

# K. J. Somaiya College of Arts, Commerce & Science, Kopargaon

Mohiniraj Nagar, Kopargaon, Tal: Kopargaon, Dist: Ahmednagar Pin-423601

# Certificate Course in Principles of Programming Language

+ Course Code: CC.004

**↓** Organized By: Department of Mathematics

**→** Date of Commencement: 01/07/2019.

**↓** Duration of Course: 02 Months (Min. 30 Hrs.)

**Let Course Coordinator:** Dr. B. D. Gavhane

# Certificate Course Organized by Department of Mathematics

### "Principles of Programming Language"

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# K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

Mohaniraj nagar, Kopargaon.423601

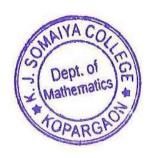
# Organized by DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN MATHEMATICS

# "Principles of Programming Language"

Course Code- CC.004

Year of Commencement: 2019-20



# Certificate Course in MATHEMATICS 2022-23

# -: Name of the Certificate Course:"Principles of Programming Language"

(Computer based Practical)

Designed By: -

Department of MATHEMATICS

Nature of Course: -

Theory + Practical (Computer based)

Duration: -

Two Months

Eligibility:-

12th Pass

Course Fee: -

Nil - Rs. per Student

Capacity: -

Min. 20 Students per batch

Total Lectures: -

30 lectures

**Evaluation Process:- Grade System (Marks Converted into Grade)** 

> Theory exam.-

50 Marks

> Practical & Exercises.-

50 Marks

Total Marks: -

100 Marks

Grade System:-

1. 'A' Grade – More than 70 Marks

2. 'B' Grade - 60 to 70 Marks

3. 'C' Grade - 50 to 60 Marks

4. 'D' Grade - 40 to 50 Marks

Passing: - Obtained 40% Marks

Coordinator: - Dr. B. D. Gavhane

Head, Dept. of Mathematics

Head

Department of Mathematics K. J. Somalya College, Kopargaon



# K.J.SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE KOPARGAON

# Department of Mathematics 2022-23

1	Name of Department	<del></del>	Mathematics		
2	Title of Course	<u></u>		ogramming lan	guage
3	Course Level		Certificate	-8	<del>5</del>
	Implementation acad	lemic	Since 2019-20	<del></del>	
4	year Since 2019 20				
	Preamble of Syllabus	3	1. Concepts of	programming	
5			2. Programmin		
				al numerical m	ethods
6	Faculty of the Cours	<u>e</u>	Science		
7	Eligibility of Admiss	ion and	12 <sup>th</sup> Science Pa	ISS	
1	prerequisite				
8	Duration of the Cour	rse	30 days		
9	Intake capacity of st	udents	60		
10	Total hours of teachi	ng	30		
11	Pattern of examinati				
	Theory exam, Practi	cal and		ctical exam at t	he end of the
	exercises		course.		
	Teaching Faculty				
12	Name of Faculty	Designati		Qualification	A 11
12	Dr. B.D. Gavhane		Professor	M.Sc.,Ph.D., I	
	Mr. R.B.Chavan	Assistant	Professor	M.Sc. Mathen	
13		Other Facilities Computer Laboratory, Library			
14	Recommended book	Recommended books  Numerical Methods In Engineering And Science- B. S. Grewal, Mercury			
	1. Numerical Methods	In Engine	ering And Science	ce-B. S. Grewa	i, Mercury
	Learning And Inform	nation		O. Ot DIII	Ti
	2. Introductory metho		erical Analysis-S	.S. Sastry, PHI	Learning
	Private Limited, New	Delhi.	3 ( 1 - 1 - 37 D		
		3. Computer oriented Numerical Methods – V. Rajaram.			
	4. Let Us C-Yashavan	t P. Kanetk	car		
15	Detailed Syllabus			<del></del> -	NIe
Sr. No.		Topic	: Name		No. of
	·				Lectures
	Concepts of programming				
	1. Definition and Properties of algorithms,				
	Algorithm development.  2. Flow charts- symbols and simple flowcharts.				
1	2. Flow charts and Algorithms for Kinematic equations		6		
	3. Flow charts and Algorithms for Kinematic equations, Free fall, Equation of state, Factorial of a number.		<b>"</b>		
	1 Types of progre	Free fall, Equation of state, Factorial of a number.			
	4. Types of programming language: Lower, middle and higher level languages.				
	Programming wi				
2	1. Structure of C p	rogram Ch	naracter set bev	worde	12
	1 1. Structure of C p	rogram, CI	ALLEGO DOL, RCY	worus,	1

