

Janata Shikshan Sanstha's
Kisan Veer Mahavidyalaya, Wai

Department of Mathematics

“Certificate Course in Python for Numerical Computations”

Course Report: 2024-25

The Department of Mathematics has introduced the Certificate Course “Certificate Course in Python for Numerical Computations” from the academic year 2023-2024. The Certificate Course in Python for Numerical Computations was structured to provide participants with a basic foundation in Python programming language and its application in numerical computing. The course for the academic year 2024-25 was started on 16th November 2024. The timetable was displayed on the department's notice board. Total 25 students were enrolled and successfully completed this course. Regular lectures and practicals were conducted according to the time-table. The examination of the said course was conducted and certificates were issued to all the passed students. The non-teaching staff and the administration of the College and specially Hon. Principal supported a lot in conducting the course.

The record of the course has been maintained in the department. One copy has been submitted to the IQAC cell and the same has been uploaded on the college website.



Course Coordinator
Department of Mathematics



Principal
Kisan Veer Mahavidyalaya, Wai

Department of Mathematics

Kisan Veer Mahavidyalaya, Wai

Date: 12/11/2024

Notice

All B.Sc. (Mathematics) students are hereby informed that our department will be conducting a “**Certificate Course in Python for Numerical Computations**”. The course is scheduled to commence on 16/11/2024. The duration of the course is 30 hours, and the fee is ₹500/-. Interested students should enroll their names with Lab Assistant Shri Thombare Navnath in the Department of Mathematics.



Sayan

Principal

Janata Shikshan Sanstha's
Kisan Veer Mahavidyalaya, Wai
Department of Mathematics
CERTIFICATE COURSE IN PYTHON FOR NUMERICAL COMPUTATIONS
STUDENT LIST (2024-25)

Sr. No	Roll No.	Students Name
1	3	PISAL SANIKA VILAS
2	4	RAJPURE AKANKSHA RAMESH
3	5	DERE SANIKA SHIVAJI
4	6	LONDHE ATUL SANDIP
5	11	AMRUTA AMOL GADHAVE
6	15	BHOSALE OMKAR SANTOSH
7	17	KAMBLE LAKI JITENDRA
8	19	JADHAV SIDDHI SHAHAJI
9	20	JADHAV DIVYA JITENDRA
10	21	BHOSALE PRATIK BALKRUSHANA
11	22	BHISE PRITI SANTOSH
12	24	PAWAR RAJASHREE RAHUL
13	32	RAUT ATHARVA JAGAN
14	33	RAJPURE ARYAN MAHADEV
15	35	BHELKE SIDDHI HANUMANT
16	52	YEWALE GANESH RAJENDRA
17	53	SANAS AKASH NAMDEV
18	54	SHINDE ABHAY DHANANJAY
19	55	PAWAR TEJAS SHAMRAO
20	72	DHANAWADE SHWETA SANTOSH
21	84	BHILARE SNEHA SUNIL
22	85	BHILARE SAKSHI YUVARAJ
23	95	BHOITE RUTUJA JITENDRA
24	96	GAIKWAD ASHWINI SATISH
25	97	RAUT NIVEDITA BHASKAR



Course Coordinator
Department of Mathematics



Principal
Kisan Veer Mahavidyalaya, Wai

Janata Shikshan Sanstha's

Kisan Veer Mahavidyalaya, Wai

Department of Mathematics

CERTIFICATE COURSE IN PYTHON FOR NUMERICAL COMPUTATIONS

TIME TABLE (2024-25)

Time	Friday	Saturday
11:00 am – 12:00 pm	Theory (SRM)	Theory (SRM)
12:00 pm – 2: 00 pm	Practical (SRT)	Practical (SRT)

SRT: Dr. Shivaji R. Tate

SRM: Miss. Shridevi R. Malwade

Note: For all the students, attendance is compulsory.



