



**WEBINAR**

**ON**

**" ICT-INNOVATIONS & HIGHER  
EDUCATION "**

**Resource Person:**

**Dr. Prassana Kumar Mohapatra  
Reader & Head Dept. of Education  
Salipur (Auto) College, Salipur**

*on*

**18<sup>th</sup> April 2022**

**Organised by:**

**DEPARTMENT OF EDUCATION  
Pattamundai College, Pattamundai  
Dist-Kendrapara, Odisha, Pin-754215.**



**PATTAMUNDAI COLLEGE NACC REACCREDITED  
B GRADE  
PATTAMUNDAI, KENDRAPARA, ODISHA.**

**ACADEMIC YEAR 2021-22  
DEPARTMENT OF EDUCATION  
PATTAMUNDAI COLLEGE, PATTAMUNDAI.**

**Name of the Activity:** Webinar in Education on  
"ICT-Innovations and Higher Education".  
**Date** 18.04.2022  
**Speaker Name:** 1. Dr. Prassana Ku.  
Mohapatra, Redaer & Head, Dept. of Education  
Sali Pur College, Salipur, Dist-Cuttack.

**Duration-** One Day  
**Participants:** Student -135 and Faculty - 30

**Learning Objective:**

1. To know about the Importance of ICT-applications in Higher Education.
2. To know about the innovative methods of ICT-Applications in H.E.
3. To highlight the ICT-as a method of teaching in HE..
4. Questionnaire & feedback from participants.

**Learning Outcomes:**

1. The students learnt a lot from the deliberations of eminent resource person.
2. Learned about various aspects and the applications of ict- in H.E.
3. Students were more emphasised to go deep in to the subject matter & critical analysis of the thrust area of the Seminar.



**Report of the Event:** A Webinar was organised by the Department of Education on 18.04.2022 at 11.30am -3.00pm in both the technical session-I & II on the thrust area Ict- Innovations & Higher education. Dr. Prassana Kumar Mohapatra, Reader & Head Depart. of Education, Salipur (Auto) College, Salipur was the resource person. The eminent resource person delivered a broad spectrum of such highly important topic in a lucid manner which benefits the students a lot as this unit is included in their UG- Syllabus. Students were satisfied with the knowledge they gained during the presentation. Dr. P.K.Mohapatra, resource persons of the Webinar suggested us to organise such type of FDP programme -which will benefit the faculties as well as the students for the gain of practical knowledge..At the outset the head of the institution Prof. P. Rout welcomed the resource person followed by the introduction of Guests on the dais by Mrs. Nibedita Nayak, HOD- Education. The Programme was coordinator by Dr. Sunil Kumar Pradhan, IQAC- Coordinator. Finally the meeting ended with a formal vote thanks by Dr.Fakir Chandra Pradhan, Reader & Add-On-Course Coordinator

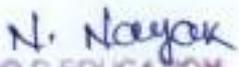
*N. Nayak*  
HOD- EDUCATION  
PATTAMUNDAI COLLEGE  
Signature of the HOD

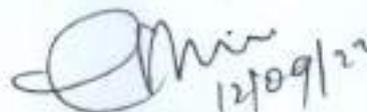
*[Signature]*  
12/07/22  
Signature of the  
Coordinator

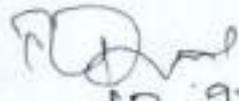
*[Signature]*  
2-9-22  
Principal

## Report

A Webinar was organized by the Department of Education on 18.04.2022 at 11.30am -3.00pm in both the technical session I & II on the thrust area Ict-Innovations & Higher education. Dr. Prassana Kumar Mohapatra, Reader & Head Depart. of Education, Salipur (Auto) College, Salipur was the resource person. The eminent resource person delivered a broad spectrum of such highly important topic in a lucid manner which benefits the students a lot as this unit is included in their UG- Syllabus. Students were satisfied with the knowledge they gained during the presentation. Dr. P.K. Mohapatra. resource persons of the Webinar suggested us to organize such type of FDP programme which will benefit the faculties as well as the students for the gain of practical knowledge. At the outset the head of the institution Prof. P. Rout welcomed the resource person followed by the introduction of Guests on the dais by Mrs. Nibedita Nayak, HOD- Education. The Programme was coordinator by Dr. Sunil Kumar Pradhan, IQAC Coordinator. Finally, the meeting ended with a formal vote thanks by Dr. Fakir Chandra Pradhan, Reader & Add-On-Course Coordinator

  
N. Nayak  
HOD EDUCATION  
BHITAMUNDAI COLLEGE  
Signature of the HOD

  
12/09/22  
Signature of the Coordinator

  
12.9.22  
Principal



OFFICE OF THE PRINCIPAL

Mobile : 9437376724

# PATTAMUNDAI COLLEGE

NAAC ACCREDITED B GRADE

PATTAMUNDAI, KENDRAPARA, ODISHA - 754215

Ref No. : ..... 374 .....

Date..... 13/04/2022 .....

To

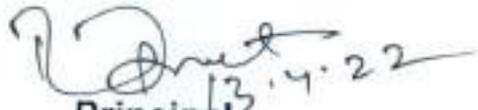
Dr Prassana Kumar Mohapatra  
Reader &HOD,  
Department of Education ,  
Salipur (Auto) College, Salipur.

**Sub: Invitation as Resource Person in the Webinar of Education Department at Pattamundai College, Pattamundai on 18<sup>th</sup> April 2022 at 11 A.M.**

Sir,

It is my pleasure to invite you as resource person in the Webinar on the topic " ICT Innovations & Higher Education" to be organised by Department of Education, Pattamundai College, Pattamundai at 11 AM on 18<sup>th</sup> April 2022.

Your kind consent and cooperation is highly solicited.

  
Principal  
Pattamundai College

To

Dt: 15/04/2022

**The Principal  
Pattamundai College  
Pattamundai**

Sub: Consent letter for the seminar on "**ICT Innovations and Higher Education**".

Sir,

In response to letter no 374, dt: 13/04/ 2022, It is my pleasure to accept your invitation for the seminar on "**ICT Innovations and Higher Education**". I will join the said programme on 18<sup>th</sup> April 2022 at 11.00 p.m.

**Thank You**



**Dr Prassana Kumar Mohapatra**  
Reader & Head Education  
Salipur(Auto) College,  
Salipur,Cuttack.



# DEPARTMENT OF EDUCATION PATTAMUNDAI COLLEGE



Pattamundai, Kendrapara, Odisha

In association with

## Internal Quality Assurance Cell (IQAC) Organize:

A WEBINAR ON “**ICT innovations and Higher Education**”

On 18<sup>th</sup> April 2022 at 11 am

Platform : Zoom Meeting App and YouTube live



Resource Person:  
Dr. Prassana Kumar Mohapatra  
Reader & Head, Department of Education  
Salipur Autonomous College, Salipur



