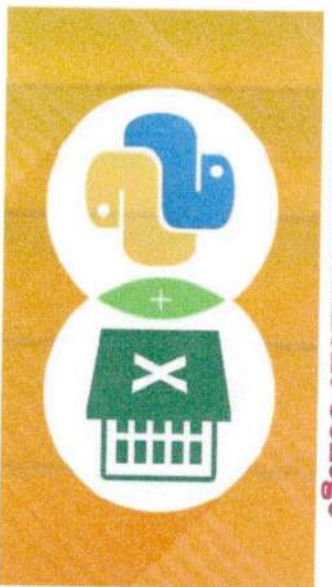




Organizes

VALUE ADDED COURSE
on
Statistical Computing
using Ms-Excel and
Python

Time schedule: May-July, 2023, Every
Tuesday, Wednesday and Friday 9:30 am to
10:30 am., 5:00 pm - 6:00 pm

Course duration: 38 hours (Including
lectures and practical)

About the course:

The Department of Statistics has offered this value-added course to the undergraduate students to provide theoretical knowledge as well as hands on experience to python programming and MS-Excel. Ms-Excel plays an important role not in day to day data handling but also different statistical analysis. The basic and advance knowledge of excel will help to cope with the present competitive scenario. The python programming language is an emerging field and its applicability is spreading hugely day by day. This course will enable the students to learn MS-Excel and python programming and apply them to different statistical methods.

Objectives:

- To aware the participants about basic of MS-excel toolbar, functions, graphs and charts.
- To provide knowledge about some advance excel techniques such as macro and solver.
- To provide knowledge about handling a dataset and some statistical computing using MS-excel
- To discuss the fundamental programming using python
- To demonstrate about real life data handling using python
- To explain some advance techniques such as python library and graphs
- To demonstrate some data analysis technique using python

Resource persons:

- Tanmay Kumar Maity, Department of Statistics, Haldia Govt. College
- Samit Ganguly, Department of Physics, Haldia Govt. College

Course Convener: Dr. Shyamsundar Sahoo,
Head, Department of Statistics, Haldia
Government College

Course Coordinator:

- Tanmay Kumar Maity, Department of Statistics, Haldia Govt. College
- Samit Ganguly, Department of Physics, Haldia Govt. College

Eligibility: Undergraduate students with basic knowledge in spreadsheet and programming.

Registration Details: Registration is mandatory for all participants. There is no registration fee for the course.

Interested participants may submit the hard copy of the filled registration forms to

*Tanmay Kumar Maity, Department of Statistics,
Haldia Govt. College*

Last date for enrolment: 5th May, 2023

Certificate will be given after

Completion of Course

Value Added Course

in

Statistical Computing using Ms-Excel and Python

Organized by

Department of Statistics

Haldia Government College

Contents

Total hours: 38 hrs

Module 1: Ms-Excel

23 hours

Unit 1: Ms-excel using toolbar

5 hrs

- Concept of spreadsheet, Data handling and cleaning using filtering, conditional formatting, merge and wrap, sort, text to columns, freeze panes, commenting, data validation, removing duplicates, grouping of data, pivot table
- Hands on session

Unit 2: Excel functions

5 hrs

- Statistical functions, logical functions, text functions, lookup and reference functions, date and time functions
- Hands on session

Unit 3: Graphs and Charts using excel

5 hrs

- Different types of excel charts such as line, bar, scatter, Pie, Box and Whiskers
- Some advanced chart using excel such as population pyramid, step diagram etc.
- Hands on session

Unit 4: Macro and solver

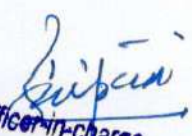
3 hrs

- Excel macro
- Excel solver
- Hands on session

Unit 5: Advance data analysis using excel

5 hrs

- Testing of hypothesis
- Random number generation
- Regression Analysis
- Analysis of variance
- Hands on session


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P.O. - Dohog, Dist. - Purba Medinipur

Module 2: Python

15 hours

Unit 1: Fundamentals of Python

4 hrs

- Introduction, Syntax, Variables, Data types, Strings, Lists, Tuples, Sets, Dictionaries, Conditional operators and loops, Arrays, Classes/ Objects, Python Functions
- Hands on session

