

Janata Shikshan Sanstha's
Kisan Veer Mahavidyalaya, Wai
Department of Mathematics

“Certificate Course in Python for Numerical Computations”

Course Report: 2025-26

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 2025-26 was started on 3rd December 2025. The timetable was displayed on the department's notice board. Total 40 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



Janata Shikshan Sanstha's

Kisan Veer Mahavidyalaya, Wai

Department of Mathematics

CERTIFICATE COURSE IN PYTHON TOR NUMERICAL COMPUTATIONS

TIME TABLE (2025-26)

| Time | Friday | Time | Wednesday |
|--------------------|-----------------|--------------------|--------------------|
| 11:00 am – 1:00 pm | Theory (SRT) | 11:00 am – 2:00 pm | Practical (RBB) |

SRT: Dr. Shivaji R. Tate

RBB: Miss. Rutuja B. Bhosale

Note: For all the students, attendance is compulsory.



Course Coordinator
Department of Mathematics



Principal
Kisan Veer Mahavidyalaya, Wai



Department of Mathematics

Kisan Veer Mahavidyalaya, Wai

Date: 28/11/2025

Notice

All the students of B.Sc. (Mathematics) are hereby informed that our department is going to conduct the "Certificate Course in Python for Numerical Computations". This course will be starting from 03/12/2025. Duration of course is Three months and fee is Rs. 500/-. Interested students should enrolled their names in the Department of Mathematics towards Lab Assistant, Shri Thombare Navnath.



A handwritten signature in blue ink, appearing to be 'Gangar'.

Principal
Kisan Veer Mahavidyalaya, Wai
Tal. Wai, Dist. Satara

Notice

All the students are hereby informed that their final Examination of “**Certificate Course in Python for Numerical Computations**” will be held on Tuesday, 17th March, 2026, 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.



Course Coordinator
Department of Mathematics



Janata Shikshan Sanstha's
Kisan Veer Mahavidyalaya, Wai
Department of Mathematics
CERTIFICATE COURSE IN PYTHON FOR NUMERICAL COMPUTATIONS
STUDENT LIST (2025-26)

| Sr. No | Roll No. | Students Name |
|--------|----------|------------------------------|
| 1 | 5 | AMRUTA AMOL GADHAVE |
| 2 | 12 | DERE SANIKA SHIVAJI |
| 3 | 14 | KHARE SHIVPRASAD RAMESH |
| 4 | 16 | RAJPURE AKANKSHA RAMESH |
| 5 | 17 | DHAGE AADITI VIJAY |
| 6 | 18 | SAWANT SHRAVANI VIKAS |
| 7 | 27 | DUDHE SIDDHI ATISH |
| 8 | 35 | SHINDE MANJUSHRI JITENDRA |
| 9 | 36 | PAWAR SANIKA MANGESH |
| 10 | 40 | MANDHARE SAMARTH JINNAS |
| 11 | 50 | OM SHIVAJI KADAM |
| 12 | 51 | SHELAR ROHAN RAJENDRA |
| 13 | 53 | JADHAV DIVYA JITENDRA |
| 14 | 66 | VANARSE JAI SUNIL |
| 15 | 76 | SHAHA AKANKSHA INDRAJIT |
| 16 | 77 | CHAVAN DIYA SHARAD |
| 17 | 85 | SULAKE SAHIL JAYWANT |
| 18 | 102 | ADSUL HARSHAD GANESH |
| 19 | 106 | MANDHARE NIRMITI CHANDRAKANT |
| 20 | 107 | KAKADE SWANANDINI ANIL |
| 21 | 147 | DABHADE VAIBHAVI SANTOSH |
| 22 | 148 | BHOSALE DHANASHRI MOHAN |
| 23 | 150 | SHINDE RAJ SANJAY |

