

**A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)**

**Affiliated to Adikavi Nannaya University**

**Jagannaickpur, Kakinada.**

**DEPARTMENT OF COMPUTER SCIENCE**



**CERTIFICATE COURSE**

**on**

**PROBLEM SOLVING WITH EXCEL**

**2023-2024**

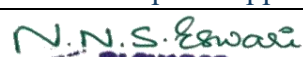
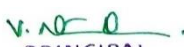
# A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

Affiliated to Adikavi Nannaya University

Jagannaickpur, Kakinada.

## DEPARTMENT OF COMPUTER SCIENCE

### Activity Register 2023-2024

<b>Date</b>	11-03-2024 to 30-04-2024
<b>Conducted through (DRC/JKC/ELF/NCC/NSS/Department etc.,)</b>	Department of Computer Science
<b>Nature of Activity (seminar/workshop/exten Lecture etc)</b>	Certificate Course
<b>Title of the Activity</b>	Problem Solving with Excel
<b>Name of the Department/ Committee</b>	Department of Computer Science
<b>Details of Resource persons ( Name, Designation etc.,)</b>	N.Naga Subrahmanyeswari M.Tech., Lecturer in Computer Science K.Surya Lakshmi Lecturer in Computer Science P.S.V.D. Ballamamba Lecturer in Computer Applications
<b>No. of students participated</b>	24
<b>Brief Report on the activity</b>	To get the students acquainted with the Programming Languages and Programming Constructs.
<b>Name of the Lecturers who planned &amp; conducted the activity</b>	N.Naga Subrahmanyeswari M.Tech., in Computer Science K.Surya Lakshmi Lecturer in Computer Science P.S.V.D. Ballamamba Lecturer in Computer Applications
<b>Signature of the Department In-charge/ Convener of the Committee</b>	 IN-CHARGE DEPT OF COMPUTER SCIENCE A.S.D GOVT DEGREE COLLEGE (W/AUTONOMOUS) KAKINADA
<b>Signature of the Principal</b>	 PRINCIPAL A.S.D.GOV.T.DEGREE COLLEGE (W/A) AUTONOMOUS KAKINADA
<b>Remarks</b>	

# **PERMISSION LETTER**

Kakinada,

Date: 04-03-2024.

To,

Dr. V.Anantha Lakshmi,  
Principal,  
A.S.D. Govt. Degree College for Women (A),  
Kakinada.

From,

N.N.Subrahmanyeswari,  
Incharge of Department of Computer Science,  
A.S.D. Govt. Degree College for Women (A),  
Kakinada.

**Sub:** Request to conduct the Certificate Course on “*Problem Solving with Excel*” for I,II and III  
Year Students for all groups from 11-03-2024 to 30-04-2024 -Reg.

Respected Madam,

The Department of Computer Science wishes to organize the Certificate course on “*Problem Solving with Excel*” with a duration of 45 days from 11-03-2024 to 30-04-2024 I,II and III Year students for all groups in our college . This course aims to make the students to get acquainted with the foundation skills and logic for communicating with programming languages. Please consider the request to conduct the Certificate course for the students.

Thanking you, Madam.

Yours faithfully,

N.N.S. Eswari  
INCHARGE  
DEPT. OF COMPUTER SCIENCE  
ASD GOVT DEGREE COLLEGE (W) AUTONOMOUS  
KAKINADA

**CIRCULAR**

# A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

Affiliated to Adikavi Nannaya University

Jagannaickpur, Kakinada.

## DEPARTMENT OF COMPUTER SCIENCE

### CIRCULAR



Date: 05-03-2024

The Department of Computer Science wishes to organize the Certificate Course on “*Problem Solving with Excel*” with the duration from 11-03-2024 to 30-04-2024 for all I,II and III Year students to enhance their Computer Skills.

#### Note:

- Interested students can give their names to Ms. R.Veera Veni, Programmer, Department of Computer Science and Computer Applications on or before 08-03-2024.
- Timings : 3.00 PM to 4.00 PM

N.N.S. Eswari  
IN CHARGE  
DEPT OF COMPUTER SCIENCE  
A.S.D.GOV'T DEGREE COLLEGE (W/AUTONOMOUS)  
KAKINADA

In-charge of the Department

V. R. O.  
PRINCIPAL  
A.S.D.GOV'T DEGREE COLLEGE (W/AUTONOMOUS)  
KAKINADA  
Principal

# **BROCHURE**



**A.S.D GOVERNMENT DEGREE COLLEGE  
FOR WOMEN(A)**

NAAC Re-Accredited With "B" Grade in Cycle-III  
Affiliated to Adikavi Nannaya University, Rajamahendravaram  
Kakinada-533 002, Andhra Pradesh



**DEPARTMENT OF COMPUTER SCIENCE**

**A Certificate Course  
on  
Problem Solving with Excel**

**Courses Objectives:**

- To create and work with Excel Sheet.
- To import data into Excel and export data from Excel.
- To create Spread Sheets, charts and Presentations.
- To perform calculations using formulas and functions.

**COURSE FEE  
RS. 300/-**

<b>COURSE DURATION</b>
11-03-2024 TO 30-04-2024

**Timings: 3.00 PM to 4.00PM , Venue Computer Lab - II**

**Contact:**

**N.Naga Subrahmanyeswari**

Lecture in computer Science



# **A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)**

**Affiliated to Adikavi Nannaya University  
Jagannaickpur, Kakinada.**

## **DEPARTMENT OF COMPUTER SCIENCE**

### **Certificate Course**

**on**

### **“Problem Solving with Excel”**

**Course Duration: 45 Hours**

**Eligibility:** Any I / II / III Year B.Sc. / B.Com. / B.A. students.

**Students Intake: 24**

#### **Course Objectives:**

- To help students to become competent and confident users of Computers.
- To enable the students utilize the basic knowledge and skills acquired which assists them in their daily lives.
- To prepare students ready for the Digital world.