Unit 2: File handling using Python

2 hrs

- Working with text files, excel files and csv files
- Hands on session

Unit 3: Python library

3 hrs

- Introduction, Different python libraries such as NumPy, Pandas and their uses
- Hands on session

Unit 4: Graphs using Matplotlib

2 hrs

- Introduction, Different statistical graphs
- Hands on session

Unit 5: Data analysis using Python

4 hrs

- Data summary, Data Distribution, Regression Analysis
- Hands on session

Reference/suggested material:

- Python Crash Course: A Hands-On, Project-Based Introduction to Programming (2nd Edition)
- Python Cookbook: Recipes for Mastering Python 3 (3rd Edition)
- Introduction to Machine Learning with Python: A Guide for Data Scientists (1st Edition)
- Microsoft Excel 2019 Bible: The Comprehensive Tutorial Resource
- Excel 2019 ALL-IN-ONE for Dummies
- Excel: Quickstart Guide from Beginner to Expert
- <https://www.excel-easy.com/>
- <https://www.w3schools.com/excel/index.php>

Report on Value Added Course organized by Department of Statistics, Haldia Government College (Session: 2022-23)

Name of the course:

Statistical Computing using Ms-Excel and Python

Duration:

38 hours

Resource persons:

- Tanmay Kumar Maity, Department of Statistics, Haldia Govt. College
- Samit Ganguly, Department of Physics, Haldia Govt. College

Organizing department:

Department of Statistics

Contents:

Total hours: 38 hrs

Module 1: Ms-Excel 23 hours

Unit 1: Ms-excel using toolbar

5 hrs

- Concept of spreadsheet, Data handling and cleaning using filtering, conditional formatting, merge and wrap, sort, text to columns, freeze panes, commenting, data validation, removing duplicates, grouping of data, pivot table
- Hands on session

Unit 2: Excel functions

5 hrs

- Statistical functions, logical functions, text functions, lookup and reference functions, date and time functions
- Hands on session

Unit 3: Graphs and Charts using excel

5 hrs

- Different types of excel charts such as line, bar, scatter, Pie, Box and Whiskers
- Some advanced chart using excel such as population pyramid, step diagram etc.
- Hands on session

Unit 4: Macro and solver 3 hrs

- Excel macro
- Excel solver
- Hands on session

Unit 5: Advance data analysis using excel

5 hrs

- Testing of hypothesis
- Random number generation
- Regression Analysis
- Analysis of variance
- Hands on session

Module 2: Python 15 hours

Unit 1: Fundamentals of Python

4 hrs

- Introduction, Syntax, Variables, Data types, Strings, Lists, Tuples, Sets, Dictionaries, Conditional operators and loops, Arrays, Classes/ Objects, Python Functions
- Hands on session

Unit 2: File handling using Python

2 hrs

- Working with text files, excel files and csv files
- Hands on session

Unit 3: Python library

3 hrs

- Introduction, Different python libraries such as NumPy, Pandas and their uses
- Hands on session

Unit 4: Graphs using Matplotlib

2 hrs

- Introduction, Different statistical graphs
- Hands on session

Unit 5: Data analysis using Python

4 hrs

- Data summary, Data Distribution, Regression Analysis
- Hands on session

Objectives:

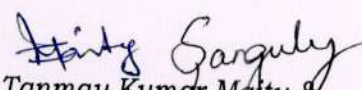
- To aware the participants about basic of MS-excel toolbar, functions, graphs and charts.
- To provide knowledge about some advance excel techniques such as macro and solver.
- To provide knowledge about handling a dataset and some statistical computing using MS-excel
- To discuss the fundamental programming using python
- To demonstrate about real life data handling using python
- To explain some advance techniques such as python library and graphs
- To demonstrate some data analysis technique using python

No of participants:

264

Course outcomes:

- The participants have gained knowledge about basic to advances features of MS-Excel. The hands on session helps the students to incorporate their theoretical knowledge in day to day data handling as well as analysing and presenting complex feature of a dataset
- The python programming enables the students to understand basic structures of any programming language. The hands on session helps the students to summarize a dataset using python programming.
- The knowledge of MS-excel and python will definitely help the students to cope with the present competitive scenario deals with big data analytics and machine learning.


