Services**



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In order to enhance and maintain the quality of ICT and related services, the ICT Center shall perform the following activities.

- Devise quality norms for ICT services
- Continuously monitor the quality of ICT infrastructure and ICT services.
- Try to resolve all the technical problems within working hours after a complaint is received.
- Conduct training sessions in a year to equip the endusers with relevant and practical ICT skills to facilitate effective and efficient use of ICT resources by them.
- Cost-effectively develop application systems within stipulated time of receiving requests.
- Ensure that digital network services (LANs/WANs) operate during working hours in all departments of the Institute.
- Formulate and operationalize ICT policies within a reasonable time after their approval.
- Organize workshops, on latest trends and practices in ICT.
- Establish an on-line help desk.

### Managing ICT Policy

The domain of ICT is an evolving one. Considering the frequency of technology updation and obsolescence, the Institute will review and update its ICT Policy whenever needed. For this the Institute will have a formal setup as follows.

- The ICT Center will be headed by a senior technical professional. The support staff of the ICT Center will have expertise in ICT related fields such as network administration, data center administration, web site design and LMS management etc.
- Each department or facility will have an ICT coordinator to liaison with the ICT Center.
- The Institute will constitute an ICT Advisory Council chaired by Principal, Coordinator, HODs, IQAC Coordinator and ICT experts from the field as members.
- A document, describing the available ICT services and their possible use, will be circulated periodically to all concerned.
- Documentation related to each activity conducted will be prepared by ICT Coordinator.

(Dr. S. B. Warkad)  
IQAC Coordinator

(Dr. A. V. Kale)  
Principal



## **ICT Manual 2020-2021**



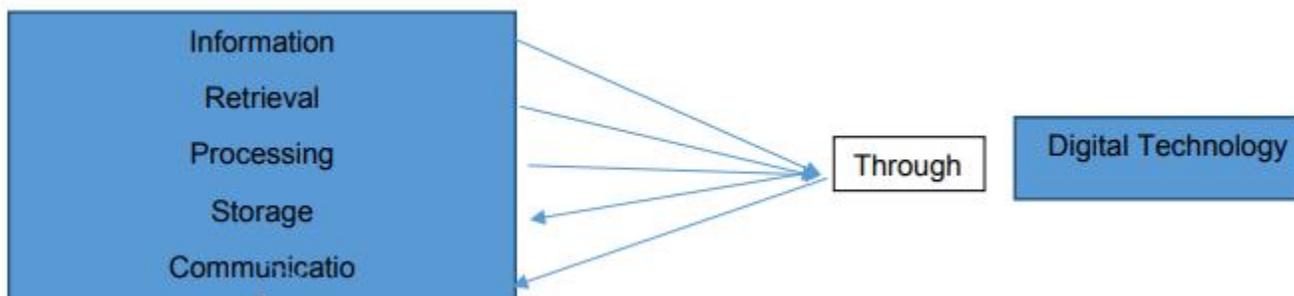
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- **ICT Awareness:**

ICT tools like apps, programs and web2.0 applications are part of our modern society. All Universities are adopting this essential trend, but in many institutes this adoption is happening at a rather slow pace. This has many reasons, from missing infrastructure to security concerns to teachers not being familiar enough with using ICT in regular classes.

To encourage teachers to think about an increased use of ICT tools in teaching, and to inspire them on where and how to use these tools is the main idea of this ICT Guide. We need well-educated students with profound ICT skills – in terms of operation as well as media literacy – to become active members of our knowledge society which is built on the foundation of ICT in most areas these days.



Teachers and Students will make use of ICT to enhance the teaching and learning process by: Using ICT as a powerful educational tool and creating options for both teachers and learners through

- Diverse and motivated approaches to teaching and learning.
- Enhancement of student outcomes and learning opportunities.
- Access to an expanding range of on-line learning resources.
- Interaction in the Global environment.
- Higher quality lessons and greater collaboration between teachers in planning and preparing resources.

- **ICT facilitates**

- Improved student attendance by enabling real time attendance marking and reporting.
- Researching online and collaborating online.

- **ICT in Teaching-Learning Process:**



- **ICT can be useful for a teacher in the following ways:**

- 1) It is helpful in the professional development of the teachers. A teacher can learn various language skills with the help of ICT. He can do various certification programs run by the famous educational institutions like Cambridge University, British Council etc. These programs help in enhancing his capacity to teach his subject content easy, economic and more understandable.
- 2) A teacher can increase his domain of knowledge with the help of e-journals, e-magazines and e-library that can be achieved only through the use of ICT. He can also participate in discussions and conferences with the experts of his subject teaching to improve his knowledge and skills through audio and video conferencing.
- 3) ICT helps a teacher to learn innovative methods of teaching. He can work with the

students on various project and assignments. It also helps him in providing teaching contents, home works etc