Course Coordinator
Department of Mathematics



Principal
Kisan Veer Mahavidyalaya, Wai



Janata Shikshan Sanstha's
KISAN VEER MAHA VIDYALAYA, WAI
DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN PYTHON FOR NUMERICAL COMPUTATIONS (2024-25)
ATTENDANCE (THEORY/PRACTICAL)

Sr. No	Roll NO.	Students Name	22/11/24	23/11/24	29/11/24	30/11/24	6/12/24	7/12/24	13/12/24	14/12/24
20	72	DHANAWADE SHWETA SANTOSH	Present	Present	Present	Present	Present	Present	Present	Present
21	84	BHILARE SNEHA SUNIL	Present	Present	Present	Present	Present	Present	Present	Present
22	85	BHILARE SAKSHI YUVARAJ	Present	Present	Present	Present	Present	Present	Present	Present
23	95	BHOITE RUTUJA JITENDRA	Present	Present	Present	Present	Present	Present	Present	Present
24	96	GAIKWAD ASHWINI SATISH	Present	Present	Present	Present	Present	Present	Present	Present
25	97	RAUT NIVEDITA BHASKAR	Present	Present	Present	Present	Present	Present	Present	Present

gms

Head

Department of Mathematics

Kisan Veer Mahavidyalaya

Wai - 412803

Janata Shikshan Sanstha's
KISAN VEER MAHA VIDYALAYA, WAI
DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN PYTHON FOR NUMERICAL COMPUTATIONS (2024-25)
ATTENDANCE (THEORY/PRACTICAL)

Sr. No	Roll NO.	Students Name	20/12/24	21/12/24	27/12/24	28/12/24	31/01/25	4/01/25	10/01/25	11/01/25
20	72	DHANAWADE SHWETA SANTOSH	SB	SB	SB	SB	SB	SB	SB	SB
21	84	BHILARE SNEHA SUNIL	SB	SB	SB	SB	SB	SB	SB	SB
22	85	BHILARE SAKSHI YUVARAJ	SB	SB	SB	SB	SB	SB	SB	SB
23	95	BHOITE RUTUJA JITENDRA	SB	SB	SB	SB	SB	SB	SB	SB
24	96	GAIKWAD ASHWINI SATISH	SB	SB	SB	SB	SB	SB	SB	SB
25	97	RAUT NIVEDITA BHASKAR	SB	SB	SB	SB	SB	SB	SB	SB

Jan

Head
Department of Mathematics
Kisan Veer Mahavidyalaya
Wai - 412803

Janata Shikshan Sanstha's
KISAN VEER MAHAVIDYALAYA, WAI
DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN PYTHON FOR NUMERICAL COMPUTATIONS (2024-25)
ATTENDANCE (THEORY/PRACTICAL)

Sr. No	Roll NO.	Students Name	17/01/25	18/01/25	24/01/25	25/01/25	31/02/25	01/02/25	07/02/25	08/02/25
20	72	DHANAWADE SHWETA SANTOSH	BB	BB	BB	BB	BB	BB	BB	BB
21	84	BHILARE SNEHA SUNIL	BB	BB	BB	BB	BB	BB	BB	BB
22	85	BHILARE SAKSHI YUVARAJ	S.Y. Bhilare	S.Y. Bhilare	S.Y. Bhilare	S.Y. Bhilare	S.Y. Bhilare	S.Y. Bhilare	S.Y. Bhilare	S.Y. Bhilare
23	95	BHOITE RUTUJA JITENDRA	BB	BB	BB	BB	BB	BB	BB	BB
24	96	GAIKWAD ASHWINI SATISH	Gaikwad	Gaikwad	Gaikwad	Gaikwad	Gaikwad	Gaikwad	Gaikwad	Gaikwad
25	97	RAUT NIVEDITA BHASKAR	BB	BB	BB	BB	BB	BB	BB	BB

gum

Head
Department of Mathematics
Kisan Veer Mahavidyalaya
Wai - 412803

Janata Shikshan Sanstha's
KISAN VEER MAHA VIDYALAYA, WAI
DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN PYTHON FOR NUMERICAL COMPUTATIONS (2024-25)
ATTENDANCE (THEORY/PRACTICAL)