#### **Course Outcomes:**

After the completion of the course, the student will able to

CO1: Acquire the knowledge on basic computer terminology

CO2: Efficiently learn and use MS-EXcel

CO3: Work with MS-Excel and its applications

CO4: Format, organize and calculate data in a spreadsheet

CO5: Protect data in worksheets and workbooks and create simple PivotTable reports

#### **Evaluation Process:**

Assessment will be done based on the Periodical Assignments given during the course which is evaluated to 10 marks for CIA and a Final Assessment will be done by conducting an Examination for 40 Marks at the end of the course through Examination Cell of the College.

# Syllabus

## Module 1 (10 Hours)

**Fundamentals of Computer:** Introduction to Computers, Characteristics of Computers and Limitations of Computers, Block Diagram of Computer, Architecture of Computer, Types of Computers, Input and output devices, Memories, Types of Memories, Types of Software, Programming Languages and its types, Operating Systems and its types.

## Module 2 (20 Hours)

**MS- Excel:** Introduction, Features of Ms-Excel & Parts of MS-Excel window, Entering and editing data in worksheet, Workbook – Cell - Parts of a window-Saving, Closing, Opening of a Work Book – Editing – Advantages – Create Worksheets and workbooks, Import data from a delimited text file, Add a worksheet to an existing workbook, Copy and move a worksheet

Types of Functions - Formulas and Functions, Formatting options, Data Filtering, Perform Conditional Operations by using Functions, Format and Modify Text by using Functions, Summarize Data by using Functions

## Module 3 (15 Hours)

Apply Custom Data Formats and Validation, Apply Advanced Conditional Formatting and Filtering, Create and Modify Custom Workbook Elements, Create and modify simple macros, Insert and configure form controls

**Create Charts:** Create a new chart, Add additional data series, Switch between rows and columns in source data, Analyze data by using Quick Analysis, Format Charts, Resize charts, Add and modify chart elements, Apply chart layouts and styles, Move charts to a chart sheet.

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## **DEPARTMENT OF COMPUTER SCIENCE**

### **CERTIFICATE COURSE**

**on**

**“Problem Solving with Excel”**

**BLUE PRINT**

<b>S.No</b>	<b>Unit</b>	<b>Sec-A Questions 2 marks</b>	<b>Sec-B Questions 5 marks</b>	<b>Marks Allotted</b>
<b>1</b>	<b>Unit – I</b>	<b>4</b>	<b>2</b>	<b>18</b>
<b>2</b>	<b>Unit – II</b>	<b>4</b>	<b>2</b>	<b>18</b>
<b>3</b>	<b>Unit – III</b>	<b>2</b>	<b>2</b>	<b>14</b>
<b>Total Marks</b>				<b>50</b>

# **A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)**

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Jagannaickpur, Kakinada.**

## **DEPARTMENT OF COMPUTER SCIENCE**

### **MODEL QUESTION PAPER**

### **CERTIFICATE COURSE**

**on**

### **“Problem Solving with Excel”**

**Time: 2 Hrs**

**Max. Marks: 40**

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#### **SECTION-A**

**I. Answer any TEN of the following questions.**

**10 x 2 = 20**

1. Define Computer.
2. List the input devices.
3. What is the function of CPU?
4. List the types of memories.
5. Give the features of MS-Excel.
6. What are the parts of Excel Worksheet?
7. What is meant by Cell?
8. How to copy and move the sheets in Excel Workbook?
9. What is meant by Filtering?
10. Define Macro.
11. How to format the data in Excel Workbook?
12. List the steps used to create a Chart.

#### **SECTION-B**

**II. Answer any FOUR questions.**

**4 x 5 = 20**

13. Explain about the architecture of a Computer with block diagram.
14. Discuss about types of Computers.
15. Give the procedure to perform operations on Worksheet in Ms-Excel.
16. Explain different functions in Ms-Excel.
17. Discuss about different types of Charts in Excel.
18. Explain working with Macros.

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## DEPARTMENT OF COMPUTER SCIENCE

CERTIFICATE COURSE on “Problem Solving with Excel”

2023 - 2024

### Signature Sheet

S.no.	Name of the Student	Group	Signature
1	ALAPATI MANASA	I B.Sc.(Maths Honors)	A. Manasa
2	BADE LAKSHMI	I B.Sc.(Maths Honors)	B. Lakshmi
3	GANGIRI SATYA	I B.Sc.(Maths Honors)	G. Satya
4	MANUGULA GANGA BHAVANI	I B.Sc.(Maths Honors)	M. G. Bhavani
5	MIDIYAM KAVYA	I B.Sc.(Maths Honors)	M. kavya
6	MUMMIDI RAMYA	I B.Sc.(Maths Honors)	M. Ramya
7	PINAPOTHU BHASKARA LAKSHMI	I B.Sc.(Maths Honors)	P. B. Lakshmi
8	YELAMANCHILI MALASRI	I B.Sc.(Maths Honors)	Y. Malasri
9	DOMMA BHAGYA LAKSHMI	I B.Sc.(Maths Honors)	D. B. Lakshmi
10	KAMADI HARSHITHA	I B.Sc.(Maths Honors)	K. Harshitha
11	KARRI YASASWINI	I B.Sc.(Maths Honors)	K. Yasaswini
12	MADIREDDY RAMA KEERTHI	I B.Sc.(Maths Honors)	M. Rama keerthi
13	BALLA MADHU SHALINI	I B.Sc.(Maths Honors)	B. M. Shalini
14	CHELLURU SAILAJA	I B.Sc.(Maths Honors)	Ch. Sailaja
15	GULAMALA DURGA DEVI	I B.Sc.(Maths Honors)	G. Durgadevi
16	KONALA SUSHMA	I B.Sc.(Maths Honors)	K. Sushma
17	GANDI SAI SIRISHA	I B.Sc.(Maths Honors)	G. S. Sirisha
18	REKADI KALYANI	I B.Sc. (Physics Honors)	R. Kalyani
19	JAGARAPU VARAHALA JAYALAKSHMI	I B.Sc. (Physics Honors)	J. V. Jayalakshmi
20	VATHADA NANDINI PRAVALLIKA	I B.Sc. (Physics Honors)	V. N. Pravallika
21	BADDI SIVA JYOTHI	I B.Sc. (Physics Honors)	B. Sivajyothi
22	CHEKKA MALLISWARI	I B.Sc. (Physics Honors)	Ch. Malliswari
23	VASAMSETTI NAVYASRI	I B.Sc. (Physics Honors)	V. Navyasri
24	YARAMNUDI DURGA DEVI	I B.Sc. (Chemistry Honors)	Y. Durgadevi