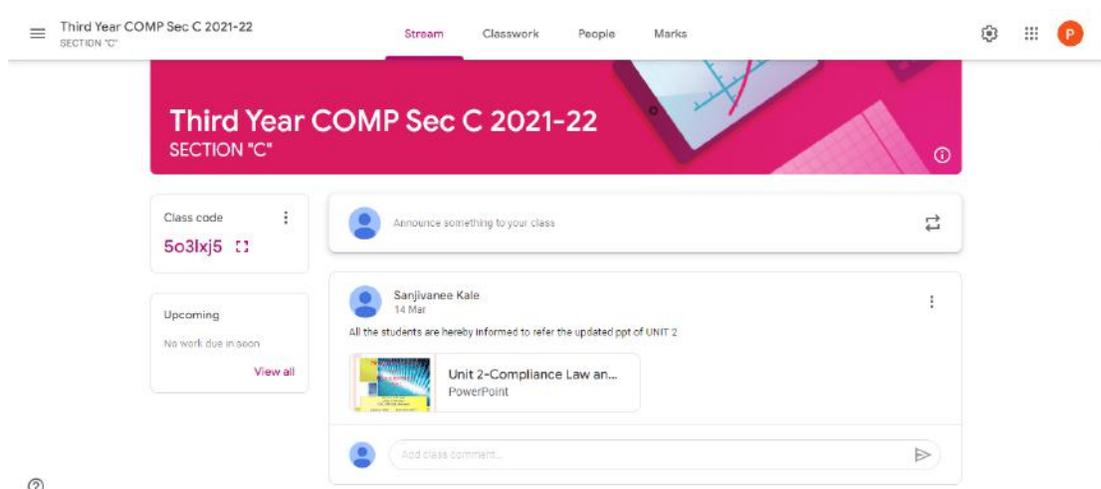
- **ICT can be useful for a student in the following ways:**

1. Student can study through online resources. There are different resources through which it will be helpful for students to understand topic. Students can learn from their place and at any time.
2. Students can meet teachers online and get required knowledge about the subject.
3. Students can have no limit of time and place.

- **List of ICT Tools 2020-2021:**

## 1. Google Classroom

- Classroom is a free service for schools, non-profits and anyone with a personal Google Account.
- Classroom makes it easy for learners and instructors to connect – inside and outside of schools.
- Classroom saves time and paper and makes it easy to create classes, distribute assignments, communicate and stay organized.



## 2. Google Meet

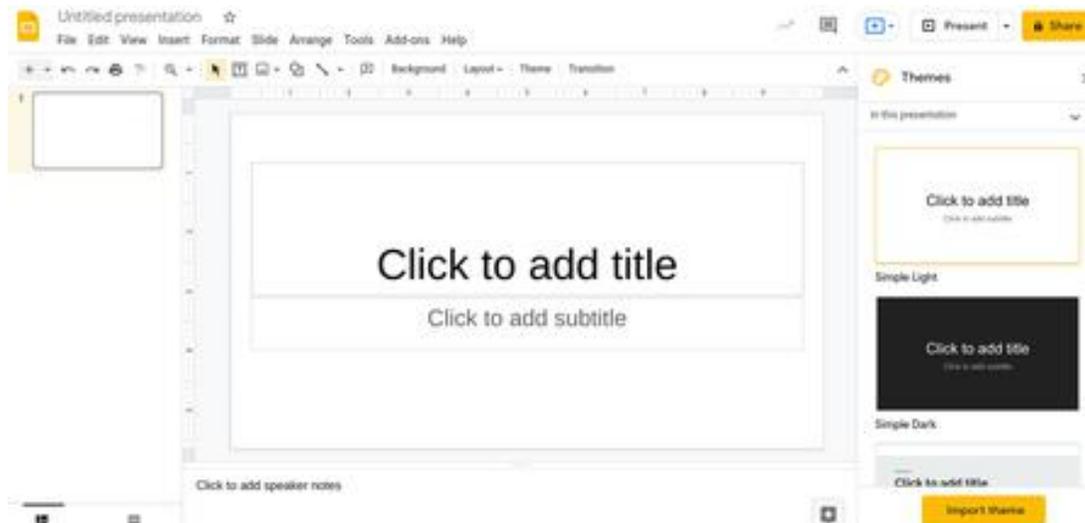
- It is a tool for taking live meetings.

- Google Meet Securely connects, collaborate and celebrate from anywhere.
- With Google Meet, everyone can safely create and join high-quality video meetings for groups of up to 250 people.



