

Rayat Shikshan Sanstha's

D.P.Bhosale College, Koregaon

Department of Mathematics

Skill Based Course in

Python Programming

INDEX

Sr. No.	Year	Particulars
1	2022-23	Report
2		List of Admitted Students
3		Objective and Outcomes
4		Syllabus of the Course
5		Time Table
6		Examination Notice to Students
7		Mark-List

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Department of Mathematics
Skill Based Course in
Python Programming

As the department always strives for the best, taking into consideration the need of the computer and job opportunity Department of Mathematics ran the Short Term Course entitled '**Python Programming**' in academic year 2022- 23.

The department has designed this course. It has its own Board of Studies (BoS). All the faculty members took active participation in running the said course. The course started from February 2023 and completed at April 2023. The 10 students enrolled to this course. The examination was conducted on 4th May, 2023.

The present faculty of the Department teaches this course as well. In addition to it the exam is taken and the certificates are issued to the students. Students are benefited through this course.

Sr. No.	Year	No. of beneficiary students
1	2022-23	10

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Objectives and Outcome of the course

Objectives of the course:

- 1) To aware student about importance of Computer Technology.
- 2) To know concepts of Python programming.
- 3) To know basics of Python programming.
- 4) To understand how to use programming in day to day applications.
- 5) To acquire understanding of basic objects oriented concepts and issue involved in effective classroom.

Outcome of the course:

- 1) Learning of this course student can develop logical thinking.
- 2) Understanding the basic knowledge of Python programming.
- 3) To open our own business.
- 4) Student will get depth knowledge about computer technology.

Reference Books:-

- 1) Amit Saha, Doing Math with Python, No Starch Press, 2015.
- 2) Yashwant Kanetkar and Aditya Kanetkar, Let Us Python, BPB Publication, 2019

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Course Particulars

1. Eligibility : XII std. pass.
2. Duration of Course : 3 Months.
3. No. of Students : 10
4. Examination : Written Exam (50 marks)
Practical Exam(50 marks)
5. Faculty : 1. Mrs.A.S.Salunkhe (Co-ordinator)
2. Miss. Chinake A.K.
6. Coordinator : Head, Dept. of Mathematics
D.P.Bhosale College, Koregaon.
7. Board of Studies : 1. Mrs.Salunkhe A.S. (Co-ordinator)
2. Dr.Yadav J.D.(S.G.M.College, Karad)
3. Mr. Patil S.A. (S.G.M.College, Karad)
8. Experts Name : 1. Dr. Yadav J.D.(S.G.M.College,Karad)
2. Mr. Patil S .A. (S.G.M.College, Karad)


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Syllabus

Sr.No.	Unit	Theory	Practical	Total period
1.	Introduction to Python : 1.1 Introduction – Python, Anaconda, Spyder IDE 1.2 Python Identifiers and Keywords, data types, 1.3 Simple mathematical operation, 1.4 Indentation and Comments, Input and Output, 1.5 First Python program 1.6 Expression and operators - Expression, Boolean expression, 1.7 Logical operations - comparison operator, membership operator, identity operator, bitwise operator. 1.8 Order of evaluation 1.9 File Handling - Open, read, write, append modes of file.	02	03	05
2	2.1 Conditional Statements : if-else, nested if-else, if-elif-else, try-except block. 2.2 Looping statements, Control statements : Looping statements – for loop, while loop, Nested loops. Control Statements- break, continue and pass	03	03	06

3	<p>Functions : Built-in functions, User- defined functions, Arguments, recursive function, Python Anonymous/ Lambda Function, Global, Local and Non local Variables and return statement.</p> <p>Modules and packages in Python : Modules, import, import with renaming, from-import statement, math module, cmath module, random module, packages.</p>	02	03	05
5	<p>Python Data structure : Strings, list, tuples, dictionary, set and array.</p> <p>Operations on set and array : Set operations, Intersection, Union, difference, symmetric difference, searching and sorting.</p>	02	03	05
6	<p>Systems of linear algebraic equations : Gauss Elimination method, LU decomposition Methods.</p> <p>Roots of equations : Bisection, Newton- Raphson Method.</p>	02	02	04
7	<p>Initial Value Problems : Euler's Method, Rung- Kutta Methods.</p> <p>Magic square and Area calculation without measurement.</p>	02	03	05

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Notice

Date: 27/01/2023

All students of B.Sc. III (Mathematics) are here by informed that Department of Mathematics going to organize your skill based course in 'Python Programming' has been scheduled from 1st February 2023 to April 2023. All present at prescribed time in lecture hall.