Tanmay Kumar Maity &
Sami Ganguly
Course Coordinators


Dr. Pijush Kanti Tripathi
Officer-in-Charge
Officer-in-charge
Haldia Government College
P.O.-Debhog, Dist.- Purba Medinipur

Student Enrollment Form

Add-on/ Value Added Course

on

Statistical Computing using Ms-Excel and Python

Organized by:

Department of Statistics

Haldia Government College

Academic Session: 2022-23

1. Name (Block Letters):..... SNEHASHIS HALDER
2. College ID:..... HGC/STSH/20/032
3. University Registration No. with year:..... 1160497 (2020-2021)
4. Department:..... STATISTICS
5. Semester:..... 6
6. Address:..... Vill + PO: SURJANAGAR, KAKDWIP, SOUTH 24 PGS (WB)
7. Contact No. (Whatsapp No.):..... 7679908597
8. Email id:..... papai17102002@gmail.com

Snehashis Halder
Signature of the applicant

For Department Use Only

Approved / Not approved

Starkey Ganguly
Course Coordinator

Department of Statistics
Haldia Government College
Add-on/ Value Added Course

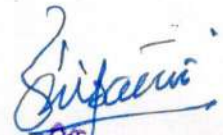
on

Statistical Computing using Ms-Excel and Python

Academic Session: 2022-23

List of Participants

Sl. No.	Name	Regn. No.	College ID	Signature
1	DEBJYOTI MUKHERJEE	VU211013423 of 2021-22	HGC/STSH/21/013	Debjyoti Mukherjee
2	DIPARNA SANTRA	VU211013427 of 2021-22	HGC/STSH/21/023	Diparna Santra
3	JAYITA JANA	VU211013436 of 2021-22	HGC/STSH/21/022	Jayita Jana
4	KARTIK KUMAR JANA	VU211013440 of 2021-22	HGC/STSH/21/002	Kartik Kumar Jana
5	NILANJAN MANNA	VU211013455 of 2021-22	HGC/STSH/21/024	Nilanjan Manna
6	PRITIMOY JANA	VU211013467 of 2021-22	HGC/STSH/21/016	Pritimoy Jana
7	SANJAY KUMAR JANA	VU211013494 of 2021-22	HGC/STSH/21/005	Sanjay Kumar Jana
8	SOUGATA KUMAR MAITY	VU211013511 of 2021-22	HGC/STSH/21/021	Sougata Kumar Maity
9	TANUSHREE DEY	VU211013542 of 2021-22	HGC/STSH/21/028	Tanushree Dey
10	TRISHA GHOSH	VU211013544 of 2021-22	HGC/STSH/21/027	Trisha Ghosh
11	UTSHA DUTTA	VU211013547 of 2021-22	HGC/STSH/21/019	Utsa Dutta
12	AKASH DAS	1160393 of 2020-21	HGC/STSH/20/015	Akash Das
13	BIKASH GAYEN	1160416 of 2020-21	HGC/STSH/20/010	Bikash Gayen
14	KOUSIK GHARA	1160429 of 2020-21	HGC/STSH/20/008	Kousik Ghara
15	NILANJAN SAMANTA	1160448 of 2020-21	HGC/STSH/20/007	Nilanjan Samanta


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 P.O.-Debhog, Dist.-Purba Medinipur

Sl. No.	Name	Regn. No.	College ID	Signature
16	PRATYAY MANDAL	1160457 of 2020-21	HGC/STSH/20/022	Pratyay Mandal
17	RAJ SHEKHAR DAS	1160461 of 2020-21	HGC/STSH/20/017	Raj Shekhar Das
18	RIDDHIMAN GHOSH	1160464 of 2020-21	HGC/STSH/20/024	
19	SAYAK KANTI JANA	1160480 of 2020-21	HGC/STSH/20/018	Sayak Kanti Jana
20	SHATAKSHEE DAS	1160488 of 2020-21	HGC/STSH/20/027	
21	SNEHASHIS HALDER	1160497 of 2020-21	HGC/STSH/20/032	Snehashis Halder
22	SOMNATH SAMANTA	1160501 of 2020-21	HGC/STSH/20/020	Somnath Samanta
23	SOURAV JANA	1160509 of 2020-21	HGC/STSH/20/012	Sourav Jana
24	SUDIPTA MONDAL	1160519 of 2020-21	HGC/STSH/20/019	Sudipta Mondal
25	SWAGATO KARMAKAR	1160531 of 2020-21	HGC/STSH/20/029	Swagato Karmaakar
26	SOUBHIK KHANRA	1160530 of 2022-2023	HGC/STSH/22/070	Soubhik Khanra