| | | |
|----|-----|----------------------------|
| 24 | 156 | RAJPURE AARYAN SOMNATH |
| 25 | 159 | YADAV OM VIKAS |
| 26 | 169 | GANGWAR AARTI MAHENDRAPAL |
| 27 | 171 | KSHIRSAGAR RIDDHI SUDHAKAR |
| 28 | 173 | PANDEY ANCHAL SURESH |
| 29 | 178 | KUMBHAR SANSKAR SADASHIV |
| 30 | 180 | DHEDE VYANKATESH DATTATRAY |
| 31 | 181 | ITHAPE VEDANT PRAMOD |
| 32 | 182 | KADAM SWARALI RAJENDRA |
| 33 | 184 | MOJAR ANURAG ANIL. |
| 34 | 187 | BODARE AADITI ANIL |
| 35 | 190 | PANDIT YOGITA SANDEEP |
| 36 | 192 | MANDHARE SARTHAK BHAUSAHEB |
| 37 | 193 | PETKAR SHUBHAM SUNIL |
| 38 | 195 | JADHAV SHREYA DASHRATH |
| 39 | 199 | BHOITE ATHARV MAHESH |
| 40 | 200 | JADHAV VISHAL VINAYAK |

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Course Coordinator
Department of Mathematics



Gangar

Principal
Kisan Veer Mahavidyalaya, Wai

| Sr. No | Roll No. | Students Name | 3/12/25 | 5/12/25 | 10/12/25 | 12/12/25 | 17/12/25 | 19/12/25 | 24/12/25 | 26/12/25 |
|--------|----------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 37 | 193 | PETKAR SHUBHAM SUNIL | S.S. Petkar S. Petkar | S.S. Petkar S. Petkar | S.S. Petkar S. Petkar | S.S. Petkar S. Petkar | S.S. Petkar S. Petkar | S.S. Petkar S. Petkar | S.S. Petkar S. Petkar | S.S. Petkar S. Petkar |
| 38 | 195 | JADHAV SHREYA DASHRATH | S. Petkar S. Petkar | S. Petkar S. Petkar | S. Petkar S. Petkar | S. Petkar S. Petkar | S. Petkar S. Petkar | S. Petkar S. Petkar | S. Petkar S. Petkar | S. Petkar S. Petkar |
| 39 | 199 | BHOITE ATHARV MAHESH | A.M.B. Vishal | A.M.B. Vishal | A.M.B. AB | A.M.B. Vishal | A.M.B. Vishal | AB Vishal | A.M.B. AB | A.M.B. Vishal |
| 40 | 200 | JADHAV VISHAL VINAYAK | Vishal | Vishal | AB | Vishal | Vishal | Vishal | AB | Vishal |

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Head

Department of Mathematics

Kisan Veer Mahavidyalaya

Wai - 412803

| Sr. No | Roll No. | Students Name | 31/12/25 | 2/10/26 | 7/10/26 | 9/10/26 | 14/10/26 | 16/10/26 | 21/10/26 | 23/10/26 |
|--------|----------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| 37 | 193 | PETKAR SHUBHAM SUNIL | S.S. Petkar Shreyas | S.S. Petkar Shreyas | S.S. Petkar Shreyas | S.S. Petkar Shreyas | S.S. Petkar Shreyas | S.S. Petkar Shreyas | S.S. Petkar Shreyas | S.S. Petkar Shreyas |
| 38 | 195 | JADHAV SHREYA DASHRATH | S.S. Petkar A.M.B | S.S. Petkar A.M.B | S.S. Petkar A.B | S.S. Petkar A.M.B | S.S. Petkar A.M.B | S.S. Petkar A.M.B | S.S. Petkar A.M.B | S.S. Petkar A.M.B |
| 39 | 199 | BHOITE ATHARV MAHESH | S.S. Petkar Vishal | S.S. Petkar A.B | S.S. Petkar Vishal | S.S. Petkar Vishal | S.S. Petkar Vishal | S.S. Petkar Vishal | S.S. Petkar Vishal | S.S. Petkar Vishal |
| 40 | 200 | JADHAV VISHAL VINAYAK | S.S. Petkar Vishal | S.S. Petkar A.B | S.S. Petkar Vishal | S.S. Petkar Vishal | S.S. Petkar Vishal | S.S. Petkar Vishal | S.S. Petkar Vishal | S.S. Petkar Vishal |