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Time Table

Time Table (Feb.2023 to April. 2023)

Theory and Practical (Per week)

TIME	MON.	TUE.	WED.	THU.	FRI.	SAT.
THEORY						
9.30-10.30 a.m.	C.A.K.	S.A.S.	-----	-----	-----	-----
PRACTICAL						
4.23 – 6.00 p.m.	C.A.K.	S.A.S.	-----	-----	-----	-----

1. S.A.S. - Mrs. Salunkhe A.S.
2. C.A.K -Miss. Chinake A.K.

Salunkhe

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Roll Call

Sr.No.	Roll No.	Name of the Students
1	222535	Bhintade Ritu Raju
2	222536	Botalji Neha Vikas
3	222537	Kadam Vaishnavi Santosh
4	222538	Khatal Yogini Hanmant
5	222539	Mahadik Varsha Raju
6	222540	Namdas Madhura Dattatray
7	222541	Pawar Nilam Bhimrav
8	222542	Pawar Pragati Dhanaji
9	222543	Rathod Pooja Silu
10	222544	Torane Punam Audumbar


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Examination Notice

Students of short term course of 'Python Programming' are hereby informed that their examination (Theory and Practical) will be conducted in month of 4th May, 2023. The Dates and time table are as follows.

Examination	Subject	Date	Time
Theory	Python Programming	04.05.2023	11.00 a.m. to 1.00 p.m.
Practical	Python Programming	04.05.2023	02.00 p.m. onwards.


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Date- 04/05/2023

Time-11.00 to 1.00p.m.

Marks-50

**Intructions: 1) All questions are compulsory and equal marks.
2) Figures to write indicate full marks.**

Q.1) A) Write a python program on Euler method. (10)

B) Write a python program for the example $\frac{dy}{dx} + 2y = x^3$, $y(0)=1, h=0.1$ at $x = 0.2$. (10)

OR

Q.2) A) Write a python program on Range kutta method of 4th order. (10)

B) Write a python program for the example $\frac{dy}{dx} = x+y+xy$ with $x_0=1$, at $x=1.5, h = 0.1$ (10)

Q.3) A) Write a python program on Newton-Raphson method. (10)

B) Find the approximate root of $f(x) = x^3-5x +1=0$ with $x_0=0.5$ and Tolerable error $e = 0.00001$. (10)

OR

Q.4) A) Write a python program on Bisection method. (10)

B) Find the root of $f(x) = x^3-x^2+2$ in $[0, 1]$ with Tolerable error $e = 0.001$ (10)

Q.5) Attempt any two of the following: (10)


1. Write any two operations on sets with example.
2. Write a short note on any two data types.
3. Write syntax for if-else statement with example.



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Marksheet

Sr. No.	Name of Student	Marks Theory out of 50	Marks Practical out of 50	Total out of 100	Grade
1	Bhintade Ritu Raju	AB	AB	AB	--
2	Botalji Neha Vikas	32	35	67	B
3	Kadam Vaishanavi Santosh	40	36	76	B+
4	Khatal Yogini Hanmant	37	35	72	B+
5	Mahadik Varsha Raju	40	43	83	A
6	Namdas Madhura Dattatray	41	42	83	A
7	Pawar Nilam Bhimrav	37	40	77	B+
8	Pawar Pragati Dhanaji	42	43	85	A
9	Rathod Pooja Silu	30	35	65	B
10	Torane Punam Audumbar	35	38	73	B+


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Sr. No.	Roll No.	Name of the Student	6/02/23	7/2/23	13/2/23	14/2/23	20/2/23	21/2/23
1	222535	Bhintade Ritu Raju						
2	222536	Botalji Neha Vikas	Botalji	Botalji	Botalji	Botalji	Botalji	Botalji
3	222537	Kadam Vaishanavi Santosh	Kadam	Kadam	Kadam	Kadam	Kadam	Kadam
4	222538	Khatal Yogini Hanmant	Khatal	Khatal	Khatal	Khatal	Khatal	Khatal
5	222539	Mahadik Varsha Raju	U.R.mahadik	U.R.mahadik	U.R.mahadik	U.R.mahadik	U.R.mahadik	U.R.mahadik
6	222540	Namdas Madhura Dattatray	Namdas	Namdas	Namdas	Namdas	Namdas	Namdas
7	222541	Pawar Nilam Bhimrav	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
8	222542	Pawar Pragati Dhanaji	Pawar		Pawar	Pawar	Pawar	Pawar
9	222543	Rathod Pooja Silu	R	R	R	R	R	R
10	222544	Torane Punam Audumbar	Torane	Torane	Torane	Torane	Torane	Torane