Sr. No	Roll NO.	Students Name	14/02/25	15/02/25	21/02/25	22/02/25	28/02/25	01/03/25	07/03/25	08/03/25
20	72	DHANAWADE SHWETA SANTOSH	SB	SB	SB	SB	SB	SB	SB	SB
21	84	BHILARE SNEHA SUNIL	SB	SB	SB	SB	SB	SB	SB	SB
22	85	BHILARE SAKSHI YUVARAJ	SB	SB	SB	SB	SB	SB	SB	SB
23	95	BHOITE RUTUJA JITENDRA	SB	SB	SB	SB	SB	SB	SB	SB
24	96	GAIKWAD ASHWINI SATISH	SB	SB	SB	SB	SB	SB	SB	SB
25	97	RAUT NIVEDITA BHASKAR	SB	SB	SB	SB	SB	SB	SB	SB

gm

Head
Department of Mathematics
Kisan Veer Mahavidyalaya
Wai - 412803

Notice

All the students are hereby informed that their final Examination of “Certificate Course in Python for Numerical Computations” will be held on Friday, 28th March, 2025, from 11.00 a.m. to 2.00 p.m. The students who will remain absent for the examination and the students who will be failed in the examination, will not be able to get Certificate of the Course.



A handwritten signature in blue ink, appearing to be "Smita".

Course Coordinator
Department of Mathematics

**Janata Shikshan Sanstha's
Kisan Veer Mahavidyalaya, Wai**

Certificate Course in Python for Numerical Computations Examination-2025

Day and Date: Friday, 28/03/2025

Time: 11.00 a.m. to 2.00 p.m.

Total Marks: 50

Instructions: 1) All questions are compulsory.

2) Figure to the right indicates full marks.

3) Distribution of Marks: Practical work (40) + Viva voce (10)

Q.1(A) Write a program in Python to find the numerical solution of the differential equation $\frac{dy}{dx} = f(x, y)$ with initial conditions $y = y_0$ when $x = x_0$ using **fourth-order Runge – Kutta method**. (10)

(B) Run the **fourth-order Runge – Kutta method** program to solve $\frac{dy}{dx} = x^2y$ with initial conditions $y(0) = 1$ take $h = 0.1$ and find the value of y at $x = 1$. (05)

OR

Q.1(A) Write a program in Python to solve a system of Linear equations $AX = B$ by using **Gauss - Seidel Method**. (10)

(B) Run the **Gauss-Seidel Method** program to solve the following system of equations $3x + y + 2z = 8$, $2x + 3y + z = 9$, $x + 2y + 3z = 6$. (05)

OR

Q.2 (A) Write a program in Python to find an integration using the **Trapezoidal method** . (10)

(B) Run the **Trapezoidal method** program to evaluate an integration $\int_0^1 \frac{dx}{1+x^2}$ with 6 strips.(05)

OR

Q.2(A) Write a program in Python to find one of the approximate roots of function $f(x)$ using **Bisection method**. (10)

(B) Run the **Bisection method** program to find the root of $f(x) = x^3 - x + 1$ that lies between 1 and 2 correct to four decimal places. (05)

Q.3 Attempt any **Two** of the following problems by using Python: (10)

(A) Find the value of $\sin(0.5)$.

(B) Find the addition of the two matrices A, and B, where $A = \begin{bmatrix} 1 & 2 & 3 \\ 1 & 1 & 1 \\ 7 & 8 & 9 \end{bmatrix}$, $B = \begin{bmatrix} 9 & 8 & 7 \\ 2 & 2 & 2 \\ 3 & 2 & 1 \end{bmatrix}$.

(C) For given two sets $S = \{1, 2, 3, 4\}$ and $T = \{3, 4, 5, 6\}$, find the set difference and symmetric difference.

(D) Construct two lists: $list1 = ["a", "b", "c"]$, $list2 = [1, 2]$ and concatenate in list3.

Janata Shikshan Sanstha's
KISAN VEER MAHAVIDYALAYA, WAI
 DEPARTMENT OF MATHEMATICS
 CERTIFICATE COURSE IN PYTHON FOR NUMERICAL COMPUTATIONS
 EXAMINATION ATTENDANCE (2024-25)

