# B.Ed., 2021 - 2023

## CERTIFICATE

This is to certify that Mr./Mrs./Miss Prithmayee Nayak

bearing the Register Number 211360576049

has successfully completed his/her Activity Record work for

ICT For Enriching Teaching and Learning

as a part of B.Ed., (Regular) Course for the semester One

2021 - 2023

Signature of the Lecturer

Principal

Date :

# INDEX

# Declaration

I, Mr. / Mrs. / Miss Pritimayee Nayak the Teacher Trainee of Ashok Kumar Reddy B.Ed. College, ABULAPURAM affiliated to Yogivemana University 2021-2023 submit that the ICT For Enriching Teaching & Learning Activity Record has been prepared by me under the guidance of Mr. Pragyan Jyoti Baitai lecturer in

*I abide by the rules & regulations of the university.*

Pritimayee Nayak
*Signature of the Candidate*

*Date :* 29.7.22

# ACTIVITY-1

## Educational Technology

### Concept of Educational Technology

Educational Technology is the field of study that investigate the process of analyzing, designing, developing, implementing, and evaluating the instructional environment, learning materials, learners and the learning process in order to improve teaching and learning.

### Aims and Objectives of Educational Technology

Educational technology aimed towards improving human learning.

### Important aims of Educational Technology are:

1. To provide appropriately designed situations for learning and teaching i.e. those situations which keep in mind, the objectives that are necessary for training.
2. To modify the learners environment by presentation of material, by arranging the different learning activities and by organising the physical and social surroundings of the learners.

### Nature and characteristics of Educational Technology

Educational Technology is a fast growing discipline.

→ It is influenced by advancements in the field of behavioural sciences, physical sciences, electronics etc.

- It is essentially a practical discipline rather than a theoritical construct.
- It is a science of design, development and application of audiovisual equipment into the field of education.
- It locates the problems in education and provides remedial measures and ultimately aims at improving the education system.
- ET is an application science where in the researches and findings of diverse social science fields like psychology, sociology, behavioural sciences, engineering, physical sciences are applied to the field of education.
- ET plays an important role in making the teaching scientific, objective, clear, simplified and interesting.
- E.T. gets together technical means, students, teachers and their psychological aspects.

## Aspects of Educational Technology

ET has three major aspects:

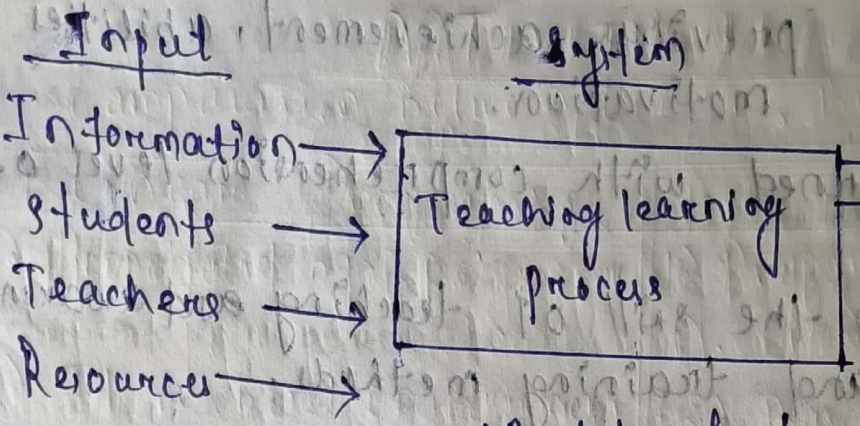
1. Input
2. Process
3. Output

1. **Input**
   - It involves the entering behaviour of the learner

(i) It includes previous achievement, abilities and level of motivation.
(ii) It is concerned with comprehension level of the learner.
(iii) It involves the skill of teaching and awareness of teaching and training methods.
(iv) It is concerned with availability of teaching aids and skill in using the teaching aids.

2. Teaching learning process:
It involves the means and devices of learning experiences.
1. To generate situation for presenting the subject matter systematically.
2. To select and use appropriate teaching strategies for desired learning structures.
3. To employ appropriate teaching aids for desired behavioural changes.
4. To use suitable schedules for reinforcement for effective learning.

3. Output
It includes mainly terminal behaviour of the learner.
1. To identify the characteristics of content
2. To clarify the objectives achieved through the content.
3. To analyse the stimuli.
4. To determine the characteristics of students and their desired activities.




Model of teaching learning

## Objectives of Educational Technology

### Objectives of ET at Macro level: (Broad educational goals)

1. To identify the educational needs and aspiration of the community.
2. To determine aims and objectives and in general the structure of education.
3. To develop an integrated curriculum of arts science and human values.
4. To identify the latent environmental constraints and means to tackle them.
5. To assist in providing vocational opportunities to the needy and deserving.