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Department of Statistics
Haldia Government College
Add-on/ Value Added Course

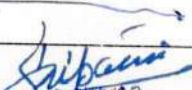
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Statistical Computing using Ms-Excel and Python

Academic Session: 2022-23

Attendance sheet for Assessment

Sl. No.	Name	Regn. No.	College ID	Signature
1	DEBJYOTI MUKHERJEE	VU211013423 of 2021-22	HGC/STSH/21/013	Debjyoti Mukherjee
2	DIPARNA SANTRA	VU211013427 of 2021-22	HGC/STSH/21/023	Diparna Santra
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Sl. No.	Name	Regn. No.	College ID	Signature
21	SNEHASHIS HALDER	1160497 of 2020-21	HGC/STSH/20/032	Snehashis Halder
22	SOMNATH SAMANTA	1160501 of 2020-21	HGC/STSH/20/020	Somnath Samanta
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Department of Statistics
Haldia Government College
Add-on/ Value Added Course

on

Statistical Computing using Ms-Excel and Python

Academic Session: 2022-23

Grade sheet for Assessment

Sl. No.	Name	Regn. No.	College ID	Marks	Grade
1	DEBJYOTI MUKHERJEE	VU211013423 of 2021-22	HGC/STSH/21/013	12	B+
2	DIPARNA SANTRA	VU211013427 of 2021-22	HGC/STSH/21/023	18	O
3	JAYITA JANA	VU211013436 of 2021-22	HGC/STSH/21/022	14	A
4	KARTIK KUMAR JANA	VU211013440 of 2021-22	HGC/STSH/21/002	18	O
5	NILANJAN MANNA	VU211013455 of 2021-22	HGC/STSH/21/024	10	B
6	PRITIMOY JANA	VU211013467 of 2021-22	HGC/STSH/21/016	18	O
7	SANJAY KUMAR JANA	VU211013494 of 2021-22	HGC/STSH/21/005	18	O
8	SOUGATA KUMAR MAITY	VU211013511 of 2021-22	HGC/STSH/21/021	18	O
9	TANUSHREE DEY	VU211013542 of 2021-22	HGC/STSH/21/028	14	A
10	TRISHA GHOSH	VU211013544 of 2021-22	HGC/STSH/21/027	18	O
11	UTSHA DUTTA	VU211013547 of 2021-22	HGC/STSH/21/019	18	O
12	AKASH DAS	1160393 of 2020-21	HGC/STSH/20/015	15	A
13	BIKASH GAYEN	1160416 of 2020-21	HGC/STSH/20/010	15	A
14	KOUSIK GHARA	1160429 of 2020-21	HGC/STSH/20/008	15	A
15	NILANJAN SAMANTA	1160448 of 2020-21	HGC/STSH/20/007	16	A+
16	PRATYAY MANDAL	1160457 of 2020-21	HGC/STSH/20/022	16	A+
17	RAJ SHEKHAR DAS	1160461 of 2020-21	HGC/STSH/20/017	15	A
18	PRIYADIP GHOSH	1160464 of 2020-21	HGC/STSH/20/024		
19	SAYAK KANTI JANA	1160480 of 2020-21	HGC/STSH/20/018	16	A+
20	SHATAKSHEE DAS	1160488 of 2020-21	HGC/STSH/20/027		