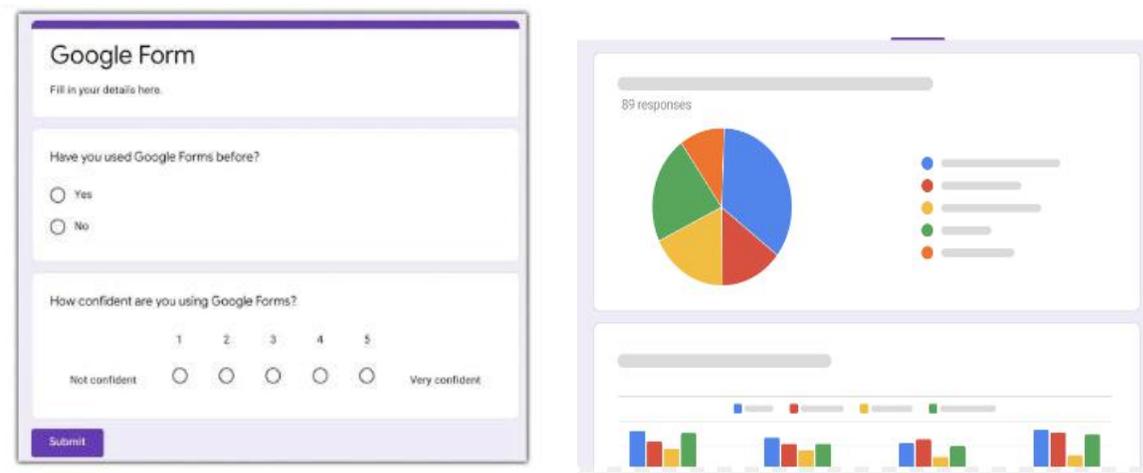
### 3. Google Slides

- Google Slides is an online presentation app that lets you create and format presentations and work with other people.
- We can Easily edit Microsoft PowerPoint presentations online without converting them, and layer on Slides' enhanced collaborative and assistive features like comments, action items, and Smart Compose.



#### 4. Google Forms

- Google Forms is survey administration software included as part of the free, web-based Google Docs Editors suite offered by Google.
- The service also includes Google Docs, Google Sheets, Google Slides, Google Drawings, Google Sites, and Google Keep.
- Google Forms is only available as a web application.
- The app allows users to create and edit surveys online while collaborating with other users in real-time.
- The collected information can be automatically entered into a spreadsheet.
- We can Take Quizzes through Google Forms and can give immediate results.

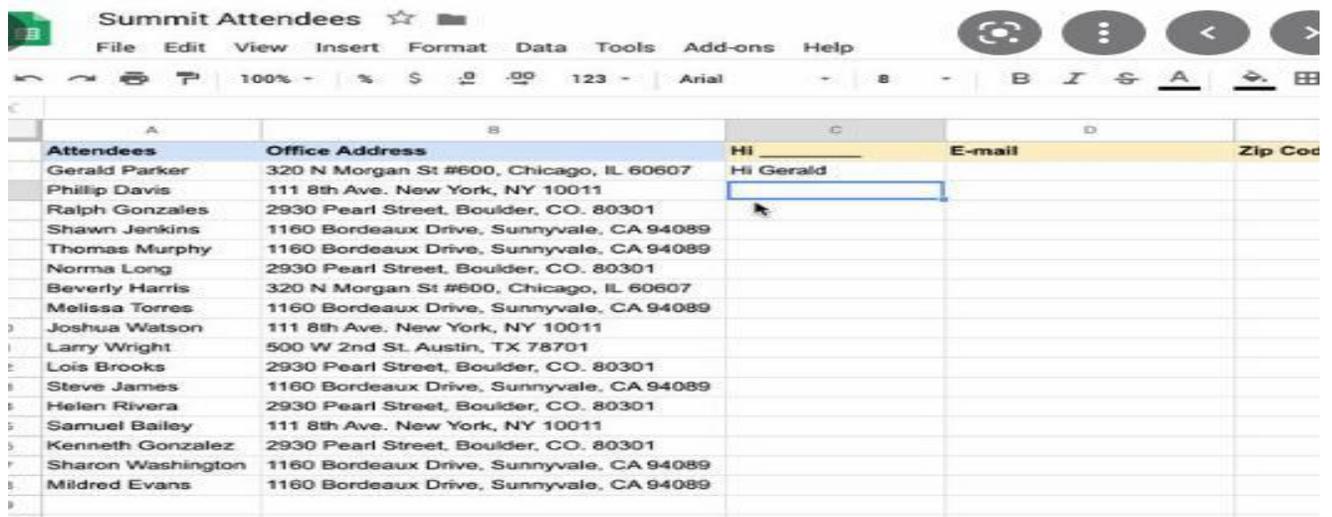


#### 5. Google Sheets

- Google Sheets is a spreadsheet program included as part of the free, web-based Google Docs Editors suite offered by Google.
- The service also includes Google Docs, Google Slides, Google Drawings, Google Forms,

Google Sites, and Google Keep.

- Google Sheets is available as a web application, mobile app for Android, iOS, Windows, BlackBerry, and as a desktop application on Google's Chrome OS.
- The app is compatible with Microsoft Excel file formats.