N. N. S. Eswari  
IN CHARGE  
DEPT OF COMPUTER SCIENCE  
A.S.D.GOV'T DEGREE COLLEGE FOR WOMEN  
KAKINADA

# ATTENDANCE



**A.S.D.GOV'T DEGREE COLLEGE FOR WOMEN (A)**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**CERTIFICATE COURSE ON "Problem Solving with Excel"**  
 Duration: 45 Days (11-03-2024 to 30-04-2024)

S.N O	Reg.No	NAME	19-03-24	20-03-24	21-03-24	22-03-24	23-03-24	26-03-24	27-03-24	28-03-24	30-03-24
1	2371001	Alapati Manasa	P	P	P	PP	P	P	P	P	P
2	2371002	Bade Lakshmi	P	P	P	PP	P	P	P	P	P
3	2371003	Gangiri Satya	P	P	P	PP	P	P	P	P	A
4	2371004	Manugula Ganga Bhavani	P	P	P	PP	P	P	P	P	P
5	2371005	Midiyam Kavya	P	P	P	AA	P	P	P	P	P
6	2371006	Mummidi Ramya	P	P	P	PP	P	P	P	P	P
7	2371007	Pinapothu Bhaskara Lakshmi	P	P	P	PP	P	P	P	P	P
8	2371008	Yelamanchili Malasri	P	P	A	PP	P	P	P	P	P
9	2371011	Domma Bhagya Lakshmi	P	P	P	PP	P	P	P	P	P
10	2371013	Kamadi Harshitha	P	P	P	PP	P	P	P	P	P
11	2371014	Karri Yasaswini	P	A	P	PP	P	A	P	P	P
12	2371015	Madireddy Rama Keerthi	P	P	P	PP	P	P	P	P	P
13	2371017	Balla Madhu Shalini	P	P	P	PP	P	P	P	P	P
14	2371018	Chelluru Sailaja	P	P	P	PP	P	P	P	A	P
15	2371021	Gulamala Durga Devi	P	P	P	PP	P	P	P	P	P
16	2371024	Konala Sushma	P	P	P	PP	A	P	P	P	P
17	2372002	Gandi Sai Sirisha	A	P	P	PP	P	P	A	P	P
18	2372004	Rekadi Kalyani	P	P	P	PP	P	P	P	P	P
19	2372007	Jagarapu Varahala Jayalakshmi	P	P	P	PP	P	P	P	P	P
20	2372009	Vathada Nandini Pravallika	P	P	P	PP	P	P	P	P	P
21	2373001	Baddi Siva Jyothi	P	P	P	PP	P	P	P	P	P
22	2373005	Chekka Malliswari	P	P	P	PP	P	P	P	P	P
23	2373007	Vasamsetti Navyasri	P	P	P	PP	P	P	P	P	P
24	2373010	Yaramnudi Durga Devi	P	P	P	PP	P	P	P	P	P







**A.S.D.GOV'T DEGREE COLLEGE FOR WOMEN (A)**  
**DEPARTMENT OF COMPUTER SCIENCE**

**CERTIFICATE COURSE ON "Problem Solving with Excel"**

Duration: 45 Days (11-03-2024 to 30-04-2024)

S.N O	Reg.No	NAME	23-04-24		24-04-24	25-04-24	26-04-24	27-04-24	29-04-24	30-04-24
1	2371001	Alapati Manasa	P	P	P	P	P	P	P	P
2	2371002	Bade Lakshmi	P	P	P	P	P	P	P	P
3	2371003	Gangiri Satya	P	P	P	P	P	P	P	P
4	2371004	Manugula Ganga Bhavani	A	A	P	P	P	P	P	P
5	2371005	Midiyam Kavya	P	P	P	P	P	P	P	P
6	2371006	Mummidi Ramya	P	P	P	P	P	P	P	P
7	2371007	Pinapothu Bhaskara Lakshmi	P	P	P	P	P	P	P	P
8	2371008	Yelamanchili Malasri	P	P	A	P	P	P	P	P
9	2371011	Domma Bhagya Lakshmi	P	P	P	P	P	P	A	P
10	2371013	Kamadi Harshitha	P	P	P	P	P	P	P	P
11	2371014	Karri Yaraswini	P	P	P	P	P	P	P	P
12	2371015	Madireddy Rama Keerthi	P	P	P	A	P	P	P	P
13	2371017	Balla Madhu Shalini	P	P	P	P	P	P	P	P
14	2371018	Chelluru Sailaja	P	P	P	P	P	P	P	P
15	2371021	Gulamala Durga Devi	P	P	P	P	P	A	P	P
16	2371024	Konala Sushma	P	P	P	P	P	P	P	P
17	2372002	Gandi Sai Sirisha	P	P	P	P	P	P	P	P
18	2372004	Rekadi Kalyani	P	P	P	P	P	P	P	P
19	2372007	Jagarapu Varahala Jayalakshmi	P	P	P	P	A	P	P	A
20	2372009	Vathada Nandini Pravallika	P	P	P	P	P	P	P	P
21	2373001	Baddi Siva Jyothi	P	P	P	P	P	P	P	P
22	2373005	Chekkala Malliswari	P	P	P	P	P	P	P	P
23	2373007	Vasamsetti Navyasri	P	P	P	P	P	P	P	P
24	2373010	Yaramnudi Durga Devi	P	P	P	P	P	P	P	P