3. Discussion of algorithm and flow program for Trapezoidal rule and Simpson's 3/8th rule.	rcharts and writing C impson's 1/3rd rule,  Total No. of Lectures 30
Computational Numerical Method  1. Errors in Computation: Inherent numbers due to finite bit representate Truncation error, round off errors (Fexamples)  2. Iterative methods: Discussion of flowcharts and writing C programs of equation using Bisection method method.	errors in storing tion to use in Computer, Explain with the help of algorithm and for finding single root
Constants and variables, Variable netheir declarations, Symbolic Constant 2. Input/output functions: scanf (), putchar (), getch (), gets (), puts () 3. Operators and Expressions: Arith Relational Operators, Logical Operators, Conditional Operator.  4. Formatted input/output Control statements: If, if else, while nested control structures (nested if, continue, switch- case statement, go 5. Use of Library functions: e.g. matrigonometric, graphics.  6. Arrays: 1-D, 2-D and String 7. Concept of Pointers	nts. printf (), getchar (), ). metic Operators, ators, Assignment e, do while for loop, nested loops), break, to statement. thematical,

Department : Hathematics K. J. Somaiya College, Kopargaon

### **Syllabus**

### Department of Mathematics

### Certificate Course: "Principles of Programming Language"

(Computer based Practical)
Syllabus: 2022-23

#### **Objectives:**

- 1) The course is designed to provide principles of programming in C language.
- 2) Students will be able to develop logics which will help them to create programs, applications in C.
- 3) To provide exposure to problem solving through programming.
- 4) Also by learning the basic programming constructs they can easily switch over to any other language in future.
- 5) To study and implementation of numerical analysis to solve problems in Mathematics for which a quantitative theory already exists.

Chapter No.	Topic Name	No. of Lectures
1	Concepts of programming  1. Definition and Properties of algorithms, Algorithm development.  2. Flow charts- symbols and simple flowcharts.  3. Flow charts and Algorithms for Kinematic equations, Free fall, Equation of state, Factorial of a number.  4. Types of programming language: Lower, middle and higher level languages.	
2	Programming with C  1. Structure of C program, Character set, key words, Constants and variables, Variable names, Data types and their declarations, Symbolic Constants.  2. Input/output functions: scanf (), printf (), getchar (), putchar (), getch (), gets (), puts ().  3. Operators and Expressions: Arithmetic Operators, Relational Operators, Logical Operators, Assignment Operators, Conditional Operator.	12

	4. Formatted input/output	
	Control statements: If, if else, while, do while for loop,	A
	nested control structures (nested if, nested loops), break,	
	continue, switch- case statement, go to statement.	
	5. Function	
	Use of Library functions: e.g. mathematical,	
	trigonometric, graphics.	
	<ul><li>6. Arrays: 1-D, 2-D and String</li><li>7. Concept of Pointers</li></ul>	
	7. Concept of Fornters	
	Computational Numerical Methods	
	1. Errors in Computation: Inherent errors in storing	
	numbers due to finite bit representation to use in	
	Computer, Truncation error, round off errors (Explain	ai.
	with the help of examples)	
_	2. Iterative methods: Discussion of algorithm and	12
3	flowcharts and writing C programs for finding single	
·	root of equation using Bisection method, Newton-	
	Raphson method.	,
	3. Discussion of algorithm and flowcharts and writing C	
	program for Trapezoidal rule and Simpson's 1/3rd rule,	
	Simpson's 3/8th rule.	
	Total No. of Lectures	30

### Following programs will be discussed in theory lectures:

- 1. Sum of digits of an integer
- 2. To find factorial of a number
- 3. Checking and printing of prime numbers
- 4. Root of equation/s-Bisection method, Newton Raphson method, Gauss-Elimination Method
- 5. Numerical integration- Trapezoidal, Simpson's 1/3rd rule, Simpson's 3/8th rule.