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B.Sc. III

Sr. No.	Roll No.	Name of the Student	27/2/23	28/2/23	6/3/23	13/3/23	18/3/23	20/3/23
1	222535	Bhintade Ritu Raju						
2	222536	Botalji Neha Vikas	<u>Neha</u>	<u>Neha</u>	<u>Neha</u>	<u>Neha</u>	<u>Neha</u>	
3	222537	Kadam Vaishanavi Santosh	<u>Skadam</u>	<u>Skadam</u>	<u>Skadam</u>	<u>Skadam</u>		<u>Skadam</u>
4	222538	Khatal Yogini Hanmant	<u>Yhatal</u>	<u>Yhatal</u>	<u>Yhatal</u>	<u>Yhatal</u>	<u>Yhatal</u>	<u>Yhatal</u>
5	222539	Mahadik Varsha Raju	<u>U.R.mahadik</u>	<u>U.R.mahadik</u>	<u>U.R.mahadik</u>	<u>U.R.mahadik</u>	<u>U.R.mahadik</u>	<u>U.R.mahadik</u>
6	222540	Namdas Madhura Dattatray	<u>Namdas</u>	<u>Namdas</u>	<u>Namdas</u>	<u>Namdas</u>	<u>Namdas</u>	<u>Namdas</u>
7	222541	Pawar Nilam Bhimrav	<u>NBawar</u>		<u>NBawar</u>	<u>NBawar</u>	<u>NBawar</u>	<u>NBawar</u>
8	222542	Pawar Pragati Dhanaji		<u>Pawar</u>	<u>Pawar</u>	<u>Pawar</u>	<u>Pawar</u>	<u>Pawar</u>
9	222543	Rathod Pooja Silu	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>
10	222544	Torane Punam Audumbar	<u>Porane</u>	<u>Porane</u>	<u>Porane</u>	<u>Porane</u>	<u>Porane</u>	<u>Porane</u>



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B.Sc. III

Sr. No.	Roll No.	Name of the Student	21-3-23	27-3-23	28-3-23	3-4-23	10-4-23	11-5-23
1	222535	Bhintade Ritu Raju						
2	222536	Botalji Neha Vikas	<u>Neha</u>	<u>Neha</u>	<u>Neha</u>	<u>Neha</u>		<u>Neha</u>
3	222537	Kadam Vaishanavi Santosh	<u>Skadam</u>	<u>Skadam</u>	<u>Skadam</u>	<u>Skadam</u>	<u>Skadam</u>	<u>Skadam</u>
4	222538	Khatal Yogini Hanmant	<u>Ykhatal</u>	<u>Ykhatal</u>	<u>Ykhatal</u>	<u>Ykhatal</u>	<u>Ykhatal</u>	<u>Ykhatal</u>
5	222539	Mahadik Varsha Raju	<u>Vmahadik</u>	<u>Vmahadik</u>	<u>Vmahadik</u>	<u>Vmahadik</u>	<u>Vmahadik</u>	<u>Vmahadik</u>
6	222540	Namdas Madhura Dattatray	<u>Damdas</u>	<u>Damdas</u>	<u>Damdas</u>	<u>Damdas</u>	<u>Damdas</u>	<u>Damdas</u>
7	222541	Pawar Nilam Bhimrav	<u>NPawar</u>		<u>NPawar</u>	<u>NPawar</u>	<u>NPawar</u>	<u>NPawar</u>
8	222542	Pawar Pragati Dhanaji	<u>Pawar</u>	<u>Pawar</u>	<u>Pawar</u>	<u>Pawar</u>	<u>Pawar</u>	<u>Pawar</u>
9	222543	Rathod Pooja Silu	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>	<u>P</u>
10	222544	Torane Punam Audumbar	<u>Porane</u>	<u>Porane</u>	<u>Porane</u>		<u>Porane</u>	<u>Porane</u>



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B.Sc. III

Sr. No.	Roll No.	Name of the Student	17-4-23	18-4-23	24-4-23	25-4-23		
1	222535	Bhintade Ritu Raju						
2	222536	Botalji Neha Vikas	<u>Botalji</u>	<u>Botalji</u>	<u>Botalji</u>	<u>Botalji</u>		
3	222537	Kadam Vaishanavi Santosh	<u>SKadam</u>	<u>SKadam</u>	<u>SKadam</u>	<u>SKadam</u>		
4	222538	Khatal Yogini Hanmant	<u>YKhatal</u>	<u>YKhatal</u>	<u>YKhatal</u>	<u>YKhatal</u>		
5	222539	Mahadik Varsha Raju	<u>VMahadik</u>	<u>VMahadik</u>	<u>VMahadik</u>	<u>VMahadik</u>		
6	222540	Namdas Madhura Dattatray	<u>Namdas</u>	<u>Namdas</u>	<u>Namdas</u>	<u>Namdas</u>		
7	222541	Pawar Nilam Bhimrav	<u>NPawar</u>	<u>NPawar</u>		<u>NPawar</u>		
8	222542	Pawar Pragati Dhanaji	<u>PPawar</u>	<u>PPawar</u>	<u>PPawar</u>	<u>PPawar</u>		
9	222543	Rathod Pooja Silu	<u>PRathod</u>		<u>PRathod</u>	<u>PRathod</u>	<u>PRathod</u>	
10	222544	Torane Punam Audumbar	<u>PTorane</u>	<u>PTorane</u>	<u>PTorane</u>	<u>PTorane</u>		



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SKILL BASED COURSE
Certificate

This is to certify that Mr./Miss.

Class: Subject

has successfully completed three months "Skill Based Course" in Python
Programming From February 2023 to May 2023 and obtain
grade.

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