Prof. Prabhakar Rout  
Principal  
Pattamundai College



Convenor  
Mrs. Nibedita Nayak  
Lecturer in Education  
Pattamundai College

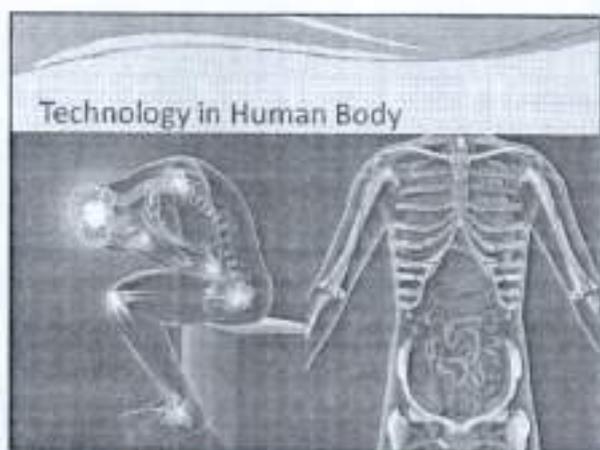
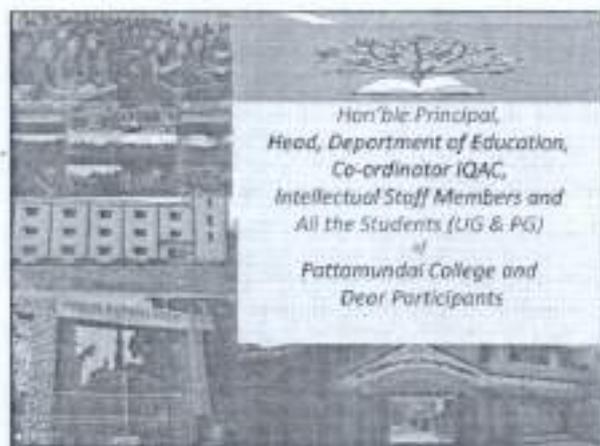


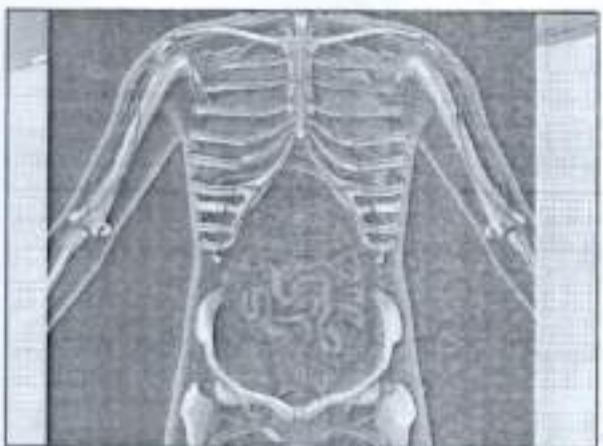
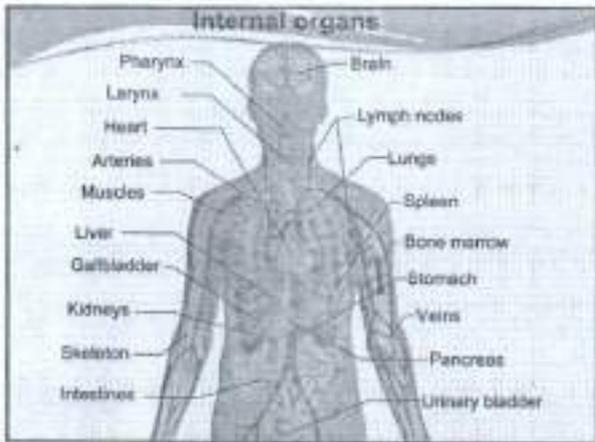
IQAC Co-ordinator  
Dr. Sunil Kumar Pradhan  
Reader in Chemistry  
Pattamundai College

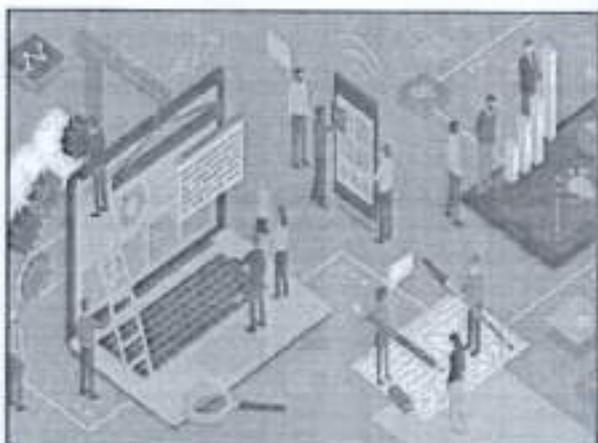
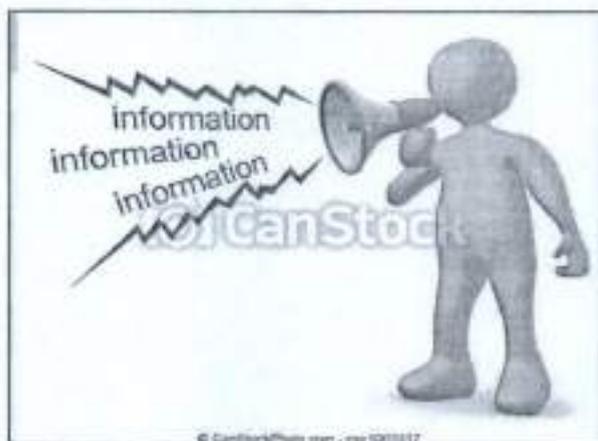
Registration link : <https://forms.gle/7j4LTjCxcqZtosvC8>

No registration fee

E-certificate to all participants







### Puspakyan (Vishwakarma)



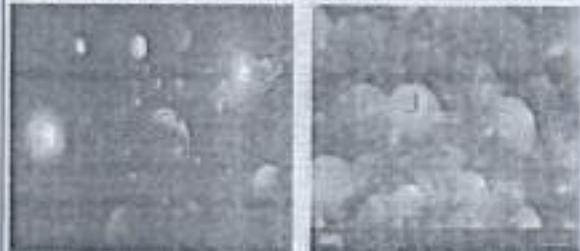
### NASA Earth Observations



### GALAXY(MILKYWAY)



### UNIVERSWE AND MULTIVERSE



### The National Education policy 2020

- The National Education Policy 2020 recognizes the importance of leveraging the advantages of technology while acknowledging its potential risks and dangers. It calls for carefully designed and appropriately scaled pilot studies to determine how the benefits of online/digital education can be reaped while addressing or mitigating the downsides. In the meantime, the existing digital platforms and ongoing ICT-based educational initiatives must be optimized and expanded to meet the current and future challenges in providing quality education for all.

### The Policy also Concedes the Significance of Technology

- To promote interdisciplinary research
- Innovation
- Improve teaching
- Enhance learning
- Assessment,
- Planning
- Administration of education

### Vision of NEP 2020

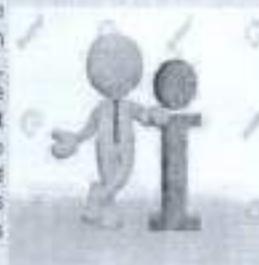


Prof. (Dr.) K. Kasturirangan  
Chairman of the 'National Education Policy 2020'

The vision for NEP 2020 is "Technology use and Integration" in order to give a pathway for the students to make India a digitally empowered society and knowledge economy around the globe. Further, the integration of ICT makes education accessible to people in remote areas of the country.

### INFORMATION:

- Information refers to the knowledge obtained from reading, investigation, study or research. The tools to transmit information are the telephone, television and radio. Information is knowledge and helps us to fulfill our daily tasks.



### Meaning

- The term "information" refers to "any communication or representation of knowledge such as facts, data or opinions in any medium or form, including textual, numerical, graphic Cartographic, narrative or audiovisual forms.
- Technology is the practical form of scientific knowledge or the science of application of knowledge to practical.

### What is Information ?

- Information is stimuli that has meaning in some context for its receiver. When information is stored in a device it is called as data.
- When information is packaged or used for understanding or doing something-it is known as knowledge.

### COMMUNICATION

- Communication is an act of transmitting messages. It is a process whereby information is exchanged between individuals using symbols, signs or verbal interactions. Communication is important in order to gain knowledge.



### TECHNOLOGY

- Technology is the use of scientific knowledge, experience and resources to create processes products that fulfil human needs. Technology is vital in communication.
- Technology is the resultant application of objects, methods, media and techniques for producing some intended result.