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Head
Department of Mathematics
Kisan Veer Mahavidyalaya
Wai - 412803

| Sr. No | Roll No. | Students Name | 28/01/26 | 29/01/26 | 4/02/26 | 6/02/26 | 11/02/26 | 13/02/26 | 18/02/26 | 20/02/26 |
|--------|----------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 37 | 193 | PETKAR SHUBHAM SUNIL | S.S. Petkar Shreya | S.S. Petkar Shreya | S.S. Petkar Shreya | S.S. Petkar Shreya | S.S. Petkar Shreya | S.S. Petkar Shreya | S.S. Petkar Shreya | S.S. Petkar Shreya |
| 38 | 195 | JADHAV SHREYA DASHRATH | AM.B Vishal | AM.B Vishal | AM.B AB | AM.B AB | AM.B Vishal | AM.B Vishal | AM.B AB | AM.B Vishal |
| 39 | 199 | BHOITE ATHARV MAHESH | AM.B Vishal | AM.B Vishal | AM.B AB | AM.B AB | AM.B Vishal | AM.B Vishal | AM.B AB | AM.B Vishal |
| 40 | 200 | JADHAV VISHAL VINAYAK | AM.B Vishal | AM.B Vishal | AM.B AB | AM.B AB | AM.B Vishal | AM.B Vishal | AM.B AB | AM.B Vishal |

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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 Tuesday, 17th March, 2026, 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.



Course Coordinator
Department of Mathematics



Janata Shikshan Sanstha's
KISAN VEER MAHAVIDYALAYA, WAI
DEPARTMENT OF MATHEMATICS
CERTIFICATE COURSE IN PYTHON FOR NUMERICAL COMPUTATIONS
EXAMINATION ATTENDENCE

Date: 17/03/2026

Time: 11.00 am to 2.00 pm

| Sr. No. | Roll No | Name | Sign |
|---------|---------|------------------------------|---------------------|
| 1 | 5 | AMRUTA AMOL GADHAVE | |
| 2 | 12 | DERE SANIKA SHIVAJI | <u>S.S. D.</u> |
| 3 | 14 | KHARE SHIVPRASAD RAMESH | <u>Khare.</u> |
| 4 | 16 | RAJPURE AKANKSHA RAMESH | <u>Rajpure</u> |
| 5 | 17 | DHAGE AADITI VIJAY | <u>Dhage</u> |
| 6 | 18 | SAWANT SHRAVANI VIKAS | <u>Sawant</u> |
| 7 | 27 | DUDHE SIDDHI ATISH | <u>Dudhe</u> |
| 8 | 35 | SHINDE MANJUSHRI JITENDRA | <u>Mshinde</u> |
| 9 | 36 | PAWAR SANIKA MANGESH | <u>Pawar</u> |
| 10 | 40 | MANDHARE SAMARTH JINNAS | <u>M</u> |
| 11 | 50 | OM SHIVAJI KADAM | <u>js</u> |
| 12 | 51 | SHELAR ROHAN RAJENDRA | <u>R.R. Shelar</u> |
| 13 | 53 | JADHAV DIVYA JITENDRA | <u>Jadhav</u> |
| 14 | 66 | VANARSE JAI SUNIL | <u>Vanarse</u> |
| 15 | 76 | SHAHA AKANKSHA INDRAJIT | <u>Shaha</u> |
| 16 | 77 | CHAVAN DIYA SHARAD | <u>Chavan</u> |
| 17 | 85 | SULAKE SAHIL JAYWANT | <u>S.J.S</u> |
| 18 | 102 | ADSUL HARSHAD GANESH | <u>Harshad</u> |
| 19 | 106 | MANDHARE NIRMITI CHANDRAKANT | <u>Mandhare</u> |
| 20 | 107 | KAKADE SWANANDINI ANIL | <u>Kakade</u> |
| 21 | 147 | DABHADE VAIBHAVI SANTOSH | <u>Dabhadre</u> |
| 22 | 148 | BHOSALE DHANASHRI MOHAN | <u>D.M. Bhosale</u> |
| 23 | 150 | SHINDE RAJ SANJAY | <u>R.SS</u> |
| 24 | 156 | RAJPURE AARYAN SOMNATH | <u>A. Rajpure</u> |
| 25 | 159 | YADAV OM VIKAS | <u>O.V. Yadav</u> |
| 26 | 169 | GANGWAR AARTI MAHENDRAPAL | <u>AARTI</u> |
| 27 | 171 | KSHIRSAGAR RIDDHI SUDHAKAR | <u>Kshirsagar</u> |
| 28 | 173 | PANDEY ANCHAL SURESH | <u>Anchal</u> |
| 29 | 178 | KUMBHAR SANSKAR SADASHIV | <u>Kumbhar</u> |
| 30 | 180 | DHEDE VYANKATESH DATTATRAY | <u>Dhedede</u> |
| 31 | 181 | ITHAPE VEDANT PRAMOD | <u>V.P. I</u> |
| 32 | 182 | KADAM SWARALI RAJENDRA | <u>Kadam</u> |

