GOVERNMENT DEGREE COLLEGE FOR WOMEN

(AUTONOMOUS), BEGUMPET, HYDERABAD

DEPARTMENT OF MATHEMATICS

WORKSHOPS, 2021-2022

S.No.	WORKSHOP	DATES	No. of students participated
1.	AWARENESS PROGRAM ON SOLAR ENERGY	18.11.2021	89
2.	A FIVE DAY WORKSHOP ON PYTHON	01.12.2021 TO 06.12.2021	45

GOVERNMENT DEGREE COLLEGE FOR WOMEN

(AUTONOMOUS), BEGUMPET, HYDERABAD

A ONE DAY WORK-SHOP ON

'AWARENESS PROGRAM ON SOLAR ENERGY'

REPORT

DATE: 18.11.2021

PARTICIPANTS: B.Sc., Mathematics Students of second and final years.

NUMBER OF PARTICIPANTS: 89

OBJECTIVE:

To create awareness in students about the significance of solar energy.

The Department of Mathematics conducted a one day workshop on 'Awareness Program on Solar Energy' on 18.11.2021 by the resource person Sri Rajaneesh Khattar, Founder and Managing Director of INFORMA Markets Pvt. Ltd., New Delhi, a multinational company.

The key points of the presentation are as follows.

SOLAR ENERGY:

The radiant heat and light from the sun is termed Solar energy. Solar energy can be harnessed anywhere that receives sunlight. But, the geographic

location, time of day and weather conditions influence the amount of solar energy that can be harnessed for electricity generation using sunlight. The global potential of direct solar energy far exceeds that of any other renewable energy resource. It is well beyond the total amount of energy needed in order to support mitigation over the current century.

Depending on the method of capturing, converting and distributing of solar energy, it is categorized as passive solar energy technology and active solar energy technology.   By orienting a building to the sun using materials with suitable thermal mass or light dispersing properties and designing natural air circulation space. Whereas active solar technology has two types, one is solar power and the other is solar thermal energy. Solar thermal power is produced by using solar collectors for heating Solar power by transforming sunlight into electricity. The conversion of sunlight into electricity can be done either directly using photovoltaics (PV) or indirectly using concentrated solar power. Solar power accounts for about 2% of the world's electricity. Australia has the largest proportion of solar electricity in the world, supplying 9.9% of the country's electrical demand in 2020.

BHADLA SOLAR PARK, India, largest solar park in the world(Satellite image)

Solar energy is harnessed using a range of ever evolving technologies such as solar heating, photovoltaics, concentrated solar power(CSP), Concentrator photovoltaics (CPV), solar architecture and artificial photosynthesis. Using the photoelectric effect, a photovoltaic system converts light into electrical direct current (DC).

Global benefits of Solar energy technologies:

- ➢ Huge long term benefits.
- ➢ It is an indigenous energy resource.
- ➢ It is inexhaustible
- ➢ Mostly import-independent resource,
- ➢ It enhances sustainability
- ➢ It reduces pollution
- ➢ It will increase countries' energy security.
- ➢ It lowers the costs of mitigating climate change
- ➢ It keeps fossil fuel prices lower than otherwise.

CONCLUSION:

The development of affordable, inexhaustible and clean solar energy technologies is the need of the hour.

PICS OF ACTIVITY:

Program presided by the Principal, Sri K.Padmavathi. Resource person

Sri Rajaneesh Khattar is on the dais.

Powerpoint presentation by the Resource person, Sri Rajaneesh Khattar, Founder and Managing Director of INFORMA Markets Pvt. Ltd., New Delhi, A MultiNational Company.

Students having training with the working model solar energy manufacturing kit by the trainers after the presentation on Solar Energy.

OUTCOMES: The students were enlightened by the importance of solar energy as a renewable source of energy.

GOVERNMENT DEGREE COLLEGE FOR WOMEN

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DEPARTMENT OF MATHEMATICS

A FIVE DAY WORK SHOP

ON

PYTHON

REPORT

DATE: 01.12.2021 TO 06.12.2021

PARTICIPANTS:

Students of B.Sc., Mathematics final year

NUMBER OF PARTICIPANTS: 45

RESOURCE PERSON: Miss Divya

Pantech Technologies Pvt. Ltd.

OBJECTIVE:

To provide basic knowledge and training in Python, the most popular programming language in the world in recent years.

What is Python?

Python is an interactive, object-oriented programming language. It is a high-level, interpreted, general-purpose programming language. Its design philosophy emphasizes code readability with the use of significant indentation. It incorporates modules, exceptions, dynamic typing, very high level dynamic data types, and classes. It supports multiple programming paradigms beyond object-oriented programming, such as procedural and functional programming. Python is often used as a support language for software developers, for build control and management, testing, and in many other ways.

Why Python?