### Reference Books:

- 1. Numerical Methods In Engineering And Science-B. S. Grewal, Mercury Learning And Information
- 2. Introductory methods of Numerical Analysis-S.S. Sastry, PHI Learning Private Limited, New Delhi.
- 3. Computer oriented Numerical Methods V. Rajaraman.

4. Let Us C-Yashavant P. Kanetkar

Department K. J. Somaiya

thematics

3. Kopargaon



#### Proposal to BCD

# K. J. Somaiya College of Arts, Commerce & Science, Kopargaon. Department of Mathematics

Date:

1/11/2022

To,
The Chairman,
Board of Curriculum Development,
K. J. Somaiya College, Kopargaon.

Subject: Regarding the permission for the certificate course in Principles of Programming Language.

Respected Sir,

Considering the skilled based requirement of students of Mathematics department. We have designed 30 contact hrs Certificate course entitled "Principles of Programming Language". It is skilled based course to understand the basic concepts in programming.

The certificate course is useful to the UG level students from Mathematics department. This is the basic knowledge course about computer programming information. We are quite sure about the success of this certificate course and desirous to start this course at diploma level next year.

The required infrastructure is available in the department. The present faculty is ready to provide such knowledge and teach to the students about the programs and its uses in the field of Mathematics.

So, I request you to please give me the permission to conduct the 30 contact hrs certificate course in the subject of Mathematics.

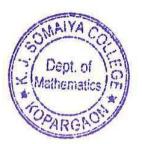
Thanking you

Your faithfully

Dr. B.D. Gavhane Head, Dept. of Mathematics

**Encl: Syllabus copy of Certificate Course** 

Head
Department of Mathematics
K. J. Somaiya College, Kopargaon







# K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE & SCIENCE,

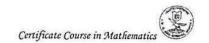
Mohaniraj nagar, Kopargaon, Tal:- Kopargaon, Dist- Ahmednagar, Maharashtra, 423601.

Website: www. kjscollege.com, Email- kjscollege@rediffmail.com

### ADMISSION FORM FOR CERTIFICATE COURSES

į	Certificate course in the subject of
1 1 1 1 1	Name of the Certificate Course:: "Principles of Programming Language"
	Personal Information
Νε	me of the Student:-
CI	ass:
Ro	ll No
Ca	tegory
Ad	dress:
Mo	bile No
<b>I</b> - :	mail ID
	st Qualification:
	centage:%
Coi	nputer Knowledge:- Yes . / No.
Vai	ne of the Completed Computer Course:-

"C-programming"



Declaration:

I am declared that, as per my knowledge the above information is true and correct.

Student	Signature
---------	-----------

#### DEPARTMENTAL USE ONLY

Cl		
Class	is admitted in certificate c	ourse in the subject of
for the Period of _	to	, And his / her roll no is
for	this course.	
Date:- /	/ 20	

Head,

Department of Mathematics

Head
Department of Mathematics
K. J. Somaiya College, Kopargaon

Dept. Seal



Principal

#### K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

Mohaniraj nagar, Kopargaon. 423601

### Certificate Course: Principles of programming language

	Cime- 1	Hrs (2.00 To 3.00 PM)	Date- 28/03/23	Max. Marks – 50
	Que	-Attempt any TWENTY FIVE	of the following questions	(50)
1)	Use Bi	section Method to find out	the root of $x - sinx - 0.5 = 0$	) between 1 and 2.
	a)	1.497		
	b)	1.947		
	c)	1.479		
	d)	1.974		
2)	The	provides pictorial rep	presentation of given problem	
	-	Algorithm		
		. Flowchart		
	•	. Pseudocode		
		All of these		
3)	_		pot of $cos(x) - xe^x = 0$ with a	= 0 and b = 1.
	•	0.617		
		0.517		
	c)	0.417		
	•	0.550		
4)		dress operator &, cannot ac	ct on	
	•	R-values		
	•	Arithmetic expressions		
	c)			
	•	Local variables		,
5)		t of initializing array is also o	called as	
	151	Populating an array		
		Assigning array		
	c)	and on account acres .		
<b>~</b> 1	•	Factoring and array	10 10 days. 11 6	
6)	•		d on multiple choices, which of	the following is best
	suited?			
	a)			
	•	if-else if-else-if		
	•	all of the above		
71	•	ntinue statement cannot be	ucod with	
′,		For	useu witti	
		While		
	•	do while		
		switch		
8)	•		an process for solutions and the	
٠,		Algorithm	ep process for solving a probler	n.