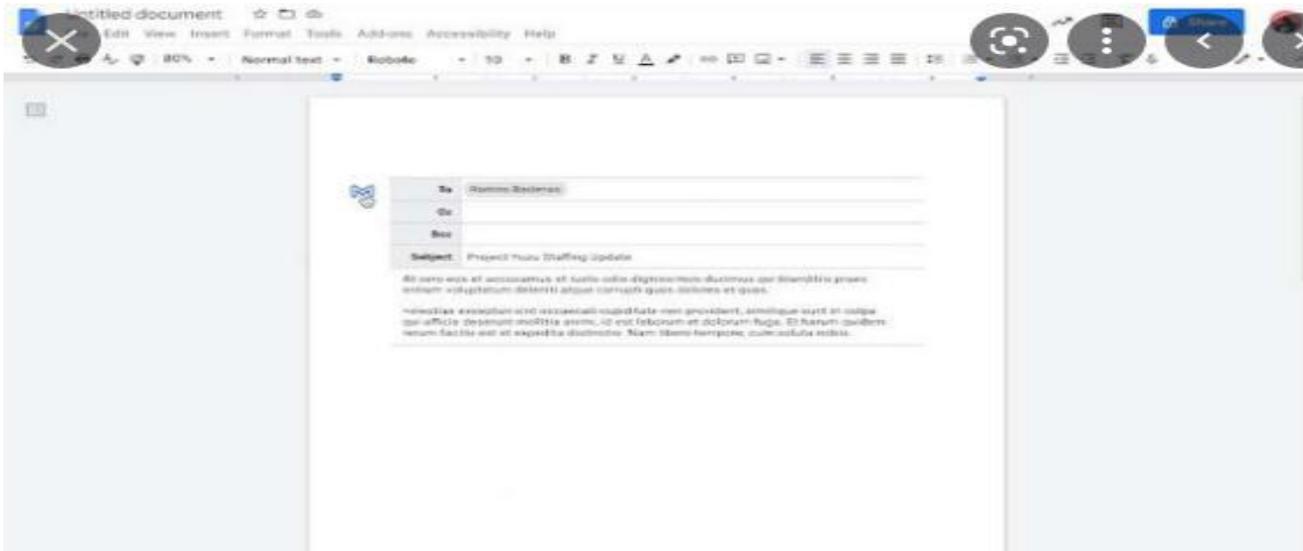


The screenshot shows a Google Sheets spreadsheet titled "Summit Attendees". The spreadsheet has five columns: "Attendees", "Office Address", "Hi", "E-mail", and "Zip Code". The "Hi" column contains the text "Hi Gerald" in the first row. The "Office Address" column contains various addresses for different attendees. The "Attendees" column lists names such as Gerald Parker, Phillip Davis, Ralph Gonzales, Shawn Jenkins, Thomas Murphy, Norma Long, Beverly Harris, Melissa Torres, Joshua Watson, Larry Wright, Lois Brooks, Steve James, Helen Rivera, Samuel Bailey, Kenneth Gonzalez, Sharon Washington, and Mildred Evans.

Attendees	Office Address	Hi	E-mail	Zip Code
Gerald Parker	320 N Morgan St #600, Chicago, IL 60607	Hi Gerald		
Phillip Davis	111 8th Ave. New York, NY 10011			
Ralph Gonzales	2930 Pearl Street, Boulder, CO. 80301			
Shawn Jenkins	1160 Bordeaux Drive, Sunnyvale, CA 94089			
Thomas Murphy	1160 Bordeaux Drive, Sunnyvale, CA 94089			
Norma Long	2930 Pearl Street, Boulder, CO. 80301			
Beverly Harris	320 N Morgan St #600, Chicago, IL 60607			
Melissa Torres	1160 Bordeaux Drive, Sunnyvale, CA 94089			
Joshua Watson	111 8th Ave. New York, NY 10011			
Larry Wright	500 W 2nd St, Austin, TX 78701			
Lois Brooks	2930 Pearl Street, Boulder, CO. 80301			
Steve James	1160 Bordeaux Drive, Sunnyvale, CA 94089			
Helen Rivera	2930 Pearl Street, Boulder, CO. 80301			
Samuel Bailey	111 8th Ave. New York, NY 10011			
Kenneth Gonzalez	2930 Pearl Street, Boulder, CO. 80301			
Sharon Washington	1160 Bordeaux Drive, Sunnyvale, CA 94089			
Mildred Evans	1160 Bordeaux Drive, Sunnyvale, CA 94089			

## 6. Google Docs

- Google Docs is an online word processor included as part of the free, web-based Google Docs Editors suite offered by Google, which also includes Google Sheets, Google Slides, Google Drawings, Google Forms, Google Sites, and Google Keep.
- Google Docs is accessible via an internet browser as a web-based application and is also available as a mobile app on Android and iOS and as a desktop application on Google's Chrome OS.



## 7. Google Drive

Google Drive is a file storage and synchronization service developed by Google. Launched on April 24, 2012, Google Drive allows users to store files in the cloud (on Google's servers), synchronize files across devices, and share files. In addition to a web interface, Google Drive offers apps with offline capabilities for Windows and macOS computers, and Android and iOS smartphones and tablets. Google Drive encompasses Google Docs, Google Sheets, and Google Slides, which are a part of the Google Docs Editors office suite that permits collaborative editing of documents, spreadsheets, presentations, drawings, forms, and more. Files created and edited through the Google Docs suite are saved in Google Drive.

The screenshot shows the Google Drive interface. At the top, there is a search bar labeled 'Search Drive' and a navigation bar with icons for Drive, My Drive, and various actions like share, view, and delete. Below the navigation bar is a table of files and folders. The table has columns for Name, Owner, Last modified, and File size. The 'Quarterly Report' file is highlighted in blue. A text box at the bottom left of the screenshot contains the text ': with these 4 features | Zapier'.