### What is Information Technology ?

- Information technology (IT) is the application of computers to store, study, retrieve, transmit, and manipulate data or information, in the context of business, education and other purposes. In broad terms IT also includes office automation, multimedia and tele-communications.
- It is a diverse set of technological tools, actions, ideas and resources used to communicate, create, disseminate, store, retrieve and manage information.

### Concept of ICT

- Information technology (IT) that can help in coping with the information explosion
- Information technology (IT) is the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a micro-electronics - based combination of computing and telecommunication.

### Definition

- "ICT stand for information and communication technologies and is defined, as a "diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information."
- "ICT implies the technology which consists of electronic devices and associated human interactive materials that enable the user to employ them for a wide range of teaching - learning processes in addition to general use."

- Anything that renders data, information or perceived knowledge in any visual format whatsoever, via any multimedia distribution mechanism, is considered part of the domains space known as Information Technology
- Communication technology is the activity of designing and constructing and maintaining communication systems.

- ICT or Information and Communications Technology in simple terms, can be defined as the basket of technologies, which assist or support in storage, processing of Data/ Information, or in dissemination/ communication of Data/ Information or both.
- ICT thus includes technologies such as desktop and laptop computers, software, peripherals and connection to the Internet that are intended to fulfil information processing and communication functions.
- ICT is an umbrella term that includes any communication device or application: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as video conferencing and distance learning.

## INTRODUCTION

- Information and communications technology (ICT) refers to all the technology used to handle tele-communications, broadcast media, intelligent building management systems, audiovisual processing and transmission systems, and network-based control and monitoring functions.
- Although ICT is often considered an extended synonym for information technology (IT), its scope is broader.
- ICT has more recently been used to describe the convergence of several technologies and the use of common transmission lines carrying very diverse data and communication types and formats.
- There is no universally accepted definition of ICT because the concepts, methods and applications involved in ICT are constantly evolving on an almost daily basis. It is difficult to keep up with the changes as they happen so fast.

There are four 'I's in ICTs as under

1. **Information:** Ideal entity or essence of something, thought, proposition, concept
2. **Interactivity:** It is the dialogue that occurs between a human being and a computer programme
3. **Identity:** Social identity that an internet user establishes in online communication and websites
4. **Informatics:** Academic field encompassing information science, information technology etc.

## ICT - Uses



### 3 MAIN ADVANTAGES OF ICT TOOLS FOR EDUCATION

1. Through ICT, images can easily be used in teaching and improving the retentive memory of students.
2. Through ICT, teachers can easily explain complex instructions and ensure students' comprehension.
3. Through ICT, teachers are able to create interactive classes and make the lessons more enjoyable, which could improve student attendance and concentration.

### ICT Characteristics

- Effectiveness
  - Most interactive
  - Fewer Errors
  - Customised
  - Personalised
  - Achievable
  - Transparent
- Efficiency
  - Faster
  - Cheaper
  - Fewer Steps
  - Less people
  - Less Paper Work
- Innovation
  - New Products
  - New Techniques

### Need

- Education is a life long process. Therefore, anytime anywhere access to it is the need.
- Information explosion is an ever increasing phenomena therefore there is need to get access to this information.
- Education should meet the needs of variety of learners and therefore IT is important in meeting this need.
- It is a requirement of the society that the individuals should possess technological literacy.
- We need to increase access and bring down the cost of education to meet the challenges of illiteracy and poverty-IT is the answer.

### Importance of ICT

- access to variety of learning resources
- immediacy to information
- anytime learning
- anywhere learning
- collaborative learning
- multimedia approach to education
- authentic and up to date information
- access to online libraries
- teaching of different subjects made interesting
- educational data storage
- distance education
- access to the source of information
- multiple communication channels-e-mail, chat, forum, blogs, etc.
- access to open courseware
- better access to children with disabilities
- reduces time on many routine tasks

### ROLE OF ICT IN HIGHER EDUCATION

- Presentation of ICTs in the higher education has significant ramifications for the entire educational process extending from venture to utilization of technology in managing key issues of access, equity, administration, effectiveness, teaching method, quality, research and development. ICT applications give establishments an aggressive edge by offering improved services to students and staff, driving more prominent efficiencies and making enhanced learning encounters and experiences.

**ICT in Teaching and Learning:** While for higher education sector is planned to build a knowledge repository of multidisciplinary subjects, as a strategy to counter the shortage of faculty in higher education, EDUSAT will be used to share the available expertise through modular programmes. This will be done by networking institutions, creation of virtual laboratories, creation of database, access to expert lectures and technological developments in industries and research organizations etc. Teaching and learning can further be improved by replacing of conventional teaching instead of the usual age old method of chalk and talk for teaching by innovative methods like power point presentations and animations, modelling and simulations, video clips and using AV aids, LCD projectors etc.

**ICT in Administration:** ICT in administration of educational institutions play a major role in efficient utilization of existing resources and simplifies the administration tasks (e.g. in student administration, staff administration, general administration etc.) by reducing the paper work and replaces the manual maintenance of record keeping to electronic maintenance of records which helps in easy retrieval of any information of students, staff and general with in a fraction of seconds can access the required information

**ICT in Research:** Integration of ICT in higher education enhances the quality of research work and more number of individuals enrolled in the research work in various fields. ICT facilitates the links across the world in all subject matter and made social networking. It saves time, money and effort to the researchers in their research studies

ICT as a Change Agent in Higher Education: The evolution of higher education in India combined with the need to sustain and be competitive in a global scenario requires decisions to be taken quickly and effectively. This has enhanced the scope and complexity of administration, thus making it necessary to adopt different methods of higher education administration

## INNOVATIONS IN ICT FOR HIGHER EDUCATION

- E-learning: -
- Virtual learning Environment(VLE)
- Virtual Universities
- Massive Open Online Course (MOOC)
- E-tutorials
- Digital Learning
- Blended Learning
- E-Resources  
(E-libraries, E-book, E-journals, Infnhnet)

## E-learning

### What is E-learning?

- The letter 'e' in e-learning stands for the word 'electronic'.
- E-learning pioneer BERNARD LUSKIN(1990) explains 'e' as exciting, energetic, enthusiastic, emotional, extended and educational.
- E-learning is internet-enabled learning.
- It is a store house of education, information, communication, training, knowledge and performance management.

### CONCEPT

- E-learning is an abbreviation of the term electronic learning.
- E-learning is a technology which supports teaching and learning using a computer web technology.
- Focus on Learner - Designing, developing, delivering and assessing learning.

### Definitions of E - Learning

Teaching and learning follows by using internet, audio, video, or other computer network in order to give the material to the students.

E-learning is a means of education that incorporates self-motivation, communication, efficiency, and technology.

### NATURE OF E-LEARNING

- Empowered by digital technology
- Computer enhanced learning
- Technology enhanced learning
- Online learning

### ADVANTAGES OF E-LEARNING

- ◆ Easy access
- ◆ Qualitative
- ◆ Flexibility
- ◆ Effective media
- ◆ Different learning styles
- ◆ Individualized instructions
- ◆ Interesting and motivating



### Virtual learning Environment

- A virtual learning environment (VLE) in educational technology is a Web-based platform for the digital aspects of courses of study, usually within educational institutions. They present resources, activities and interactions within a course structure and provide for the different stages of assessment. VLEs also usually report on participation; and have some level of integration with other institutional systems.



### Virtual Learning Environment

QVLE is a software system designed to support teaching and learning in an educational setting as distinct from a Managed Learning Environment (MLE) where the focus is on management.

QVLE is educational technology in a Web-based platform for the digital aspects of courses of study, usually within educational institutions. They present resources, activities and interactions within a virtual situation and provide for the different stages of assessment.