### Objectives of ET at Micro level: Classroom teaching

1. To identify the education needs of the learner.
2. To asses the characteristics of students. To determine and formulate classroom objectives in behavioural terms.
3. To identify the contents of instruction and organize them in a proper sequence.
4. To identify human resources - students and teachers.
5. To plan out teaching strategies, modes and methods

as per needs and objectives.

## Other objectives:

1. To offer greater opportunities for independent study.
2. Improvement in quality.
3. Meeting the challenges of mass education.
4. Equalizing educational opportunity.
5. Improving continuing and life long education.

## Scope of Educational Technology

1. Determination / identification of educational goals and objectives.
2. Analysis of the Process of Teaching - Learning - ET has a large number of functions to perform.
3. Area of Teachers training and area of curricalum construction needs regular revision.
4. Both human resources and material resources need to be developed.
5. Ability of each individual student different interactive instructional services can be developed and made use of.
6. ET helps the teacher in selection and development of suitable teaching strategies.

# ACTIVITY - 11

## Comparision Between Linear, Branched Programming

| Linear Programming | Branched Programming |
|---|---|
| (1) Propagated by B.F. Skinner. | (1) Propagated by Norman A. Crowder. |
| (2) It is based on Skinner's operant Conditioning. | (2) Based on configuration theories. |
| (3) Based on principle of small steps, principle of active responding, Principle of student testing, Principle of self pacing. | (3) Based on principle of exposition, principle of diagnosis, principle of Remedy. |
| (4) Frame size is less i.e. 1 or 2 sentences. | (4) Frame is one or two paragraphs or even a page. |
| (5) Number of steps are large. | (5) Number of steps are small. |
| (6) Frame structure is stimulus - Response - Reinforcement. | (6) Frame structure is stimulus Response - Remedy - Reinforcement. |
| (7) Types of Frames - Four type Introductory, Teaching, Practice and Testing frames. | (7) Types of frames - Two type Homepage - Teaching & diagnosis. In wrong page - Remediation is given. |
| (8) Connected response type. Fill in the blank type. | (8) Multiple choice type. |
| (9) Responses are controlled by the programmer. | (9) Respones are controlled by learner. |

| | |
|---|---|
| (10) Purpose of response is fixing of learning. | (10) Purpose of response is Measurement of learning. |
| (11) Immediate confirmation of correct response wrong response is ignored. | (11) confirmation and approval of correct response and wrong response is remedied. |
| (12) Error rate is less than 5%. | (12) Error rate is 20% in general. |
| (13) Suitable to lower classes. | (13) Suitable to higher classes. |
| (14) Suited to average and pupils of low IQ. | (14) Suitable for gifted and creative pupils. |
| (15) Tests knowledge and understanding objectives. | (15) Tests higher order objectives angle, problem solving etc. |
| (16) Pages are in sequential. Usual textbook style. Teaching machine cheap model. | (16) Pages are not sequential zigzag type scrambled book. computer - costly type. |
| (17) Printing is cheap when compared to branched type. | (17) Printing branching type is costly. |
| (18) Intrinsic type of programming. | (18) Intrinsic type of programming. |

# ACTIVITY - III

## Components of Computers

### Hardware of computers

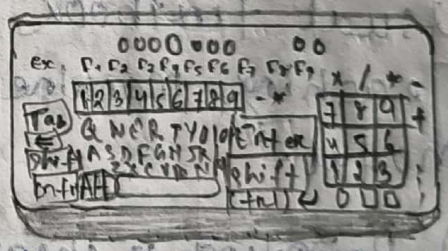
Hardware is any part of your computer that has a physical structure, such as the computer monitor or keyboard.

It is classified into 3 types i.e. Input device, output device and storage devices.

### Computer Input devices :-

Input devices are (1) key board (2) Mouse (3) Image scanner (4) Microphone (5) Graphic tablet (6) Light pen (7) Pointing stick (8) Touch pad (10) Web cam etc.

### 1. Key board :



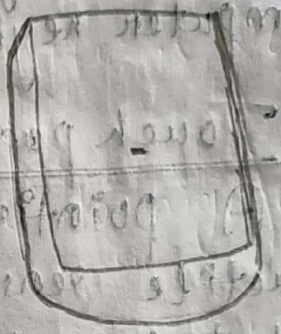
A keyboard typically has characters engraved or printed on the keys and each press of a key typically corresponds to a single written symbol. However, to produce some symbols requires pressing and holding several keys simultaneously or in sequence. While most keyboard keys produce letters, numbers, other keys or simultaneous key presses can produce actions or execute computer commands.

2. Mouse

A computer mouse with the most common standard features, two button and a scroll wheel, which can also act as a third button.