| Sr. No. | Roll No | Name | Sign |
|---------|---------|----------------------------|--------------|
| 33 | 184 | MOJAR ANURAG ANIL. | A. Anurag |
| 34 | 187 | BODARE AADITI ANIL | A. A. Bodare |
| 35 | 190 | PANDIT YOGITA SANDEEP | Pandit |
| 36 | 192 | MANDHARE SARTHAK BHAUSAHEB | Sarthak |
| 37 | 193 | PETKAR SHUBHAM SUNIL | S. S. Petkar |
| 38 | 195 | JADHAV SHREYA DASHRATH | Shreyas |
| 39 | 199 | BHOITE ATHARV MAHESH | A. MB |
| 40 | 200 | JADHAV VISHAL VINAYAK | Vishal |

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Teacher Incharge

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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 (2025-26)

Date: 17/03/2026

| Sr. No. | Roll No | Name | Coding (30) | Practical (20) | Total (50) |
|---------|---------|------------------------------|-------------|----------------|------------|
| 1 | 5 | AMRUTA AMOL GADHAVE | 27 | 15 | 42 |
| 2 | 12 | DERE SANIKA SHIVAJI | 26 | 16 | 42 |
| 3 | 14 | KHARE SHIVPRASAD RAMESH | 28 | 17 | 45 |
| 4 | 16 | RAJPURE AKANKSHA RAMESH | 27 | 18 | 45 |
| 5 | 17 | DHAGE AADITI VIJAY | 26 | 16 | 42 |
| 6 | 18 | SAWANT SHRAVANI VIKAS | 24 | 15 | 39 |
| 7 | 27 | DUDHE SIDDHI ATISH | 24 | 14 | 38 |
| 8 | 35 | SHINDE MANJUSHRI JITENDRA | 23 | 17 | 40 |
| 9 | 36 | PAWAR SANIKA MANGESH | 25 | 18 | 43 |
| 10 | 40 | MANDHARE SAMARTH JINNAS | 28 | 17 | 45 |
| 11 | 50 | OM SHIVAJI KADAM | 27 | 15 | 42 |
| 12 | 51 | SHELAR ROHAN RAJENDRA | 23 | 15 | 38 |
| 13 | 53 | JADHAV DIVYA JITENDRA | 30 | 18 | 48 |
| 14 | 66 | VANARSE JAI SUNIL | 25 | 15 | 40 |
| 15 | 76 | SHAHA AKANKSHA INDRAJIT | 30 | 19 | 49 |
| 16 | 77 | CHAVAN DIYA SHARAD | 30 | 18 | 48 |
| 17 | 85 | SULAKE SAHIL JAYWANT | 24 | 12 | 36 |
| 18 | 102 | ADSUL HARSHAD GANESH | 23 | 14 | 37 |
| 19 | 106 | MANDHARE NIRMITI CHANDRAKANT | 24 | 13 | 37 |
| 20 | 107 | KAKADE SWANANDINI ANIL | 29 | 18 | 47 |
| 21 | 147 | DABHADE VAIBHAVI SANTOSH | 23 | 14 | 37 |
| 22 | 148 | BHOSALE DHANASHRI MOHAN | 28 | 18 | 46 |
| 23 | 150 | SHINDE RAJ SANJAY | 27 | 16 | 43 |
| 24 | 156 | RAJPURE AARYAN SOMNATH | 26 | 15 | 41 |
| 25 | 159 | YADAV OM VIKAS | 25 | 15 | 40 |
| 26 | 169 | GANGWAR AARTI MAHENDRAPAL | 27 | 15 | 42 |
| 27 | 171 | KSHIRSAGAR RIDDHI SUDHAKAR | 26 | 16 | 42 |
| 28 | 173 | PANDEY ANCHAL SURESH | 28 | 17 | 45 |
| 29 | 178 | KUMBHAR SANSKAR SADASHIV | 27 | 18 | 45 |
| 30 | 180 | DHEDE VYANKATESH DATTATRAY | 26 | 16 | 42 |
| 31 | 181 | ITHAPE VEDANT PRAMOD | 24 | 15 | 39 |
| 32 | 182 | KADAM SWARALI RAJENDRA | 24 | 14 | 38 |
| 33 | 184 | MOJAR ANURAG ANIL. | 23 | 17 | 40 |
| 34 | 187 | BODARE AADITI ANIL | 25 | 18 | 43 |
| 35 | 190 | PANDIT YOGITA SANDEEP | 28 | 17 | 45 |
| 36 | 192 | MANDHARE SARTHAK BHAUSAHEB | 27 | 15 | 42 |
| 37 | 193 | PETKAR SHUBHAM SUNIL | 23 | 15 | 38 |
| 38 | 195 | JADHAV SHREYA DASHRATH | 30 | 18 | 48 |
| 39 | 199 | BHOITE ATHARV MAHESH | 25 | 18 | 43 |
| 40 | 200 | JADHAV VISHAL VINAYAK | 28 | 17 | 45 |