### The Definition

- *Virtual Learning Environment (VLE) is generically used to describe a range of integrated web-based applications that provide teachers, learners, parents and others involved in education with information, tools and resources for support and delivery of learning and delivery and assessment.*

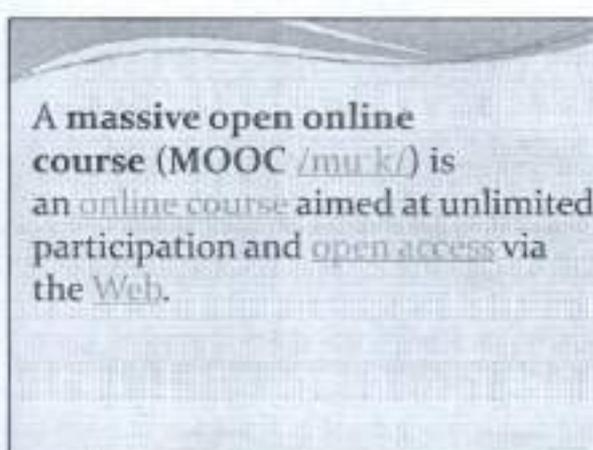
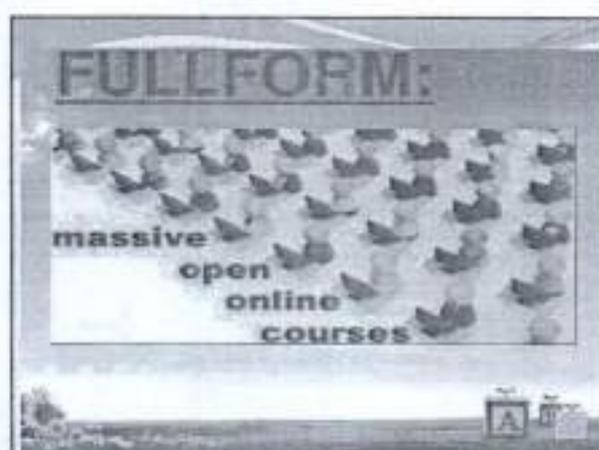
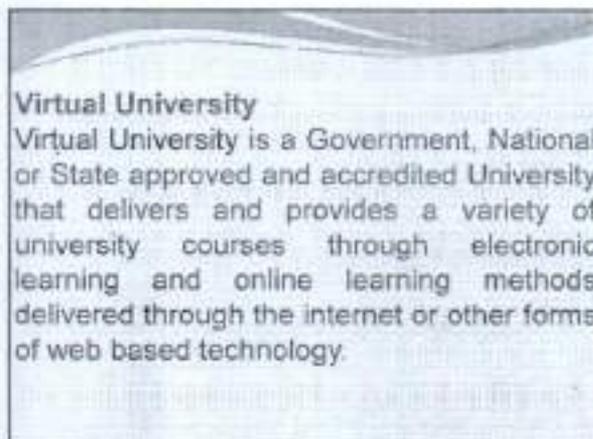
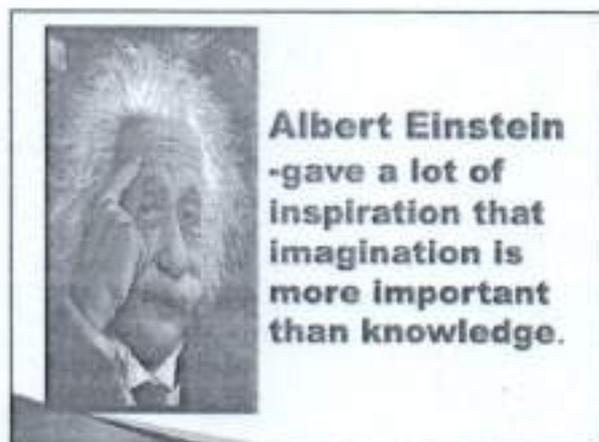


### Virtual University

- › provides higher education programs through electronic media.

### Virtual University

- › goal of virtual universities is to provide access to the part of the population who would not be able to attend a physical campus



## WHAT IS A MOOC?

- MOOC is a online course which is opened to everyone who is willing to learn.
- MOOC is a free education system that is open and has no age restriction.

## WHO GIVES THE COURSE?

- Universities throughout the world give MOOCs through various profit-based or non profit organizations or websites.

## WHO GETS BENEFITED?

### STUDENTS

- Can learn from the best teachers from the best universities of the world.

### TEACHERS

- Can make their own MOOC and teach students across the globe.
- Can learn more about teaching skills.

## E-Tutorials/Online Tutorials

- Online tutoring is the process of tutoring in an online, virtual, or networked, environment, in which teachers and learners participate from separate physical locations. Aside from space, literature also states that participants can be separated by time.
- E-Tutorials use email as the sole mechanism for communication between the student and the Graduate Theological Foundation Faculty.

### DEFINITION

- E-tutoring can be defined as teaching, support, management and assessment of students on programmes of study that involve a significant use of online technologies (TechLearn, 2000).

### WHAT IS AN ETUTOR?

- An E-Tutor is the interface between the learner and the knowledge. They give the feeling of closeness that reduces social isolation that usually engulfs the online learner.

### WHO IS AN E-TUTOR?

An e-tutor is a Jack-of-all-trades:

- |                         |                            |
|-------------------------|----------------------------|
| • Subject matter expert | • Coach                    |
| • Mentor                | • Administrator            |
| • Facilitator           | • Assessor                 |
| • Motivator             | • Technical support person |
| • Counselor             |                            |

### COMPETENCIES REQUIRED

- A good all round knowledge of the subject-matter of the course.
- The background pedagogy that underpins the course.
- A good understanding of the limits and limitations of the information and communications technology.

### COMPETENCIES REQUIRED

- A close working and sharing relationship with the learner
- Providing learners with support and encouragement
- Mentoring/counseling and advising

### Digital Literacy: The Concept

- "Digital literacy is literacy via technology"
- Digital literacy is a compound word consisting of two words i.e. digital and literacy. Digital refers to the electronic technologies, devices, modern applications, ICT tools which operates, stores, analyzed and process data for specific purposes.
- Literacy means the ability of reading and writing. According to UNESCO (2004, p.13), literacy is the ability to identify, understand, interpret, create, communicate and compute by using printed and written materials associated with varying contexts.

### Digital Technologies

- Digital technologies are electronic tools, systems, devices and resources that generate, store or process data. These includes social media, online games and applications, multimedia, productivity applications, cloud computing, interoperable systems and mobile devices.

### Digital learning

**Digital Learning** is "learning facilitated by technology that gives students some element of control over time, place, path and/or pace. Digital learning is more than just providing students with a laptop. Digital learning requires a combination of technology, digital content and instruction.

## Digital Infrastructure

- Digital infrastructure refers to the digital technologies that provide the foundation for an organization's information technology and operations. Examples of digital infrastructure include: Internet backbone, broadband, Mobile telecom and digital communication suites, including apps. Data centers and networks.

## Blended Learning

- The Blended Learning or "Hybrid Learning" represents a learning model that combines both formal (traditional classroom) and non-formal (online courses) methodologies.
- Blended learning is an approach to education that combines online educational materials and opportunities for interaction online with traditional place-based classroom methods.

The term blended learning also called *hybrid learning* and *mixed-mode learning*, is generally applied to the practice of using both online and *in-person* learning experiences when teaching students. In a blended-learning course, for example, students might attend a class taught by a teacher in a traditional classroom setting, while also independently completing online components of the course outside of the classroom.