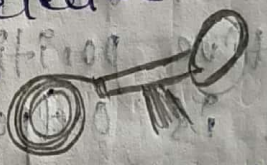
3. Image Scanner

Scanner is a device that optically scans images, printed text, handwriting or an object, and convert it to a digital image.



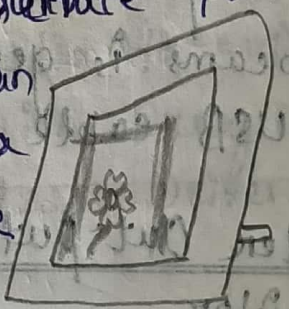
4. Microphone

Microphone is an acoustic-to-electric transducer or sensor that converts sound into an electric signal. Microphones are used in many applications such as telephones, tape recorders, hearing aids etc.



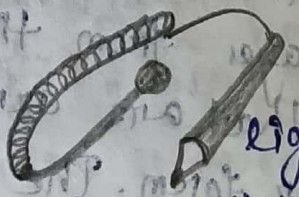
5. Graphic tablet

The device consists of flat surface upon which the user may 'draw' or trace an image using an attached stylus, a pen-like drawing apparatus. The image generally does not appear on the tablet itself but, rather, is displayed on the computer monitor.

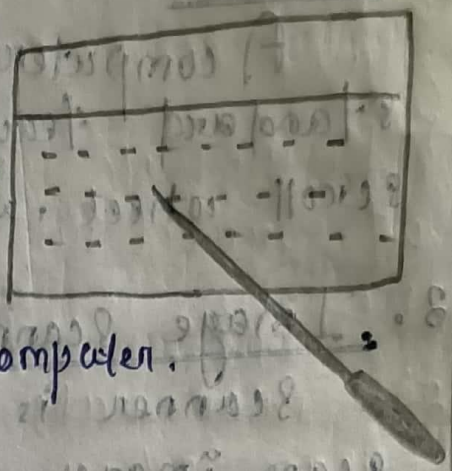


(6) Light pen

A light pen is a computer input device in the form of a wand used in conjuction with a computer's CRT display. Light-sensitive



(7) Pointing stick:

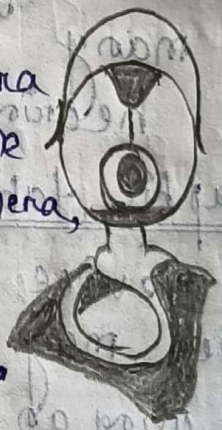


A pointing stick is an isometric joystick used as a pointing device, as with a touchpad or trackball, and typically mounted in a computer keyboard on a laptop or computer.

(8) Touch pad

A pointing device featuring a tactile sensor, a specialized surface that can translate the motion and position of an users fingers to a relative position on the operating system that is outputted to the screen.

(9) Web cam



A webcams is a video camera that feeds its image in real time to a computer. Unlike an IP camera, a webcams is generally connected by a USB cable, Fire Wire cable.

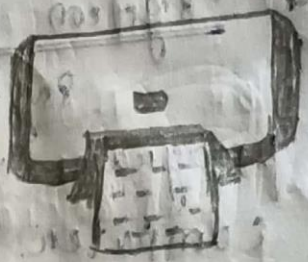
## Computer Out-put Devices

### ⇒ Monitor

Monitor commonly called as visual Display Unit (VDU) is the main output device of a computer. It forms images from tiny dots, called pixels, that are arranged in a rectangular form. The sharpness of the image depends upon the no. of pixels.

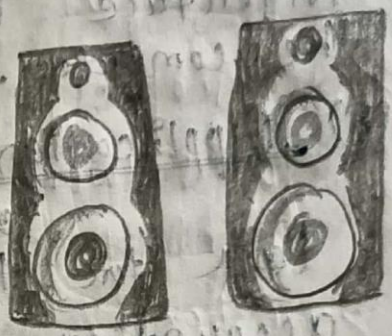
## Printer

Printer is the most important output device, which is used to print information on paper.



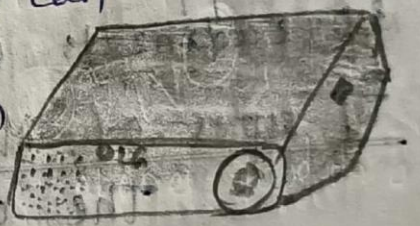
## Speaker

Speakers receive the sound in the form of electric current from the sound card and convert it to sound format. There are used for listening music, chatting, seminars for presentation.



## Projector

An output device that can take the display of a computer screen and project a large version of it on to a flat surface.



## Storage Devices

The storage devices are

(a) Floppy Disk
(b) Compact Disk
(c) CD-ROM Drive
(d) DVD
(e) Blu-ray
(f) Hard Disk Drive
(g) Solid state Drive
(h) Disk Array controller
(i) Flash Drives.