*N.N.S. Eswari*  
IN CHARGE  
DEPT. OF COMPUTER SCIENCE  
A.S.D.GOV'T DEGREE COLLEGE (WOMEN) AUTONOMOUS  
KAKINADA

# **COURSE MATERIAL**

# Problem Solving with Excel

## 1.1 Introduction to Computers

Definition of a Computer:

**A computer is an electronic device that manipulates information, or data. It has the ability to store, retrieve, and process data. You may already know that you can use a computer to type documents, send email, play games, and browse the Web. You can also use it to edit or create spreadsheets, presentations, and even videos. The basic parts of a desktop computer are the computer case, monitor, keyboard, mouse, and power cord. Each part plays an important role whenever we use a computer.**

## 1.2 Characteristics and Limitations of Computer

**Characteristics:**

### **Speed**

Speed means the duration computer system requires in fulfilling a task or completing an activity. It is well-known that computers need very little time than humans in completing a task. Generally, humans take into account a second or minute as a unit of time.

### **Accuracy**

Accuracy means the level of precision with which calculations are made and tasks are performed. One may invest years of his life in detecting errors in computer calculations or updating a wrong record.

### **Reliability**

Reliability is the quality due to which the user can stay dependable on the computer. Computers systems are well-adjusted to do repetitive tasks.

### **Adaptability**

Adaptability of computer system means the quality of it to complete a different type of tasks: simple as well as complex.

### **Storage**

Storage is the ability of the computer to store data in itself for accessing it again in future. Nowadays, apart from having instantaneous access to data, computers have a huge ability to store data in a little physical space.

### **Limitations of Computer Systems**

Limitations are the drawbacks of the computer system in which humans outperform them.

#### **Lack of common-sense**

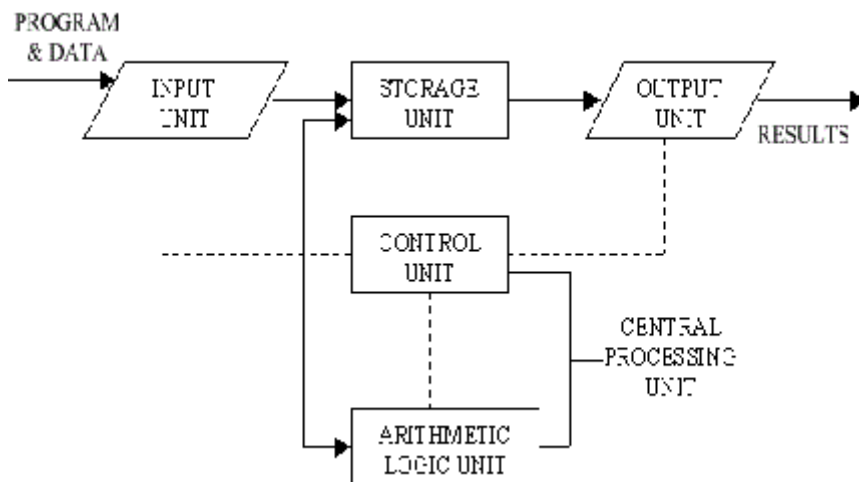
This is one of the major limitations of computer systems. No matter how efficient, fast and reliable computer systems might be but yet do not have any common sense because no full-proof algorithm has been designed to programme logic into them. As computers function based on the stored programme(s), they simply lack

of the limitations of computer systems is that they have zero Intelligence Quotient (IQ).

#### **Lack of Decision-making**

Decision-making is a complicated process involving information, knowledge, intelligence, wisdom, and ability to judge. The computer system does not have the ability to make decisions on their own because they do not possess all the essentials of decision-making.

### 1.3 Block Diagram of a Computer



### 1.4 Architecture of a Computer

**1. Input:** This is the process of entering data and programs in to the computer system. You should know that computer is an electronic machine like any other machine which takes as inputs raw data and performs some processing giving out processed data. Therefore, the input unit takes data from us to the computer in an organized manner for processing.

**2. Storage:** The process of saving data and instructions permanently is known as storage. Data has to be fed into the system before the actual processing starts. It is because the processing speed of Central Processing Unit (CPU) is so fast that the data has to be provided to CPU with the same speed. Therefore the data is first stored in the storage unit for faster access and processing. This storage unit or the primary storage of the computer system is designed to do the above functionality. It provides space for storing data and instructions.

The storage unit performs the following major functions:

All data and instructions are stored here before and after processing.

- Intermediate results of processing are also stored here.

**Processing:** The task of performing operations like arithmetic and logical operations is called processing. The Central Processing Unit (CPU) takes data and instructions from the storage unit and makes all sorts of calculations based on the instructions given and the type of data provided. It is then sent back to the storage unit.