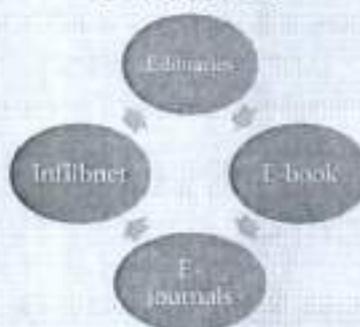
## Definitions of Blended Learning

- "Blended learning systems combine face-to-face instruction with computer-mediated instruction" (Graham-2006).
- "the thoughtful integration of classroom face-to-face learning experiences with online learning experiences" (Garrison and Kanuka - 2004)

## Resources

- Human resources-
- Material Resources
- Financial resources
- E-Resources

## E-Resources



## Meaning of E-Resources

- The e-sources module contains electronic information resources, including: online periodicals, useful links, databases, e-books and internet resources as well as information tools.
- The digitization of information in print media has brought a new concept altogether in all the
- An electronic resource is defined as a resource which requires computer access or any electronic product that delivers a collection of data, be it referring to full text bases, electronic journals, image collections, other multimedia products and numerical, graphical or time based.

## Need of E-Resources

- To get access to an information source by more than one users.
- E-Resources can be searched quickly
- Found easily by the user.
- Stored in huge amount.
- Amount of time spent on the E-Resources use.
- Analyses the purpose of using e-resources by respondent
- Know different types of e-resources commonly used by respondents
- To collect, store, organize information in digital form.
- To promote efficient delivery of information economically to all the users.
- To encourage co-operative efforts to save and share the investments in research resources, computing and communication network

## INFLIBNET

- Information and Library Network Centre (INFLIBNET Centre) is an organisation that promotes and facilitates libraries and information resources for Indian higher education. Its premises are in Gandhinagar, Gujarat.
- The Centre started in March 1995 as a project under the Inter-University Centre for Astronomy and Astrophysics. It became an independent entity in June 1996, reporting to the University Grants Commission of India under the Ministry of Education. INFLIBNET runs a nationwide high speed data network connecting university libraries and other information centres.

## Open Educational Resources( OER)

- Open educational resources are freely accessible, openly licensed instructional materials such as text, media, and other digital assets that are useful for teaching, learning, and assessing, as well as for research purposes.
- Open educational resources are materials for teaching or learning that are either in the public domain or have been released under a license that allows them to be freely used, changed, or shared with others.
- OER may include everything from a single video or lesson plan to a complete online course or curriculum and also include the software platforms needed to create, change, and share the materials.
- Online courses: Videos, Audio, Presentation slides, Syllabi, Course outlines, Supplementary materials, such as quizzes and assignments

### OER can:

- Increase access to education
- Provide students with an opportunity to assess and plan their education choices
- Showcase an institution's intellectual outputs, promote its profile, and attract students
- Convert students exploring options into fee-paying enrollments
- Accelerate learning by providing educational resources for just-in-time, direct, informal use by both students and self-directed learners
- Add value to knowledge production
- Reduce faculty preparation time
- Generate cost savings – (this case has been particularly substantiated for open textbooks)
- Enhance quality
- Generate innovation through collaboration

## Metaverse

- A metaverse is a network of 4D virtual world focused on social connection, it is often described as a hypothetical interaction. In futurism and science fiction, it is often described as a hypothetical interaction of the internet as a single, universal virtual world that is facilitated by the use of virtual and augmented reality headsets.



## A non-fungible token (NFT)

- A non-fungible token (NFT) is a non-interchangeable unit of data stored on a blockchain, a form of digital ledger, that can be sold and traded. Types of NFT data units may be associated with digital files such as photos, videos, and audio. Because each token is uniquely identifiable, NFTs differ from blockchain cryptocurrencies, such as Bitcoin.
- NFT: Sale and purchase without owner.
- Cryptocurrency (No physical entity)

## New Innovations in ICT

- Artificial Intelligence and Machine Learning
- Robotic Process Automation (RPA)
- Edge Computing
- Quantum Computing
- Virtual Reality and Augmented Reality
- Blockchain
- Internet of Things (IoT)
- 5G
- Cyber security

## Artificial Intelligence

- Artificial Intelligence (AI) is an advancement that is being adopted by many IT professionals. But it also brings up a lot of questions and even fears in some people. If we teach machines to think, will they be smarter than us? What are the repercussions of this innovation? But the truth is that there are many kinds of AI, and we can rest assured that they are safe. The most basic forms of AI can perform functions, but have no memories. They can play games like chess, but they won't recall what their last move on the board was. They simply analyze the situation in the moment and respond with a well of pre-programmed responses. This makes them great for automated customer

## Robotic Process Automation (RPA)

- Like AI and Machine Learning, Robotic Process Automation, or RPA, is another technology that is automating jobs. RPA is the use of software to automate business processes such as interpreting applications, processing transactions, dealing with data, and even replying to emails. RPA automates repetitive tasks that people used to do.

### Edge Computing

- Formerly a new technology trend to watch, cloud computing has become mainstream, with major players AWS (Amazon Web Services), Microsoft Azure, and Google Cloud Platform dominating the market. The adoption of cloud computing is still growing, as more and more businesses migrate to a cloud solution. But it's no longer the emerging technology trend. Edge is.
- For this reason, edge computing can be used to process time-sensitive data in remote locations with limited or no connectivity to a centralized location. In those situations, edge computing can act like mini datacenters. Edge computing will increase as use of the Internet of Things (IoT) devices increases. By 2022, the global edge computing market is expected to reach \$1.5 billion. And this new technology trend is only meant to grow and nothing less, creating various jobs, primarily for software engineers.

### Quantum Computing

- Next remarkable technology trend is quantum computing, which is a form of computing that takes advantage of quantum phenomena like superposition and quantum entanglement. This amazing technology trend is also involved in preventing the spread of the coronavirus, and to develop potential vaccines, thanks to its ability to easily query, monitor, analyze and act on data, regardless of its source. Another field where quantum computing is finding applications is banking and finance, to manage credit risk, for high-frequency trading and fraud detection.
- Quantum computers are now a multitude times faster than regular computers and huge brands like SAP, Honeywell, Microsoft, AWS, Google and many others are now involved in making innovations in the field of Quantum Computing. The revenues for the global quantum computing market are projected to surpass \$1 billion by 2025. And to make a mark in this new trending technology, you need to have experience with quantum mechanics, linear algebra, probability, information theory, and machine learning.

### Virtual Reality and Augmented Reality

- Virtual Reality and Augmented Reality
- The next exceptional technology trend - Virtual Reality (VR) and Augmented Reality (AR), and Extended Reality (ER). VR immerses the user in an environment while AR enhances their environment. Although this technology trend has primarily been used for gaming thus far, it has also been used for training, as with *Virtuality*, a simulation software used to train U.S. Navy, Army and Coast Guard ship captains.

### Blockchain

- Although most people think of block chain technology in relation to crypto currencies such as Bit coin, block chain offers security that is useful in many other ways. In the simplest of terms, block chain can be described as data you can only add to, not take away from, or change. Hence the term "chain" because you're making a chain of data. Not being able to change the previous blocks is what makes it so secure. In addition, block chains are consensus-driven, so no one entity can take control of the data. With block chain, you don't need a trusted third party to oversee or validate transactions.

## Internet of Things (IoT)

- Another promising new technology trend is IoT. Many "things" are now being built with WiFi connectivity, meaning they can be connected to the Internet—and to each other. Hence, the Internet of Things, or IoT. The Internet of Things is the future, and has already enabled devices, home appliances, cars and much more to be connected to and exchange data over the Internet.

## 5G

- The next technology trend that follows the IoT is 5G. Where 3G and 4G technologies have enabled us to browse the internet, use data driven services, increased bandwidths for streaming on Spotify or YouTube and so much more, 5G services are expected to revolutionize our lives, by enabling services that rely on advanced technologies like AR and VR, alongside cloud based gaming services like Google Stadia, NVidia GeForce Now and much more.