Name	Owner	Last modified	File size
Budget Proposals	me	Jan 12	—
Work	me	Jan 9	—
Worksheets	me	5/11/12	—
Art Club Interest Letter	me	Jan 12	—
<b>Quarterly Report</b>	me	Jan 12	—
Lake Stone Montessori Art Club	me	Jan 9	—
Student Contract Form	me	9/25/14	—
Gradebook	me	9/23/14	—

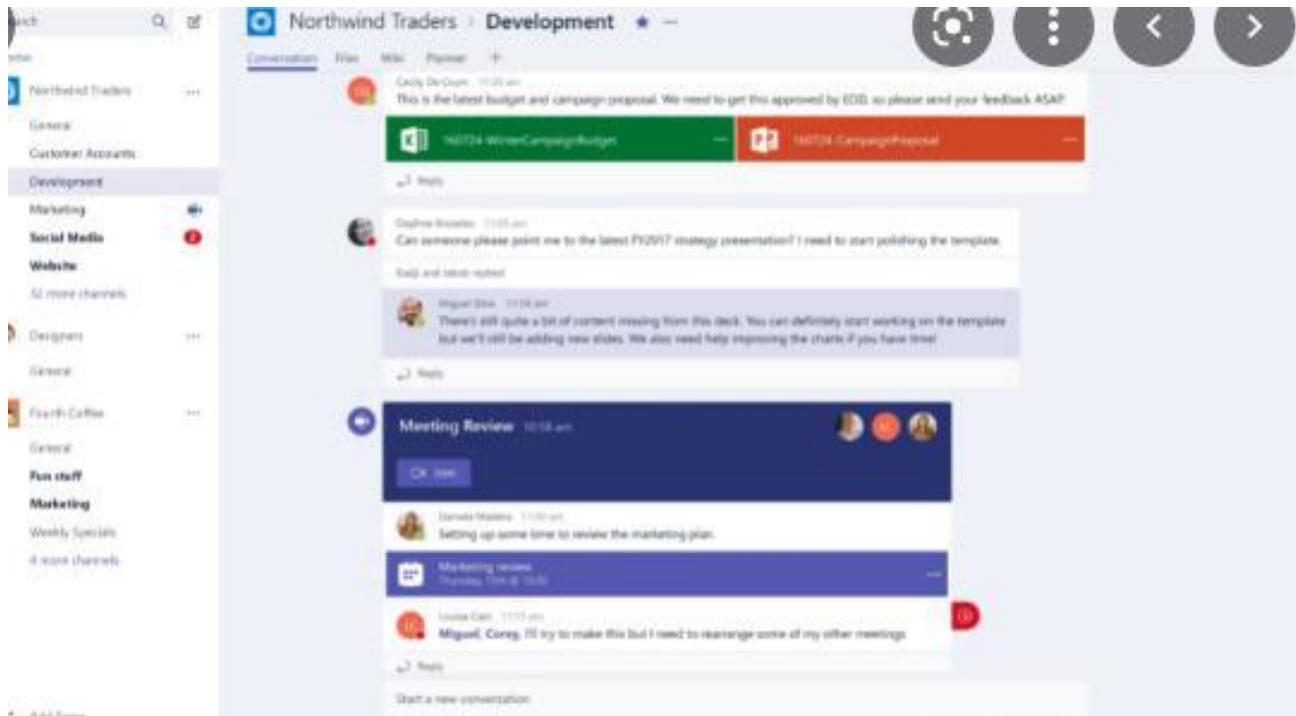
## 8. Google Jam board

Jamboard is a digital interactive whiteboard developed by Google to work with Google Workspace, formerly known as G Suite. It was officially announced on 25 October 2016. It has a 55" 4K touchscreen display and can be used for online collaboration using Google Workspace. The display can also be mounted onto a wall or be configured into a stand.