**Control:** The manner how instructions are executed and the above operations are performed. Controlling of all operations like input, processing and output are performed by control unit. It takes care of step by step processing of all operations inside the computer. **Output:** This is the process of producing results from the data for getting useful information. Similarly the output produced by the computer after processing must also be kept somewhere inside the computer before being given to you in human readable form. Again the output is also stored inside the computer for further processing.

## **Arithmetic Logical Unit (ALU)**

**Logical Unit** :After you enter data through the input device it is stored in the primary storage unit. The actual processing of the data and instruction are performed by Arithmetic Logical Unit. The major operations performed by the ALU are addition, subtraction, multiplication, division, logic and comparison. Data is transferred to ALU from storage unit when required. After processing the output is returned back to storage unit for further processing or getting stored.

## **Control Unit (CU)**

The next component of computer is the Control Unit, which acts like the supervisor seeing that things are done in proper fashion. Control Unit is responsible for co ordinating various operations using time signal. The control unit determines the sequence in which computer programs and instructions are executed. Things like processing of programs stored in the main memory, interpretation of the instructions and issuing of signals for other units of the computer to execute them. It also acts as a switch board operator when several users access the computer simultaneously. Thereby it coordinates the activities of computer's peripheral equipment as they perform the input and output.

## **Central Processing Unit (CPU)**

The ALU and the CU of a computer system are jointly known as the central processing unit. You may call CPU as the brain of any computer system. It is just like brain that takes all major decisions, makes all sorts of calculations and directs different parts of the computer functions by activating and controlling the operations.

## **1.5 Types of Computers**

### **Personal Computer:**

A single person defines the personal computer, or PC, as any computer designed for general use by one person. While a Mac is a PC, most people relate the term with computers that run the Windows operating system. PCs were first known as microcomputers because they were a complete computer but built on a smaller scale than the huge systems in use by most businesses. Personal computers come in many forms, including the new Apple iPad.

### **Desktop PC:**

that is not designed for portability is a desktop computer. The expectation with desktop systems is that you will set the computer up in a permanent location, like a desk or table. Most desktops offer more power, storage and versatility for less cost than their portable brethren.

### **Laptop:**

Also called notebooks, laptops are portable computers that mix the display, keyboard, a pointing device or trackball, processor, memory and hard drive all in a battery-operated package slightly larger than an average hardcover book. On the left is a picture of Apple CEO Steve Jobs holding up the MacBook Pro Air.

### **Tablet Computers:**

Tablet Computers are ultra--portable computers that are even smaller than traditional laptops. Their low cost means they're cheaper than almost any brand--new laptop you'll find at retail outlets. However, the internal components are less powerful than those in regular laptops. Recent improvements to tablet computers have allowed users to view HD video, get high quality sound, great photo capabilities, and the ability to share information, photos, and videos with anyone.

## 2. MICROSOFT EXCEL

### 2.1 Introduction

Microsoft Excel is one of the most popular spreadsheet applications that helps you manage data, create visually persuasive charts, and thought-provoking graphs. Excel is supported by both Mac and PC platforms. Microsoft Excel can also be used to balance a checkbook, create an expense report, build formulas, and edit them. Opening Microsoft Excel To begin Microsoft Excel, Go to Applications > Microsoft Excel (Figure 1). When opened a Dialogue box on the screen, showing you a few templates and blank excel sheets , if this does not happen click File > New Workbook

**Saving Your Document:** Computers crash and documents are lost all the time, so it is best to save often. Saving Initially Before you begin you should save your document. To do this, go to File > Save As. Microsoft Excel will open a dialog box where you can specify the new file's name , location of where you want it saved, and format of the document. Once you have specified a name, place, and format for your new file, press the Save button.

**Saving Later:** After you have initially saved your blank document under a new name, you can begin your project. However, you will still want to periodically save your work as insurance against a computer freeze or a power outage. To save, click File > Save

### 2.2 Features of MS-Excel & Parts of MS-Excel window

1. Painless file sharing option
2. Integrated data model support
3. Complete cloud file support
4. Office Add-ins
5. Recommended charts
6. Recommended Pivot Tables
7. Quick Analysis tools
8. Pivot table filtering with slicers and timelines
9. Six new functions
10. Two new data types

#### 1. Graphical Features of Excel

Excel offers a lot of graphical features for presenting data in graphs and pictures:

- **Charts:** Charts can be used to represent the data in richly detailed graphical format.
- **SmartArts:** We can utilize SmartArts to express information by aligning data in creative ways graphically.
- **Clip Arts:** We can include ready-to-use clip arts to convey our message in a visual format.
- **Shapes:** We can use a variety of shapes to depict data in infographics and shapes. With the help of the free form features we can draw any shape.
- **Pictures:** Any image can be inserted to enhance the objects. For example, backgrounds of Worksheets, shapes, and charts.

#### 2. Functional Features of Excel

Excel Tools and Features assist us in performing complex calculations and enhancing the Excel application's features.