- It is expected to be used in factories, HD cameras that help improve safety and traffic management, smart grid control and smart retail too. 1G, 2G, 3G, 4G and 5G are the five generations of mobile networks where G stands for Generation, and the number denotes the generation number. 5G is the latest generation, whereas 1G networks are now obsolete.

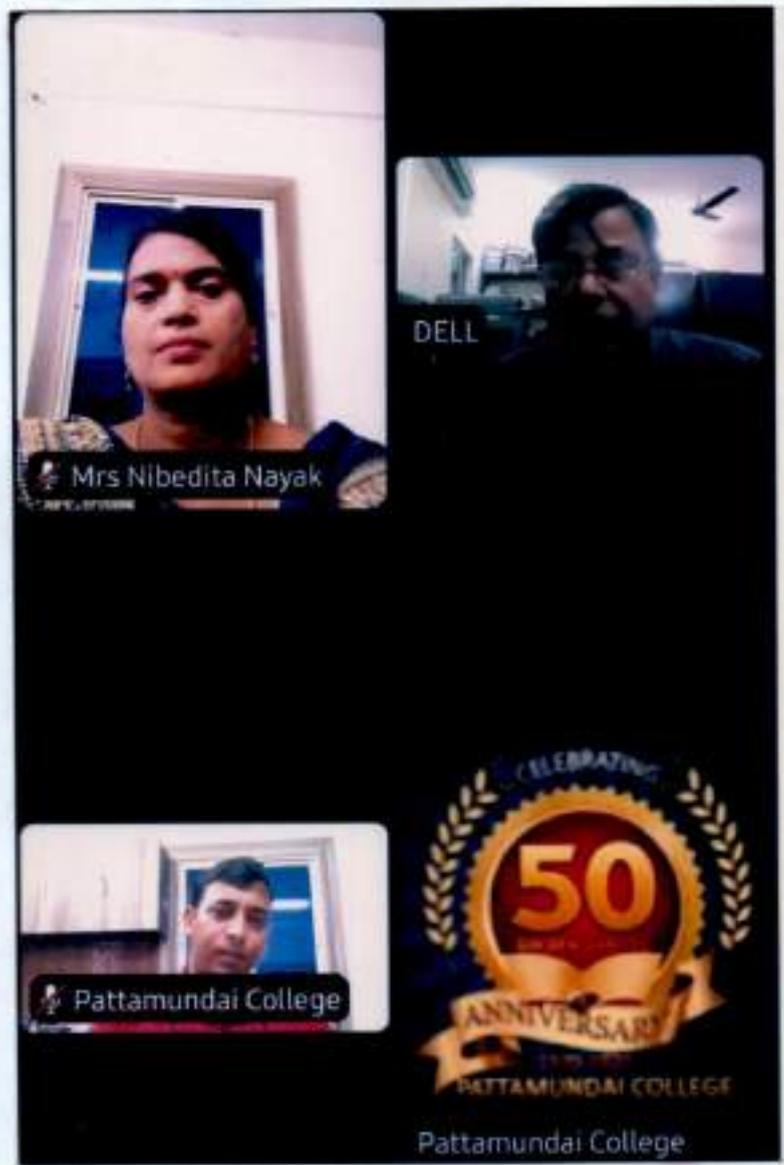
What 1G, 2G, 3G, 4G and 5G mean and when they were launched—

Term	Stands for	Launch Year
1G	First Generation	1979
2G	Second Generation	1991
3G	Third Generation	2001
4G	Fourth Generation	2009
5G	Fifth Generation	2019

## Cyber Security

- Cyber security might not seem like an emerging technology, given that it has been around for a while, but it is evolving just as other technologies are. That's in part because threats are constantly new. The malevolent hackers who are trying to illegally access data are not going to give up any time soon, and they will continue to find ways to get through even the toughest security measures. It's also in part because new technology is being adapted to enhance security. As long as we have hackers, **cybersecurity** will remain a trending technology because it will constantly evolve to defend against those hackers.
- As proof of the strong need for cybersecurity professionals, the number of cybersecurity jobs is **growing three times faster than other tech jobs.**





"ICT INNOVATIONS & HIGHER EDUCATION"

Dr. 18.04.22



Shradhanjali Sahoo



Geetanjali Lenka



Soumyashree Das



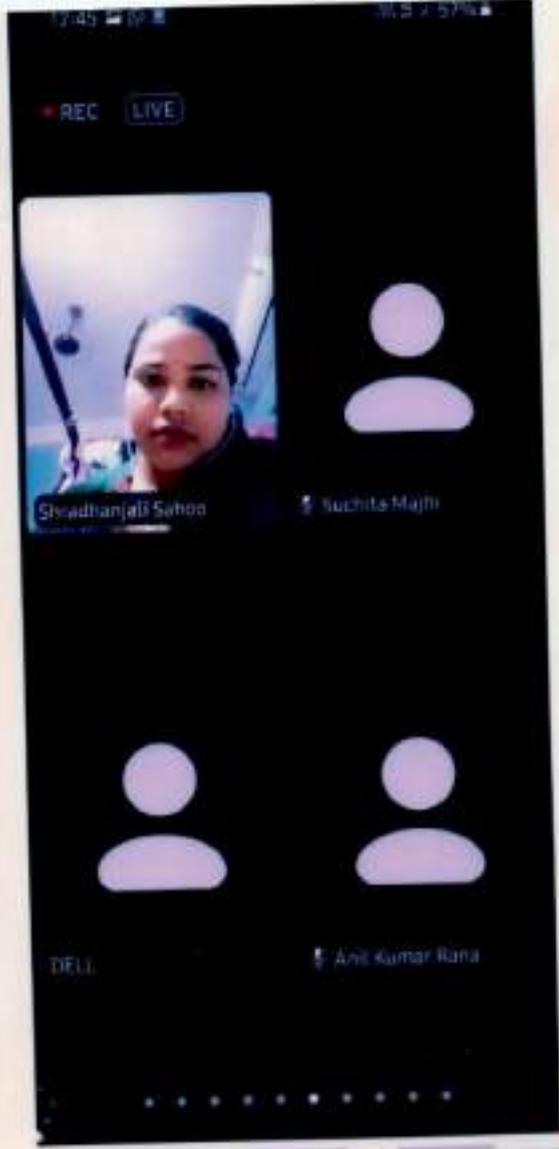
Barsharani Behera



WEBINAR  
ON

" ICT INNOVATIONS & HIGHER EDUCATION "

Dt. 18. 04. 2022 .