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Head
Department of Mathematics
Kisan Veer Mahavidyalaya

**Janata Shiksha Sanstha's
Kisan Veer Mahavidyalaya, Wai
Certificate Course in Python for Numerical Computations Examination-2026**

Day and Date: Tuesday, 17 March 2026
Time: 11.00 a.m. to 2.00 p.m.

Total Marks: 50

- Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Distribution of marks; Coding (30) + Practical (20)

- Q.1 (A) Write a program to solve the differential equation $\frac{dy}{dx} = f(x, y)$ with initial condition $y = y_0$ when $x = x_0$ using **Euler's method**. (10)
- (B) Run the **Euler's method** program to solve $\frac{dy}{dx} = 3x + \frac{y}{2}$ with initial condition $y(0) = 1$. Take $h = 0.05$ and find the value of y at $x = 0.2$. (05)

OR

- Q.1 (A) Write a program to solve the system of linear equations $AX = B$ using the **Gauss elimination method**. (10)
- (B) Run the **Gauss elimination method** program to solve the following system: (05)

$$2x + 3y + z = 9, \quad x + 2y + 3z = 6, \quad 3x + y + 2z = 8$$

- Q.2 (A) Write a program to solve the differential equation $\frac{dy}{dx} = f(x, y)$ with initial condition $y = y_0$ when $x = x_0$ using **second order Runge - Kutta method**. (10)
- (B) Run the **second order Runge - Kutta method** program to solve $\frac{dy}{dx} = yx$ with initial condition $y(0) = 1$. Take $h = 0.1$ and find the value of y at $x = 0.5$. (05)

OR

- Q.2 (A) Write a program to find an approximate root of a function $f(x)$ using the **Bisection method**. (10)
- (B) Run the **Bisection method** program to find the root of $f(x) = x^3 - 5x + 1$ between 0 and 1 correct to four decimal places. (05)

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

- (A) Find factorial of 9 using `factorial()` method in `math` module.
- (B) Construct two sets $S = \{1, 2, 3\}$ and $T = \{3, 4, 5\}$ and find their union using `union()` method.
- (C) Sort the numbers in ascending order: 43, 45, 87, 23, 77.
- (D) Create a dictionary $D = \{1 : \text{"One"}, 2 : \text{"two"}, 3 : \text{"three"}\}$ and remove second item from the dictionary using `pop()` method.