- **Functions:** - In Excel Cells, more than 300 built-in formulas are available (Text, Date, Maths, String, etc.), which may be used to execute multiple computations.
- **Hyperlinks:** - We use hyperlinks in Excel to navigate the different parts of the workbook fast.
- **Spellcheck:** - We can avoid grammatical and spelling errors in the data by using the built-in spell check feature.
- **Add-ins:** - We may develop Excel Add-ins using VBA or.NET to progress the functionality of the

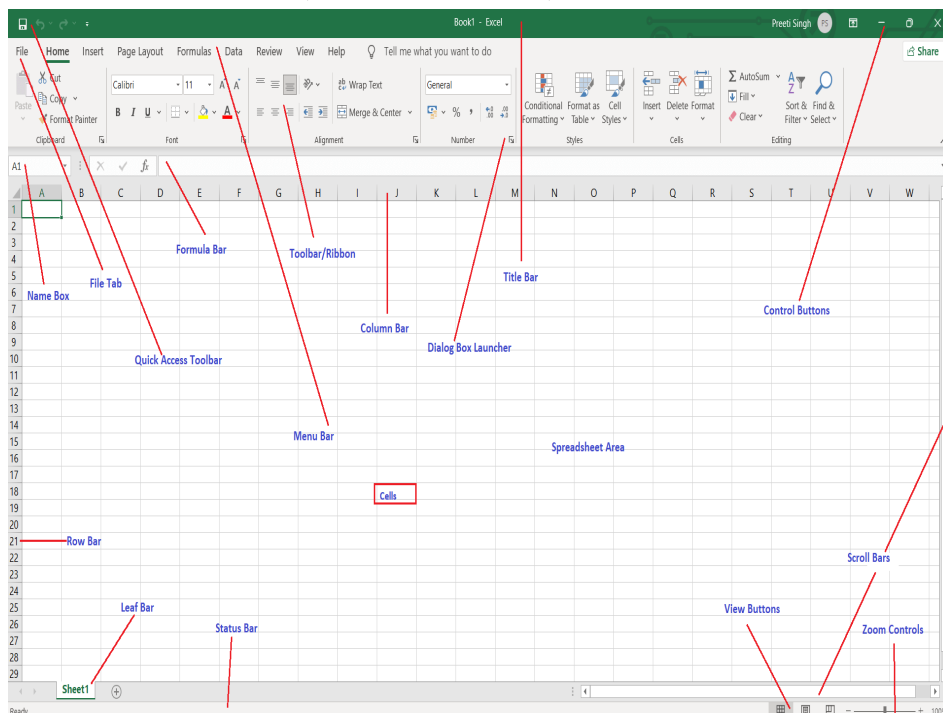


spreadsheet.

- **VBA Macros:** - VBA programming is included in Excel. The Macros Functionality can be used to automate repetitive operations.
- **Protection:** - Workbook, Worksheet, and VBA Protection options are available in Excel.
- **Conditional Format:** - We can format the data based on the specific criteria. This aids in highlighting the crucial data range.
- Excel offers a wide range of add-ins for data analysis and ETL.
- **Database Feature of Excel**
- Excel may be used to create databases and carry out a variety of data processing operations.
- **PivotTables:** Summarize data can be used to create an effective cross table.
- **Tables:** We can group the rows and columns using parent and child records. This will make it easier to conduct additional research rapidly.
- **Grouping:** With parent and child records, we can group the rows and columns.
- **Sorting:** In Excel, we can sort the data. We can sort the data in Ascending or Descending order with one or more than one column.
- **Filtering:** The data can be filtered in Excel. In order to filter with essential options, we can set a variety of the option. In Excel, there is an option of Advanced Filtering, which allows us to perform more complex filters.
- **Sparklines:** Excel 2010 introduced the ability to insert light- weight charts into cells.
- **Database:** To install 1 million records, we can utilize Excel as a database. We have the ability to connect to a variety of databases and import data into Excel.
- **Data Validations:** We can use the Data validation functionality to restrict the types of data that can be entered into a cell. We can also provide a drop-down menu where we can choose from a pre-defined list of options.
- **Slicers:** - In Excel 2010, Slicers were added, which allow us to connect several pivot tables and filter data using buttons.

## Parts of a Excel Worksheet:

Some parts of the Excel window (such as Ribbon and scroll bars) are standard in most other Microsoft programs. However, other features are more specific to spreadsheets, like the formula bar, worksheet tabs, and name box.



## **The following are the basic parts of the Microsoft Excel Window:**

The following are the basic parts of the Microsoft Excel Window:

- Quick Access Toolbar
- File Tab
- Title Bar
- Control Buttons
- Menu Bar
- Ribbon/Toolbar
- Dialog Box Launcher
- Name Box
- Formula Bar
- Scroll Bars
- Spreadsheet Area
- Leaf Bar
- Column Bar
- Row Bar Cells
- Cells
- Status Bar
- View Buttons
- Zoom control

## **Copy and move the sheets in Excel workbook.**

- Step 1: First, right-click on the sheet tab. Next, click on the Move or Copy option from the drop-down list.
- Step 2: The Move or Copy dialog box opens.
- Step 3: Under Before Sheet section, select (move to end) option to copy or move the sheet (Data 1) at the end.

Next, select Create a copy and click OK.

## **Filtering in Excel:**

A filter in Excel is a function that allows you to sort data within a file. A filter takes the data from a range of cells and outputs an array of data that matches the applied filter. Filters are an automated process that can refine a list, table or spreadsheet based on single or multiple criteria.

The Filter button is located in the ribbon. You can find the Filter command –



## **2.3 Entering and editing data in worksheet**

On the active worksheet, select the cell or range in which you want to edit existing or enter new data. In the active cell, type new data or edit the existing data, and then press Enter or Tab to move the selection to the next cell. The changes are applied to all the worksheets that you selected.

## Advantages of MS Excel

Because it is simple to preserve data and add and remove information both easily and quickly, MS Excel is used for a variety of functions.

### **Using MS Excel has several significant benefits, including:**

**1. Easy data input:** MS Excel is frequently used for data entry or analysis since there is no limit to the quantity of information that can be saved in a spreadsheet, making it simple to enter as much data as you wish. In Excel, filtering data is simple and highly useful.

**2. Data retrieval is easier:** Finding information printed on paper may take longer; however, this is not the case with an Excel spreadsheet. Data can be located and retrieved with ease.

**3. Mathematical formulae that are Simple to Use:** MS Excel's formula feature has made calculations simpler and faster.