WEBINAR ON  
" ICT INNOVATIONS and HIGHER EDUCATION"  
Dt. 18. 04. 2022

## ଶିକ୍ଷା ବିଭାଗର ଡ୍ରେସିନାର

■ ପଢ଼ାବୁକ୍ତର ଉପଯୋଗୀତା-ସମ୍ପର୍କରେ ।  
ପଢ଼ାବୁକ୍ତର କଲେଜ ଶିକ୍ଷା ବିଭାଗ ପାଠକରୁ  
ଉଦ୍ଦେଶ୍ୟରେ ସୂଚନା ଓ ଯୋଗାଯୋଗ ଓ  
ପ୍ରସ୍ତୁତି ବିଦ୍ୟା ଶାଖାରେ ଏହି ଡ୍ରେସିନାର  
ଅନୁଷ୍ଠିତ ହୋଇପାରେ । ଏହାକୁ କଲେଜ  
ଅଧ୍ୟକ୍ଷ ପ୍ରତ୍ୟେକ ପ୍ରକାରର ଶାଳକ  
ଉପଯୋଗୀ କରିପାରେ । ଯାହାକି ପୁର  
କଲେଜର ଓ ପୁରର କୁମାର ମହାପାତ୍ର  
ଆଲୋଚନା କଲେ ଯୋଗ୍ୟ ବିଷୟ ବିଷୟ  
ଆଲୋଚନା କରିପାରେ । ବିଭାଗର  
ମୁଖ୍ୟ ଅଧ୍ୟାପିକା ନିରବଚିତା ନାଥ  
କିଛି ପ୍ରକାର ଯାଠି କରିବା ସହିତ ଅଧିକ  
ପରିଚୟ ପ୍ରଦାନ କରିପାରେ । ଅଧ୍ୟାପକ  
ଶୁଭାଞ୍ଜିତ ମିଶ୍ର ଧନ୍ୟବାଦ ଦେଇଥିଲେ ।  
କାର୍ଯ୍ୟକ୍ରମକୁ ପ୍ରଧାନ ଓ ସୁନିଶ୍ଚିତ  
ପ୍ରଧାନ, ଉପାଧ୍ୟକ୍ଷ, ଉପାଧ୍ୟକ୍ଷ, ଉପାଧ୍ୟକ୍ଷ  
ପ୍ରଧାନ, ଅଧ୍ୟାପିକା ବିନୟିନୀ ଦାସ ଓ  
ଅଧ୍ୟାପକ ସରୋଜ ନାଥ ପରିଚାଳନା  
କରିଥିଲେ ।

The Samaj  
dt. 20.04.2022

Timestamp	Email Address	Full Name (in Capital Lett	Designation	Institution/ College/ Unive	Class (for Students only)	Stream	College Roll No (for	Mobile No.
4/16/2022 12:37:43	palaisameer43@gmail.com	SAMEER KUMAR PALAI	Students	PATTAMUNDAI DIGREE	2nd Year	Arts	BA20 -105	7847928323
4/16/2022 15:32:55	kanknabibtri@gmail.com	Sabtri behera	Students	Pattamundai college , pat	2nd Year	Arts	Ba. 20.229	7205962330
4/16/2022 17:03:20	sureshchmishra437@gmail.com	MR. SURESH CHANDRA	Lecturer	Hindol College Khajurikata, Dhenkanal, Odisha		Arts		9937321492
4/16/2022 17:15:30	bishnupriya545@gmail.com	BISHNU PRIYA BISWAL	Students	Hindol degree college, Kh	3rd Year	Arts	1010530070022	+917327011832
4/16/2022 18:22:00	beherasubhasmita5829@gmail.com	SUBHASHMITA BEHERA	Students	Hindol college khajurikata	2nd Year	Arts	BA20-115	9078244566
4/16/2022 18:37:49	aishwaryadehury431@gmail.com	AISHWARYA DEHURY	Students	Hindol degree College kh	1st Year	Arts	BA21-125	8144796620
4/16/2022 19:19:53	swainsrut09@gmail.com	Srut Swain	Students	Pattamundai degree Colle	3rd Year	Arts	BA19-045	7805975372
4/16/2022 20:52:37	anwashaacharya528@gmail.com	ANWESHA ACHARYA	Students	Hindol degree college, Kh	1st Year	Arts	BA-21-040	9937576364
4/16/2022 22:30:18	dibakarsidhartha@gmail.com	DIBAKAR BEHERA	Lecturer	Mahima Mahavidyalaya Joranda, Dhenkanal		Arts		9861951911
4/16/2022 22:45:45	bbishnusama58@gmail.com	BISHNU CHARAN SAMA	Lecturer	L N DEGREE COLLEGE, PIPILIA, KEONJHAR				7978840678
4/17/2022 5:30:42	archanaarchana94976@gmail.com	ARCHANA DALAI	Students	Pattamundai college patt	3rd Year	Arts	Ba-19-152	8249984424
4/17/2022 6:29:40	saandya.fiki@gmail.com	SANDHYA RANI BARIK	Students	Utkal university	2nd Year	Arts	Ba-33	8018811523
4/17/2022 8:39:34	saismitapriyadansansahoo@gmail.com	SAISMITA PRIYADARSA	Students	Hindol(Degree) College, K	3rd Year	Arts	BA19-024	9348912857
4/17/2022 8:56:48	krishnakajalnath2003@gmail.com	Krishna Kajal nath	Students	Hindol degree cig khajurk	1st Year	Arts	BA21-17	7609011132
4/17/2022 9:13:32	sahu.susa733@gmail.com	SEEMA SAHU	Students	Hindol(Degree) College, K	3rd Year	Arts	BA19 - 007	9778915733
4/17/2022 9:38:10	pradyumnasaho7@gmail.com	KAJAL SAHU	Students	Hindo degree college kha	1st Year	Arts	BA -21 -005	9692011591
4/17/2022 9:53:42	biswajtasahoo573@gmail.com	BISWAJITA SAHOO	Students	Hindol degree college, Kh	1st Year	Arts	BA21-157	637
4/17/2022 10:02:54	maheswatasahu2004@gmail.com	MAHESWATA SAHU	Students	Hindol degree college kha	1st Year	Arts	BA21_153	7881866890
4/17/2022 10:19:13	bishnupriyassahu11ail.oven@gmail.com	Bishnupriya sahu	Students	Hindol degree college kha	1st Year	Arts	BA21_151	7894536847
4/17/2022 10:32:11	adyashadehury6@gmail.com	Ilishree Sahu	Students	Hindol degree college kh	1st Year	Arts	BA21 - 036	9692822604
4/17/2022 10:39:24	bibeknayak303@gmail.com	BIBEKANANDA NAIK	Students	HIDOL COLLAGE ,KHAJ	1st Year	Arts	BA 21-103	9692099857
4/17/2022 13:14:21	subhapriyaghadei@gmail.com	SUBHAPRIYA GHADAI	Students	Hindol degree collage kha	1st Year	Arts	BA_21_22	8984137343
4/17/2022 18:41:25	ashaharapriya@gmail.com	HARAPRIYA BEHERA	Students	Hindol college khajurikata	1st Year	Arts	BA 21 019	8280293445
4/17/2022 19:10:35	sangitarout003@gmail.com	SUSHREE SANGITA RO	Students	Hindol degree collage kha	1st Year	Arts	BA -21 039	7381886250
4/17/2022 20:28:17	saawatipati99@gmail.com	SASWATI PATI	Students	Govindpur degree College	2nd Year	Arts	MA-20-EDN-038	8249501015
4/17/2022 20:33:22	suchitasuchi7@gmail.com	SUCHITA MAJHI	Students	Govindpur degree College,devi vihar, Cutack		Arts	MA-20-EDN-022	9090386821
4/17/2022 20:35:42	suchitasuchi7@gmail.com	SUCHITA MAJHI	Students	Govindpur degree College	2nd Year	Arts	MA-20-EDN-022	9090386821
4/17/2022 21:54:20	madhusmitaswain440@gmail.com	MADHUSMITA SWAIN	Students	Pattamundai college, Patt	1st Year	Arts	BA21-002	6370796886
4/18/2022 7:41:26	sharmisthatari19@gmail.com	SHARMISTHA TARAI	Students	Pattamundai college, Patt	3rd Year	Arts	BA-19-104	8114642863
4/18/2022 9:33:48	drpikmohepatra1963@gmail.com	DR. PRASANNA KUMAR	Reader	Salipur Autonomous College		Arts		9437365945
4/18/2022 10:21:06	ushashreen4@gmail.com	USHASHREE NAYAK	Students	Pattamundai degree Colle	2nd Year	Arts	BA20-021	7847931576
4/18/2022 10:50:24	archanabal52@gmail.com	ARCHANA BAL	Students	Pattamundai college patt	3rd Year	Arts	BA19-033	7377146636
4/18/2022 10:51:10	binodmalik75@gmail.com	JYOTI MALIK	Students	Pattamundai degree Colle	2nd Year	Arts	BA20-201	7735786332
4/18/2022 10:52:58	donalparida223@gmail.com	DONALI PARIDA	Students	College	3rd Year	Arts	BA-19-06	8114314585
4/18/2022 10:56:52	smrutirekhan319@gmail.com	SMRUTI REKHA NAYAK	Students	Pattamundai college, patt	3rd Year	Arts	BA19-019	9114200390
4/18/2022 11:29:53	goutamgiri240@gmail.com	GOUTTAM GIRI	Students	Pattamundai college patt	2nd Year	Arts	BA20-182	7735359078