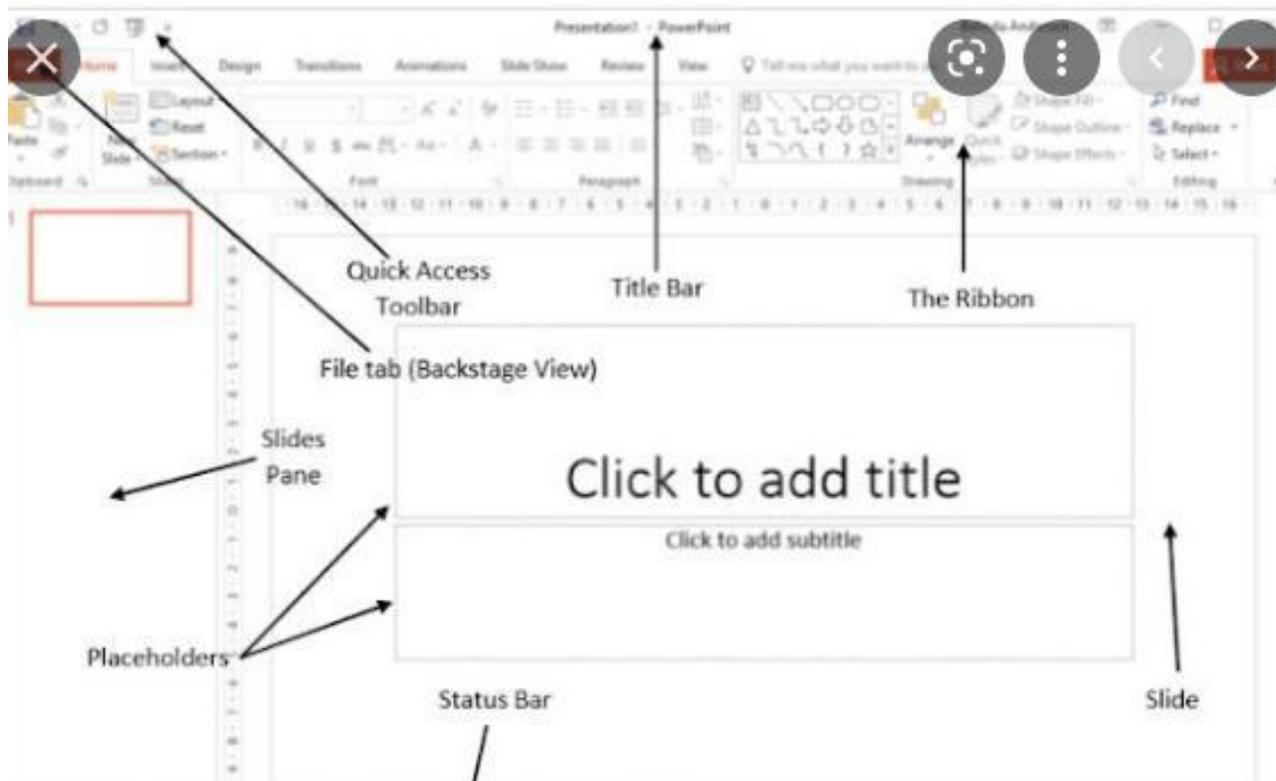
## 9. Microsoft Teams

Microsoft Teams is a proprietary business communication platform developed by Microsoft, as part of the Microsoft 365 family of products. Teams primarily competes with the similar service Slack, offering workspace chat and videoconferencing, file storage, and application integration. Teams is replacing other Microsoft-operated business messaging and collaboration platforms, including Skype for Business and Microsoft Classroom. Throughout the COVID-19 pandemic, Teams, and other software such as Zoom and Google Meet, gained much interest as many meetings have moved to a virtual environment. As of 2021, it has about 250 million monthly users.



## 10. Microsoft PowerPoint

PowerPoint was originally designed to provide visuals for group presentations within business organizations, but has come to be very widely used in many other communication situations, both in business and beyond. The impact of this much wider use of PowerPoint has been experienced as a powerful change throughout society, with strong reactions including advice that it should be used less, should be used differently, or should be used better.



## 11. Microsoft Word

Microsoft Word Microsoft Office Word (2019–present).svg is Microsoft's flagship word processing software. It was first released in 1983 under the name Multi-Tool Word for Xenix systems. Versions were later written for several other platforms including IBM PCs running DOS (1983), the Apple Macintosh (1984), SCO UNIX, OS/2 and Microsoft Windows (1989). It is a component of the Microsoft Office system; however, it is also sold as a standalone product and included in Microsoft Works Suite. Beginning with the 2003 version, the branding was revised to emphasize Word's identity as a component within the Office suite: Microsoft began calling it Microsoft Office Word instead of merely Microsoft Word. Nomenclature usage in the wild is currently in flux, with both names being commonly used. The latest release is Word 2021.

## Page Management group



## 12. Microsoft Excel

Microsoft Excel is a spreadsheet developed by Microsoft for Windows, macOS, Android and iOS. It features calculation or computation capabilities, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications (VBA). Excel forms part of the Microsoft Office suite of software.

Category

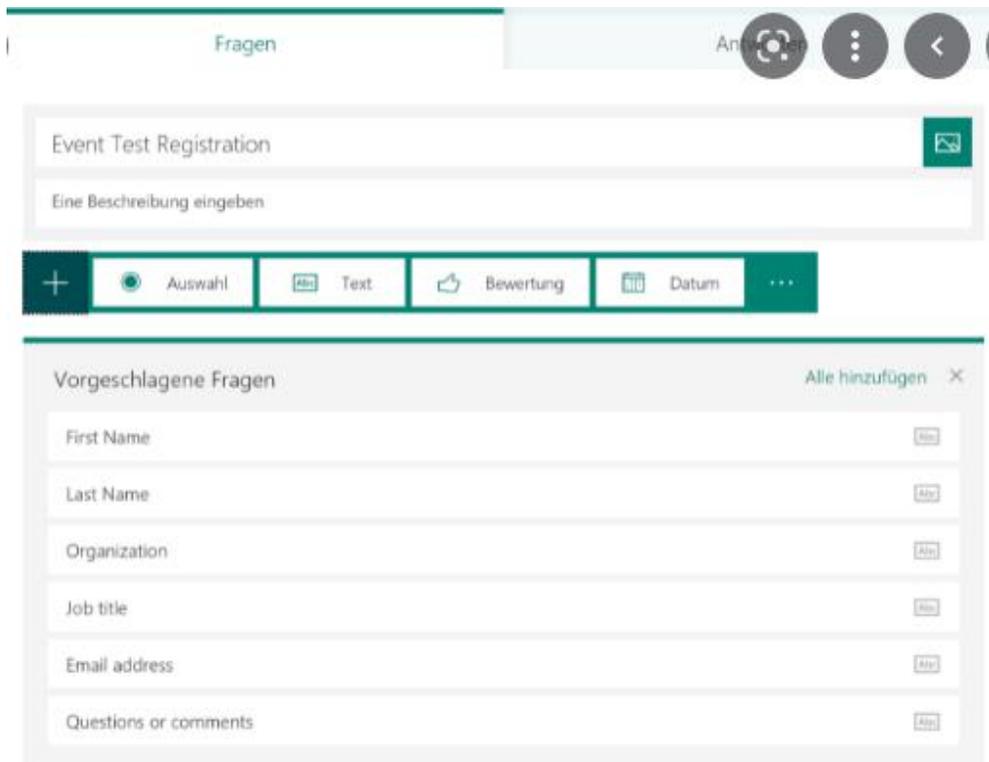
Category	Amount	Price	Total sale	Order date	Delivery date
Item 1	58	11		5-May-21	8-May-21
Item 2	45	58		6-Jun-21	7-Jun-21
Item 3	73	41		12-Feb-21	16-Feb-21
Item 4	66	36		4-May-21	11-May-21
Item 5	12	20		7-Jul-21	15-Jul-21
Item 6	74	58		5-May-21	7-May-21
Item 7	63	41		6-Jun-21	9-Jun-21
Item 8	25	37		12-Feb-21	18-Feb-21
Item 9	87	95		4-May-21	14-May-21
Item 10	24	52		7-Jul-21	12-Jul-21
TOTAL					