**4. More reliable:** These spreadsheets, which may be password-protected on a laptop or desktop computer, are significantly less likely to be lost than records or pieces of paper with data that have been written down.

**5. One location for all data:** When the paperwork was completed in the past, data was housed in separate files and registers. Now that several worksheets may be added to a single MS Excel file, it has become more practical.

### Create a Worksheet in Excel

MS Excel or Microsoft Excel is one of Microsoft's most powerful spreadsheet software. It comes with a distinct range of built-in features and functions to help us record large amounts of data in a worksheet. By default, whenever we create a new workbook in Excel, we get three worksheets, namely Sheet 1, Sheet 2, and Sheet 3. However, there may be cases when we may need one or more additional worksheets to record our data. Excel also provides such a useful option or feature to the users.

This article discusses various step-by-step tutorials on creating a worksheet in Excel. Before discussing the process of creating a worksheet in Excel, let us briefly discuss the Introduction to Excel worksheet.

### Creating a new Workbook

Follow these steps to create a new Blank workbook, giving a name to it & saving it:

**Step 1:** Click on the Microsoft Office button on the top-left corner.

**Step 2:** Then click on New.

**Step 3:** A dialog box for New Workbook will pop up. Click on blank Document & then on Create tab.

A new blank workbook is created & it appears on your screen.

**Note:** MS Excel automatically opens a new Workbook for you when you open Excel in your system.

### **Charts in MS Excel**

There is a list of basic and advanced level of charts used for different purposes to interpret the data.

1. Column Chart
2. Line Chart
3. Bar Chart
4. Area chart
5. Pie chart or Doughnut chart
6. Surface chart

These are the most used charts of Excel that an Excel user usually requires.

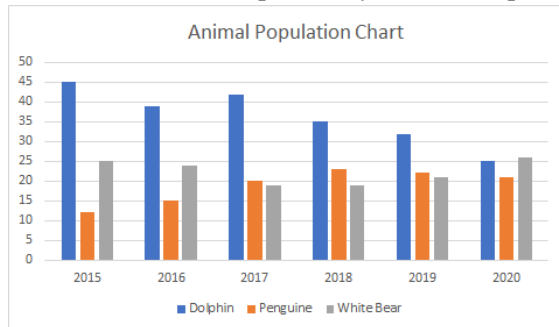
Microsoft Excel introduce one more new chart called Treemap chart for 2016 and newer version. It has come with some advanced features and representation styles.

We will illustrate each chart and its functionality with an example in this chapter. Learn carefully and use them accordingly.

## Column Charts

A column chart is basically a vertical chart that is used to represent the data in vertical bars. It works efficiently with different types of data, but it is usually used for comparing the information.

For example, a company wants to see each month sell graphically and also wants to compare them. Column charts are best for it that help to analyze and compare each month's data with each other.

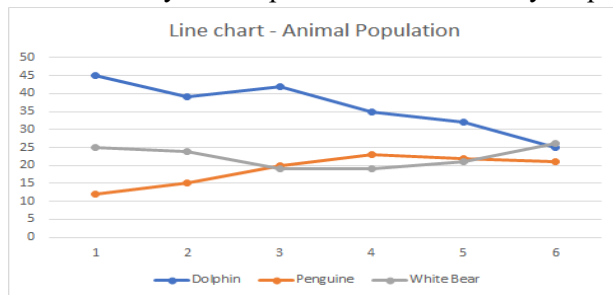


Excel offers 2D and 3D column charts.

## Line Chart

Line charts are most useful for showing trends. Using this chart, you can easily analyze the ups and downs in your data over time. In this chart, data points are connected with lines.

For example, a company wants to analyze the sell of products for the last five years graphically. Additionally, it also wants to analyze the ups and downs of each year product sell.

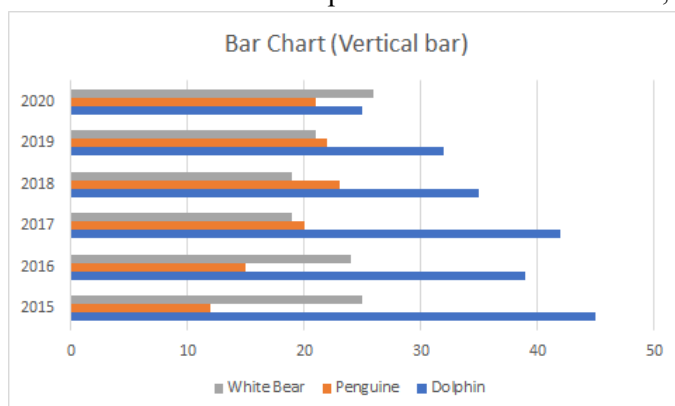


Excel offers 2D and 3D line charts.

## Bar chart

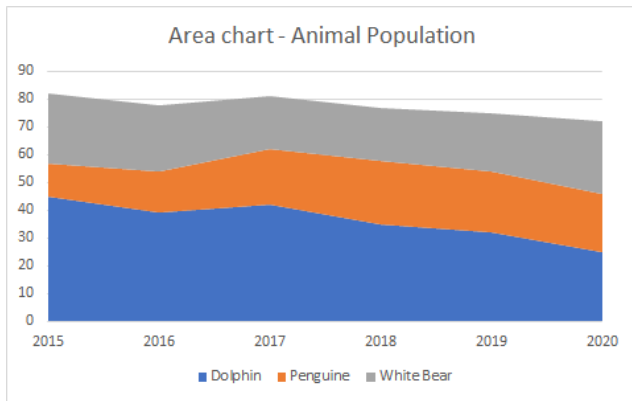
Bar charts are horizontal bars that work like column charts. Unlike column charts, Bar charts are horizontally plotted. Or you can say that bar charts and column charts are just opposite to each other.