Timestamp	Email Address	Full Name (in Capital Lett	Designation	Institution/ College/ Unive	Class (for Students only)	Stream	College Roll No (for	Mobile No.
4/13/2022 16:35:52	niamani.lenka00@gmail.com	DRNILAMANI LENKA	Reader	PATTAMUNDAI COLLEGE				9438329950
4/13/2022 16:39:24	nibeditanayak63@gmail.com	MRSNIBEDITA NAYAK	Lecturer	pattamundai college.pattamundai				9688725524
4/13/2022 16:46:49	sarojinimishra7191@gmail.com	SAROJINI MISHRA	Lecturer	Pattamundai college				9437920782
4/13/2022 16:47:43	routasarojin08@gmail.com	SAROJINI ROUT	Students	Govindpur degree College	2nd Year	Arts	MA-20 EDN-042	9114580288
4/13/2022 16:55:34	dparida1966@gmail.com	DR DUSHASAN PARIDA	Reader	PATTAMUNDAI COLLEGE PATTAMUNDAI				9853185455
4/13/2022 16:56:51	dashrajashri38@gmail.com	RAJASHRI DASH	Students	Govindpur degree college	2nd Year	Arts	MA-20-EDN-014	9337985763
4/13/2022 16:57:24	jayashreemajhi470@gmail.com	RAJASHREE MAJHI	Students	Govindpur Degree Colleg	2nd Year	Arts	MA-20-EDN-16	7006644486
4/13/2022 17:03:57	routpriya57@gmail.com	Sangeeta rout	Students	Pattammundai college pa	1st Year	Arts	BA21-029	7326908166
4/13/2022 17:05:02	sbehera8754@gmail.com	Sasmita behera	Students	Pattamundai degree colle	2nd Year	Arts	BA20_120	9556042149
4/13/2022 17:25:47	susmita102@gmail.com	SUSMITA BEHERA	Students	Govindpur Degree Colleg	2nd Year	Arts	MA- 20 -EDN -036	7205246736
4/13/2022 17:39:22	swamaprasanna389@gmail.com	SWARNAPRAVA NATH	Students	Pattamundai degree Colk	3rd Year	Arts	BA19-023	9861075381
4/13/2022 18:00:42	sathianita29@gmail.com	Swati prangya sethi	Students	Pattamundai college	1st Year	Arts	Ba21- 041	9114732123
4/13/2022 18:08:56	srutlipabehera@gmail.com	SRUTILIPA BEHERA	Students	Pattamundai degree Colk	2nd Year	Arts	BA20-024	6260380626
4/13/2022 18:19:04	Kundupabitra200@gmail.com	Pabitra kundu	Students	College	2nd Year	Arts	IA20034	7326913481
4/13/2022 18:46:39	geetanjalilenka0@gmail.com	GITANJALI LENKA	Students	Pattamundai degree colle	3rd Year	Arts	BA19-012	7205887491
4/13/2022 18:51:11	Sesmitabehera6575@gmail.com	SASMITA BEHERA	Students	Pattamundai college patt	3rd Year	Arts	173	6372686677
4/13/2022 19:16:57	rashmitachoudhury32@gmail.com	Rasmita Choudhury	Students	Pattamunadai college pat	3rd Year	Arts	BA19-191	9144448516
4/13/2022 19:37:34	anilk26223@gmail.com	ANIL KUMAR RANA	Students	Pattamundai degree Colk	3rd Year	Arts	BA19-002	9114807584
4/13/2022 20:33:41	namita754215@gmail.com	NAMITA MISHRA	Students	University		Arts	BA20_154	9114387756
4/13/2022 21:18:34	barsha907856@gmail.com	SUNITA SAHOO	Students	Pattamudal college , patt	2nd Year	Arts	BA20-004	9078582863
4/13/2022 21:48:00	jkjasmin2002@gmail.com	J.K JASMIN TRIPATHY	Students	Pattamundai college ,patt	3rd Year	Arts	BA19-062	9118067935
4/14/2022 3:27:34	sunilpradhan1966@gmail.com	DR SUNIL KUMAR PRAJ	Reader	Pattamundai College				9937193076
4/14/2022 9:13:23	soumya.rumi@gmail.com	SOUMYASHREE DAS	Students	Pattamundai collage patt	2nd Year	Arts	BA20-066	7848018405
4/14/2022 12:32:06	rkpandaodca2008@gmail.com	RABINDRA KUMAR PAN	Reader	Pattamundai College				9238899769
4/15/2022 14:41:16	subhadrashininayak213@gmail.com	SUBHADARSHINI NAYAK	Students	Pattamundai college, patt	3rd Year	Arts	BA19-24	8455870140
4/15/2022 21:14:57	barryb956@gmail.com	Satyajit Nath	Students	Pattamundai Degree Colk	1st Year	Arts	BA21-243	6370803155
4/15/2022 22:11:54	rjmunu@gmail.com	SUMITRA MALIK	Students	Pattamundai college, patt	2nd Year	Arts	BA20-150	8327719599
4/15/2022 22:15:32	debasishbarty28@gmail.com	DEBASISH MALIK	Students	Pattamundai degree colle	2nd Year	Arts	BA 20-166	9556933843
4/15/2022 22:22:58	ojhasumitra2020@gmail.com	SUMITRA OJHA	Students	Pattamundai degree colle	2nd Year	Arts	BA-20-203	8018331104
4/15/2022 22:25:43	1kajal2kajal3@gmail.com	Kajal padhy	Students	Pattamundai degree Colk	1st Year	Arts	208	9861553743
4/15/2022 22:30:19	sathirarendra502@gmail.com	NARENDRA SETHI	Students	Pattamundai junior colleg	2nd Year	Arts	BA20-114	7008665642
4/15/2022 22:31:59	AradhanaSarangi79@gmail.com	ARADHANA SARANGI	Students	Pattamundai college	2nd Year	Arts	(BA-20)....061	7849002080
4/15/2022 22:33:00	khatusapriyanka55@gmail.com	PRIYANKA KHATUA	Students	Pattamundai college	1st Year	Arts	BA210030	7751084633
4/15/2022 22:40:33	subhashreekar447@gmail.com	SUBHASHREE KAR	Students	Pattamundai college patt	2nd Year	Arts	BA20_103	9114399592
4/16/2022 6:43:02	ranjan775819@gmail.com	Ranjan kumar Behura	Lecturer	Pattamundai college.pattamundai				9898830365
4/16/2022 6:52:11	nayakabinash212@gmail.com	Abinash nayak	Students	Pattamundai degree colle	2nd Year	Arts	BA20-017	9556079500
4/16/2022 10:06:04	drpisamal1963@gmail.com	DR PRAMOD KUMAR SA	Reader	Pattamundai College				9337143523
4/16/2022 10:10:29	ankitarout888@gmail.com	ANKITA PRYADARSANI	Students	Pattamunadi degree Colk	2nd Year	Arts	BA 20-179	7682967078
4/16/2022 11:30:40	sahooshradhanjali18@gmail.com	Shradhanjali saho	Students	Pattamundai college patt	1st Year	Arts	BA21-053	7684978196
4/16/2022 12:04:22	sahoodip007@gmail.com	DIPTIMYEE SAHOO	Students	Pattamundai degree colle	3rd Year	Arts	BA19-062	9936554338