[Signature]
Officer-in-charge

Haldia Government College
P.O.-Debbha, Dist.- Purba Medinipur

Sl. No.	Name	Regn. No.	College ID	Marks	Grade
21	SNEHASHIS HALDER	1160497 of 2020-21	HGC/STSH/20/032	16	A+
22	SOMNATH SAMANTA	1160501 of 2020-21	HGC/STSH/20/020	15	A
23	SOURAV JANA	1160509 of 2020-21	HGC/STSH/20/012	14	A
24	SUDIPTA MONDAL	1160519 of 2020-21	HGC/STSH/20/019	16	A+
25	SWAGATO KARMAKAR	1160531 of 2020-21	HGC/STSH/20/029	15	A
26	SOUBHIK KHANRA	VU221160530 of 2022-23	HGC/GE04/22/070	17	A+

18+ - Outstanding, 16-17 - A+, 14-15 - A, 12-13 - B+, 10-11 - B, 08-09 - C+, 06-07 - C, 04-05 - D, 04 - F

Heinry Ganguly
COURSE COORDINATORS

Shripati
 Officer-in-charge
 Haldia Government College
 P.O.-Debhog, Dist.- Purba Medinipur

17/20

Marks: 20

Time: 20 min

Registration no. with year: VU221160530 of 2022-2023

College ID.: HGC/GE0H/22/070

Tick the right answer: (Answer all questions)

Python:

Q1: What is Python primarily used for?

- ☒ A. Data analysis
- ☐ B. Graphic design
- ☐ C. Game development
- ☐ D. Network security

Q2: Which of the following is a valid Python variable name?

- ☐ A. 3result
- ☒ B. my-variable
- ☐ C. global
- ☐ D. \$money

Q3: How do you print the value of a variable in Python?

- ☐ A. display()
- ☐ B. console.log()
- ☒ C. print()
- ☐ D. echo()

Q4: What is the output of the following code snippet?

```
x = 5
y = 2
result = x % y
print(result)
```

- ☐ A. 2
- ☐ B. 3
- ☒ C. 2.5
- ☐ D. 0

Q5: Which statement is used to make a decision in Python?

- ☐ A. for
- ☐ B. while
- ☒ C. if
- ☐ D. switch

Q6: What does the len() function do in Python?

- ☒ A. Returns the length of a string or list
- ☐ B. Returns the square root of a number
- ☐ C. Converts a string to lowercase
- ☐ D. Rounds a number to the nearest integer

Q7: How do you define a function in Python?

- ☐ A. func()
- ☐ B. define()
- ☒ C. def()
- ☐ D. function()

Q8: What does the keyword 'import' do in Python?

- ☒ A. Imports a module or library
- ☐ B. Exports data to a file
- ☐ C. Defines a new class
- ☐ D. Creates a new variable

Q9: What is the output of the following code snippet?

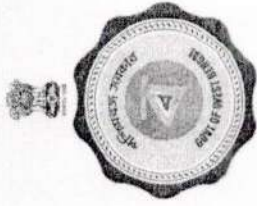
```
my_list = [1, 2, 3, 4]
squared_list = [x ** 2 for x in my_list]
print(squared_list)
```

- ☐ A. [1, 2, 3, 4]
- ☒ B. [1, 4, 9, 16]
- ☐ C. [2, 4, 6, 8]
- ☐ D. [1, 3, 5, 7]

Q10: How do you read input from the user in Python?

- ☒ A. input()
- ☐ B. read()
- ☐ C. get_input()
- ☐ D. user_input()

[Signature]



Department of Statistics
Haldia Government College
CERTIFICATE OF COMPLETION

Value Added Course

on

Statistical Computing using Ms-Excel and Python

DEBJYOTI MUKHERJEE

This is to certify that Mr./Miss. has successfully completed Value Added Course on
of Statistics (Hons.) IV and Semester ...

Statistical Computing using Ms-Excel and Python with Grade B+

organized by the Department of Statistics, Haldia Government College (Academic Session: 2022-23).

We wish him/her bright future.


Tanmay Kumar Maity &
Samit Ganguly
Course Coordinators


Dr. Shyam Sundar Sahoo
Head of the Department


Dr. Pijush Kanti Bhattacharya
Officer-in-Charge
Haldia Government College
Haldia, Dist. Putba Medinipur

FOR THE MONTH:

21

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REMARKS