## Software of computers

**Software**: System software consists of a group of programs that control the hardware perform a set of tasks in particular order. Hardware and software are complimentary to each other. Both have to work together to produce meaningful result. It is classified into two type. System software & application software.

(a) System Software:

System software consists of a group of programs that control the operations of a computer equipment including function like managing memory & peripherals, loading, storing and is an interface between the application programs and the computer. e.g. MS DOS, UNIX

(b) Application Software:

Software that can perform a specific task for the user, such as word processing, accounting, budgeting, fall under the category of application software. Word processors, spreadsheets are all examples of application software.

## Types of Memory

The computer programs and data are stored in this memory.

1. Primary memory: RAM and ROM are primary memory. RAM is called temporary memory. ROM is permanent memory.
2. Secondary memory:

It is also called as permanent memory.

3. Cache Memory:

Act as intermediate between processor and primary memory. To speed up the computer processing speed.

## Activity - IV

## The Application of ICT for class-room experience

ICT can used by any people, like students and teachers. It can be used for examing expressions for students and learners. [earners can used word documents, images, slides and web pages for communication purpose. It can be virual experience in class room learning for students. Students can improve their synthesis, analysis, problem solving skills in class room by classroom ICT. Students can learn the education by audios and videos easily by using ICT. It gives great experience to the learners. By using ICT student can gain real time experience of subject.

## Important dimension of ICT in Education

→ ICT/Digital Literacy: Today everyone needs a basic understanding of ICT and how to make a productive use of it, just to be good students workers and citizen teaching people how to be competent user for ICT technologies is an important role of ICT in education, so they'll be successful in their academic and work careers and so they can efficiently participate in modern technical society.

→ ICT competences are increasingly important for most of our employers regardless of role.
→ Financial service industries used specialized computer controlled systems and robotics to design, produce and test products.
→ Property management operations are using ICT to network and control heating and cooling, lighting and building access systems.
→ Electric utilities of ICT to monitor and manage electricity distribution, customer billing and smart metering system.
→ Tele communications, cable TV and other entertainment industries use ICT to store content, manage customers and deliver their services.

## Advantages

→ Eliminate barriers to education for students and teachers.
→ Eliminates geographic barriers for students to be able to access knowledge resources from any location.
→ Allows use of new methods of education Provides a balanced combination of work and family life education.
→ ICT can also be used for non-formal education such as heath campaigns and campaigns for

illiteracy.

→ ICT can improve the quality of learning and contribute to the over all economy.

## Disadvantages

→ Teachers / The academic staff should spend more time to prepare teaching material.

→ It is more expensive than the traditional education.

→ Reduces the desire of students to study when they have difficulty in using ICT tools.

→ It is necessary to maintain and manage the system.

# ACTIVITY-V

## Study about E-learning

### Meaning of E-learning

learning conducted via electronic media, typically on the internet. "Successfully. E-learning depends on the self motivation of individual to study effectively" in this aspect 'E' should be interpreted to mean "exciting, energetic, enthusiastic, emotional, extended, excellent and educational" in addition to 'electronic'. Adj 'E' should refer to "everything, everyone, everywhere, engaging, easy."

### Definition

"E-learning is the use of technology to enable people to learn anytime and anywhere. E-learning can include training, the delivery of just-in-time information and guidance from experts."

### Characteristics

* Simple authoring tools that incorporate symbols and activities that are as good as, and hopefully better, than existing teaching methods.
* Engaging interactivity with rich media.
* Convergence - available on all OS and mobile devices.
* Transparency to promote trust.

* Promotes effective and efficient learning.

## Strategies of E-learning

* E-learning requires motivation and self-discipline. Successful E-learning students are able to study independently and incorporate study time into their busy lives.
* Define your goals and plan for success: Define your goals and objectives for your E-learning experience.
* Incorporate work, life and other educational experiences as part of the learning process: E-learning requires the student to make inferences based on experience as well as facts.

## Benefits of E-learning

* E-learning is student centered. The learner is the core of any E-learning system.
* E-learning is self directed and self paced. Learners control the amount of time they spend on any particular topic.
* E-learning is interactive and hands-on. The use of a variety of multimedia in E-learning increases student involvement and reinforces the learning experience.
* E-learning is flexible. Learning can take place anytime and anywhere, as long as the necessary

equipment is accessible.

## Limitations of E-learning

* Computer literacy and access to equipment. Any E-learning system involves basic equipment and a minimum level of computer knowledge in order to perform the task required by the system.
* Some topics are not appropriate for E-learning.
* Students themselves can be a limitation to E-learning.

# NASA B.ED ACADEMY