Sheet1

### 13. Microsoft Forms

Microsoft Forms (formerly Office Forms) is an online survey creator, part of Office 365.[1] Released by Microsoft in June 2016, Forms allows users to create surveys and quizzes with automatic marking.[2] The data can be exported to Microsoft Excel.

In 2019, Microsoft released a preview of Forms Pro which gives users the ability to export data into a Power BI dashboard.[4]



### 14. Microsoft OneNote

Microsoft OneNote is a note-taking program for free-form information gathering and multi-user collaboration. It gathers users' notes, drawings, screen clippings, and audio commentaries. Notes can be shared with other OneNote users over the Internet or a network. OneNote is available as part of the Microsoft Office suite,[6] it is also available as a free, standalone app via the official website, the app stores of Windows 10, macOS, iOS and Android.[7] Microsoft also provides a web-based version of OneNote as part of OneDrive and Office for the web.

Lab notes

Monday, April 1, 2019 10:10 AM

$x + y = 500$   
 $0.20x + 0.05y = 60$

	Volume	Percent	Amount of Acid
Strong Solution	x	0.20	0.20x
Weak Solution	y	0.05	0.05y
Total Mixture	500	0.12	60

Math

$0.20x + 0.05y = 60$   
 Multiply both sides by 20  
 $4x + y = 1200$   
 $y = 1200 - 4x$

- Subtract  $0.2x$  from both sides  
 $0.05x = 60 - 0.2x$
- The equation is in standard form  
 $0.05x = 60 - 0.2x$
- Multiply both sides by 20  
 $0.05x \cdot 20 = (60 - 0.2x) \cdot 20$   
 $x = 1200 - 4x$
- Adding  $4x$  to both sides  
 $x + 4x = 1200 - 4x + 4x$   
 $5x = 1200$
- Divide  $5x = 1200$  by multiplying  
 $5x = 1200$  by the reciprocal of  $5$

## 15. Microsoft Open Drive

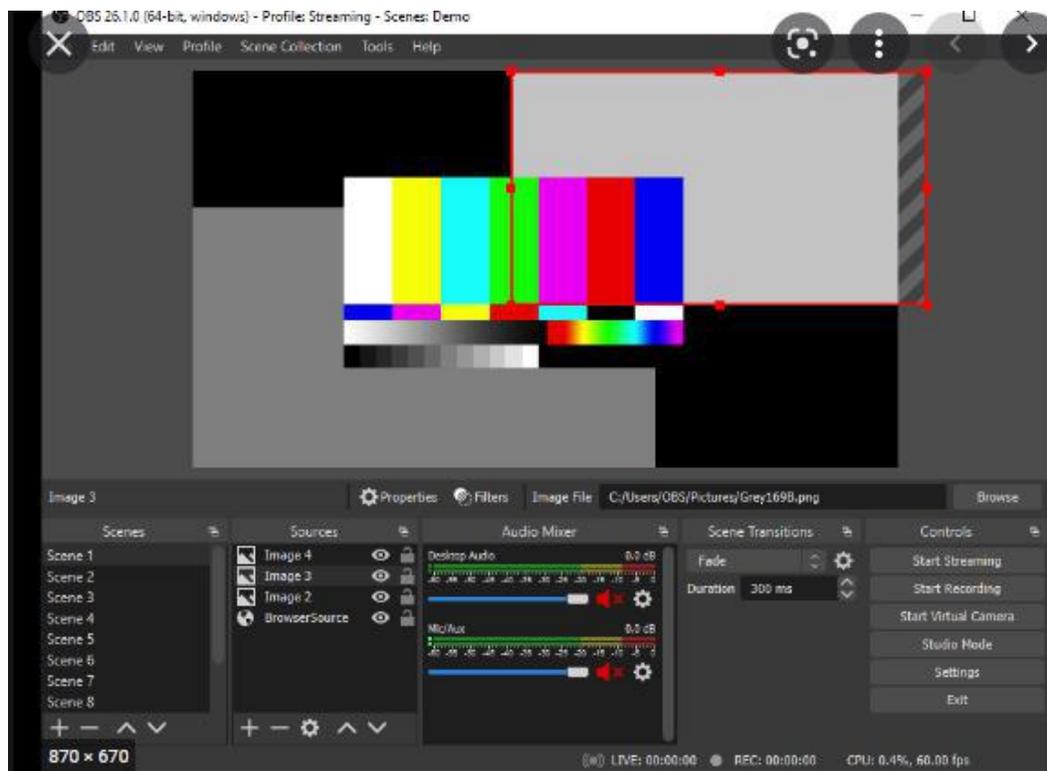
Microsoft OneDrive is a file hosting service that Microsoft operates. First launched in August 2007, it enables registered users to share and synchronize their files. OneDrive also works as the storage back-end of the web version of Microsoft Office.