For example, a company uses the bar chart to analyze the data through vertical bars to represent the data graphically. You can see as well as compare the values to each other, respective to data.



## Area chart

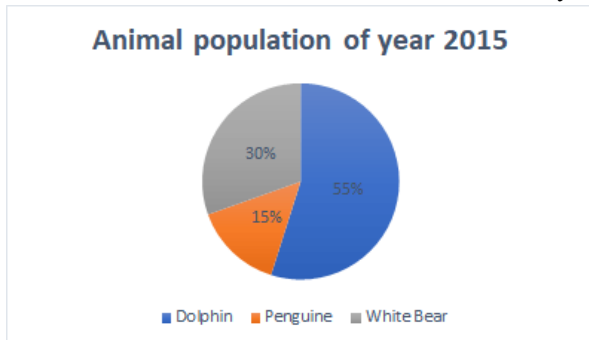
Area charts are just like line charts. Unlike the line charts, gaps are filled with color in area charts. Area charts are easy to analyze the growth in business as its shows ups and downs through line.



Similar to the line charts, data points in area charts are connected with lines.

### Pie chart

A pie chart is a rounded shape graph that is divided into slices of pie. Using this chart, you can easily analyze data that is divided into slices. It makes the data easy to compare the proportion.



Pie charts make it easy to analyze which values make up the percentage of whole. Pie chart is also known as Doughnut chart. Excel offers 2D and 3D pie charts.

### Surface chart

Surface chart is actually a 3D chart that helps to represent the data into a 3D landscape. These charts are best to use with a large dataset. This chart allows to displaying a variety of data at the same time.

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IN CHARGE  
DEPT OF COMPUTER SCIENCE  
ASDGOVT DEGREE COLLEGE (M/AUTONOMOUS)  
KAKINADA

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of

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**DR.V.ANANTHA LAKSHMI**  
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*G. Sai Sirisha*

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has completed a 45 - Day Certificate Course on

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*K. Sushma*

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has completed a 45 - Day Certificate Course on

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**N.N.SUBRAHMANYESWARI**  
Convener & In-Charge

*V. Anantha Lakshmi*

**DR.V.ANANTHA LAKSHMI**  
Principal

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has completed a 45 - Day Certificate Course on

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Principal

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ON

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*V. Navyasri*

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\_\_\_\_\_

**IB.SC.(CHEMISTRY) [HONORS]**

has completed a 45 - Day Certificate Course on

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*V. Anantha Lakshmi*

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Principal

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ON

**PROBLEM SOLVING WITH EXCEL**



This is to certify that Ms. \_\_\_\_\_ of

*Ch. Malliswari*

**IB.SC.(CHEMISTRY) [HONORS]**

has completed a 45 - Day Certificate Course on

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*V. Anantha Lakshmi*

**DR.V.ANANTHA LAKSHMI**  
Principal

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ON

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*B. Siva Jyothi*

**IB.SC.(CHEMISTRY) [HONORS]**

has completed a 45 - Day Certificate Course on

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Principal

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# CERTIFICATE COURSE

ON

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This is to certify that Ms. \_\_\_\_\_ of

*V. Mandini Pravallika*

**I B.SC.(PHYSICS) [HONORS]**

has completed a 45 - Day Certificate Course on

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Principal

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ON

**PROBLEM SOLVING WITH EXCEL**



*K. Yasaswini*

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**I B.SC. (MATHEMATICS) [HONORS]**

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*V. Anantha Lakshmi*

**DR.V.ANANTHA LAKSHMI**  
Principal

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ON

**PROBLEM SOLVING WITH EXCEL**



*M. Rama Keerthi*

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has completed a 45 - Day Certificate Course on

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Convener & In-Charge

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Principal



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ON

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*B. Madhu Shalini*

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*Ch. Sailaja*

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*G. Durga Devi*

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has completed a 45 - Day Certificate Course on

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Principal

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*M. Ramya*

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has completed a 45 - Day Certificate Course on

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**DR.V.ANANTHA LAKSHMI**  
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ON

**PROBLEM SOLVING WITH EXCEL**



This is to certify that Ms. \_\_\_\_\_ of

*P. Bhaskara Lakshmi*

\_\_\_\_\_

**I B.SC. (MATHEMATICS) [HONORS]**

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Convener & In-Charge

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**DR.V.ANANTHA LAKSHMI**  
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ON

**PROBLEM SOLVING WITH EXCEL**



*Y. Malasri*

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\_\_\_\_\_

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has completed a 45 - Day Certificate Course on

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Principal

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ON

**PROBLEM SOLVING WITH EXCEL**



This is to certify that Ms. \_\_\_\_\_

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Govt. Degree College for Women (Autonomous), Jagannaickpur, Kakinada, from 11 Mar 2024 to 30 April 2024.

*N.N.S. Eswari*

**N.N.SUBRAHMANYESWARI**  
Convener & In-Charge

*V. Anantha Lakshmi*

**DR.V.ANANTHA LAKSHMI**  
Principal

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Principal

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*V. Anantha Lakshmi*

**DR.V.ANANTHA LAKSHMI**  
Principal

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Convener & In-Charge

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**DR.V.ANANTHA LAKSHMI**  
Principal

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**N.N.SUBRAHMANYESWARI**  
Convener & In-Charge

*V. Anantha Lakshmi*

**DR.V.ANANTHA LAKSHMI**  
Principal

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**DR.V.ANANTHA LAKSHMI**  
Principal

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*J. Varahala Jayalakshmi*

**I B.SC.(PHYSICS) [HONORS]**

has completed a 45 - Day Certificate Course on

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