Python has become one of the most popular programming languages in the world in recent years. It's used in everything from machine learning to building websites and software testing. It can be used by developers and non-developers alike.

Python has created everything from Netflix's recommendation algorithm to the software that controls self-driving cars. It is designed to be used in data science, task automation, software and web development.

Further, Python is a computer programming language often used to build websites and software, automate tasks, and conduct data analysis. Python being a general-purpose language, can be used to create a variety of different programs and isn't specialized for any specific problems. This versatility, along with its beginner-friendliness, has made it one of the most-used programming languages today. A survey conducted by an industry analyst firm found that it was the second-most popular programming language among developers in 2021.

What are the uses of Python?

Python is often used as a support language for software developers, for build control and management, testing, and in many other ways. Python is used in

- Data analysis and machine learning
- Web development
- Automation or scripting
- Software testing and prototyping
- Everyday tasks

Python has become a staple in data science, allowing data-analysts and other professionals to use the language to conduct complex statistical calculations, create data visualizations, build machine learning algorithms, manipulate and analyze data, and complete other data-related tasks.

Python is also used for data analysis, and data visualization. Python can build a wide range of different data visualizations, like line and bar graphs, pie charts, histograms, and 3D plots. Python also has a number of libraries that enable coders to write programs for data analysis and machine learning more quickly and efficiently.

Since it is relatively easy to learn, Python has been adopted by many non-programmers such as accountants and scientists, for a variety of everyday tasks, like organizing finances.

SCHEDULE OF THE WORKSHOP:

DAY I, 01.12.2021

Session I: Inaugural session ; About Python language and it's uses

Session II: How to install Python- environmental setup

DAY 2, 02.12.2021

Session I: Basic syntax

Session II: Hands on session

DAY 3, 03.12.2021

Session I: Variable types

Session II: Hands on session

DAY 4, 04.12.2021

Session II: Basic operators

Session IV: Hands on session

DAY 5, 06.12.2021

Session I: Decision making and Loops

Session II: Hands on session and valedictory session.

DAY 1: INAUGURAL SESSION

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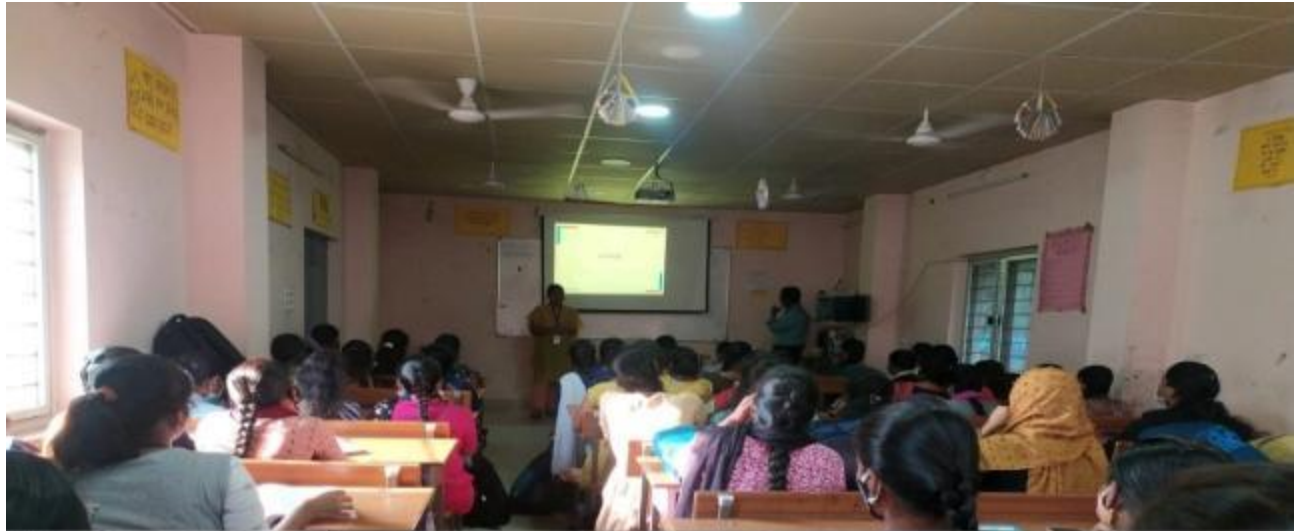**DAY 1:   SESSIONS ON AN OVERVIEW OF PYTHON LANGUAGE**

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DAY-2: HANDS-ON SESSION ON BASIC SYNTAX

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DAY-3: HANDS-ON SESSION ON VARIABLE TYPES

DAY-4: HANDS-ON SESSION ON BASIC OPERATORS AND CONDITIONAL LOGIC

DAY-5: HANDS-ON SESSION ON LOOPING AND FUNCTIONS

 OUTCOMES: After completion of the workshop, students gained basic knowledge and basic training in Python language to build basic programs.