Sr. No	Roll NO.	Students Name	Sign
1	3	PISAL SANIKA VILAS	Pisal.s.v
2	4	RAJPURE AKANKSHA RAMESH	A.R.Rajpure
3	5	DERE SANIKA SHIVAJI	S.Dere
4	6	LONDHE ATUL SANDIP	A.S.Londhe
5	11	AMRUTA AMOL GADHAVE	Amruta
6	15	BHOSALE OMKAR SANTOSH	Omkar
7	17	KAMBLE LAKI JITENDRA	Lakki
8	19	JADHAV SIDDHI SHAHAJI	Jadhav
9	20	JADHAV DIVYA JITENDRA	Jadhav
10	21	BHOSALE PRATIK BALKRUSHANA	Pratik
11	22	BHISE PRITI SANTOSH	P.S.B
12	24	PAWAR RAJASHREE RAHUL	Pawar
13	32	RAUT ATHARVA JAGAN	Jagan
14	33	RAJPURE ARYAN MAHADEV	Rajpure
15	35	BHELKE SIDDHI HANUMANT	S.Bhelke
16	52	YEWALE GANESH RAJENDRA	Ganesh
17	53	SANAS AKASH NAMDEV	A.n.sanas
18	54	SHINDE ABHAY DHANANJAY	A.Shinde
19	55	PAWAR TEJAS SHAMRAO	T.S.Pawar
20	72	DHANAWADE SHWETA SANTOSH	Shweta
21	84	BHILARE SNEHA SUNIL	Sneha
22	85	BHILARE SAKSHI YUVARAJ	S.Y.Bhilare
23	95	BHOITE RUTUJA JITENDRA	Rutuja
24	96	GAIKWAD ASHWINI SATISH	Gaikwad
25	97	RAUT NIVEDITA BHASKAR	Nivedita

Head

Department of Mathematics
 Kisan Veer Mahavidyalaya
 Wai - 412803

Janata Shikshan Sanstha's
Kisan Veer Mahavidyalaya Wai
Department of Mathematics
Certificate Course in Python for Numerical Computations Examination
Marksheet (2024-25)

Date: 28/03/2025

Sr. No.	Roll No	Name	Coding (30)	Practical (20)	Total (50)
1	3	PISAL SANIKA VILAS	27	15	42
2	4	RAJPURE AKANKSHA RAMESH	26	16	42
3	5	DERE SANIKA SHIVAJI	28	17	45
4	6	LONDHE ATUL SANDIP	27	18	45
5	11	AMRUTA AMOL GADHAVE	26	16	42
6	15	BHOSALE OMKAR SANTOSH	24	15	39
7	17	KAMBLE LAKI JITENDRA	24	14	38
8	19	JADHAV SIDDHI SHAHAJI	23	17	40
9	20	JADHAV DIVYA JITENDRA	25	18	43
10	21	BHOSALE PRATIK BALKRUSHANA	28	17	45
11	22	BHISE PRITI SANTOSH	27	15	42
12	24	PAWAR RAJASHREE RAHUL	23	15	38
13	32	RAUT ATHARVA JAGAN	30	18	48
14	33	RAJPURE ARYAN MAHADEV	25	15	40
15	35	BHELKE SIDDHI HANUMANT	30	19	49
16	52	YEWALE GANESH RAJENDRA	30	18	48
17	53	SANAS AKASH NAMDEV	24	12	36
18	54	SHINDE ABHAY DHANANJAY	23	14	37
19	55	PAWAR TEJAS SHAMRAO	24	13	37
20	72	DHANAWADE SHWETA SANTOSH	29	18	47
21	84	BHILARE SNEHA SUNIL	23	14	37
22	85	BHILARE SAKSHI YUVARAJ	28	18	46
23	95	BHOITE RUTUJA JITENDRA	27	16	43
24	96	GAIKWAD ASHWINI SATISH	26	15	41
25	97	RAUT NIVEDITA BHASKAR	25	15	40

S.R. Malwade
Teacher Incharge

Sm
Head
Department of Mathematics
Kisan Veer Mahavidyalaya
Wai - 412803



Janata Shikshan Sanstha's
KISAN VEER MAHAVIDYALAYA, WAI



Srinivasa Ramanujan

Certificate



This is to certify that **Miss. Dhanawade Shweta Santosh** has completed successfully **Certificate Course in Python for Numerical Computations** conducted by Department of Mathematics, Kisan Veer Mahavidyalaya, Wai for the Academic year 2024-25 and obtained Grade “A”.

Convener & Head
Department of Mathematics

Principal
Kisan Veer Mahavidyalaya, Wai