## 16. Open Broadcaster Software (OBS)

OBS Studio is a free, open-source, and cross-platform screencasting and streaming app. It is available for Windows, macOS, Linux distributions, and BSD. OBS Project raises funds on

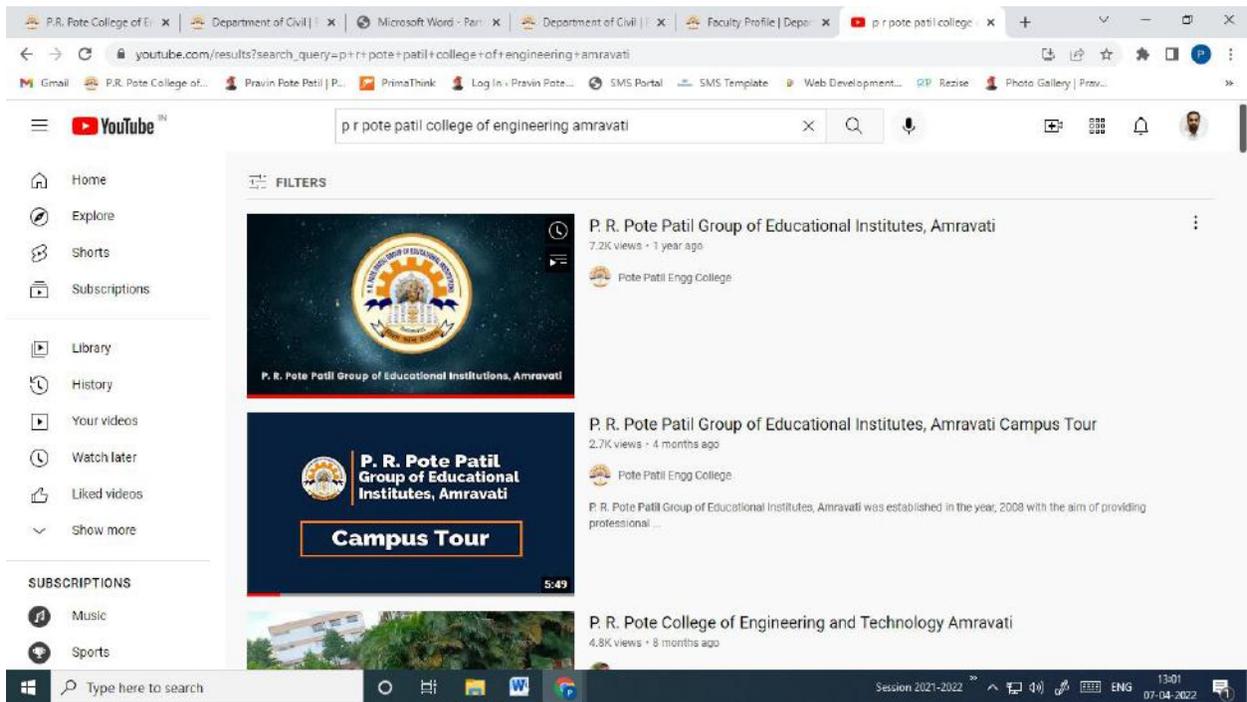
Open Collective and Patreon.



17. Open Shot Video Editor

18. YouTube

YouTube is an American online video sharing and social media platform headquartered in San Bruno, California. It was launched on February 14, 2005, by Steve Chen, Chad Hurley, and Jawed Karim. Owned by Google, it is the second most visited website, right after Google itself. YouTube has more than one billion monthly users who collectively watch more than one billion hours of videos each day. As of May 2019, videos were being uploaded at a rate of more than 500 hours of content per minute.



## 19. Zoom

Zoom Meetings is a proprietary videotelephony software program developed by Zoom Video Communications. The free plan allows up to 100 concurrent participants, with a 40 minute time restriction. Users have the option to upgrade by subscribing to a paid plan



## 20. WebEx

Webex by Cisco is an American company that develops and sells web conferencing, videoconferencing, Unified communications as a service, and contact center as a service applications. It was founded as WebEx in 1995 and taken over by Cisco Systems in 2007. Its headquarters are in San Jose, California.