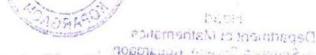
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c	) Pseudocode
d	) all of these
9) A poi	nter is a
а	) variable that stores address of an instruction
b	) variable that stores address of other variable
С	keyword used to create variables
	) None of these
10) A fun	ction is given by $x - e^{-x} = 0$ . Find the root between a = 0 and b = 1 by using Bisection
meth	od.
	0.655
	0.565
	0.665
	0.656
	n is said to easily
	Readable Language
	Writable Language
c)	
-	Script able Language
	nter variable can be
•	Passed to a function Changed within a function
•	Changed within a function
	Returned by a function
•	Can be assigned an integer value is the other name of Question Mark Colon Operator?
	Comparison Operator
-	If-Else Operator
-	Binary Operator
	Ternary Operator
	ermine whether a string has specific sequence of characters, use
	Contains method
•	Specific method
c)	Sequence method
•	Check method
•	aluation of the definite integral $\int_{-1}^{1.4} x   x  dx$ by using Simpson's $\frac{1}{3} rd$ rule with step
	0.6 yields.
	0.914
b)	1.248
c)	0.581
•	0.592
•	
[6] By Sim	pson's $\frac{1}{3}rd$ rule , the value of $\int_1^7 \frac{dx}{x}$ is
a)	1.458
b)	1.658
c)	1.958

b) Flowchart

- d) 1.358
- 17) Find the positive root of the equation 3x cos x 1 using Regula Falsi method and correct upto 4 decimal places.
  - a) 0.6701
  - b) 0.5071
  - c) 0.6071
  - d) 0.5701
- method is used to reverse the values. 18)
  - a) Array.Reverse
  - b) Array.Sort Desc
  - c) Array.Sort Asc
  - d) Array.rev
- \_\_\_\_ method is used to sort an array in visual basic. 19) \_
  - a) Array.arrange()
  - b) Array.arrayArrange()
  - c) Array.Sort()
  - d) Array.sortAscending()
- 20) Arranging data in a specific order is called as....
  - a) Arranging
  - b) Sorting
  - c) Organizing
  - d) Making
- 21) The Bisection method is also known as
  - a) Binary Chopping
  - b) Quaternary Chopping
  - c) Tri region Chopping
  - d) Hex region Chopping



- 22) Find the positive root of the equation x cos(x) using Regula Falsi method and correct to 4 decimal places.
  - a) 0.73908
  - b) 0.63908
  - c) 0.74980
  - d) 0.64908
- 23) Simpson's  $\frac{1}{3}rd$  rule is used to integrate the function  $f(x) = \frac{3}{5}x^2 + \frac{9}{5}$  between x = 0 & x=1 using the least number of equal subintervals. The value of integral is ....
  - a) 2
  - b) 6.
  - c) 4
- 24) Using Simpson's  $\frac{1}{3}rd$  rule the value of  $\int y \, dx$  for data given below is .....

	0	
1	2	3
2	6	4
		Nen
	2	

- a) 12
- b) 20
- c) 15
- d) 25
- 25) The Contains Method returns \_\_\_\_\_
  - a) Integer
  - b) Void
  - c) Boolean
  - d) String
- 26) Which operator from the following has the lowest priority?
  - a) Assignment Operator
  - b) Division Operator
  - c) Comma Operator
  - d) Conditional Operator
- 27) What is wild pointer?
  - a) Pointer which is wild in nature
  - b) Pointer which has no value
  - c) Pointer which is not initialized
  - d) None

Department of Mathematics
K. J. Somaiya College, Kopargaon

Dept. of COLLEGE Mathematics TOPARGACT

K. J. Some College of Arts Commerce & Dale ce, Lapangach

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# K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

### **Certificate Course in Mathematics**

### "Principles of Programming Language"

Admitted Students for the Certificate Course Year- (2022-2023)

Sr. No.	Name of the Students
1	BACHKAR AMOL ASHOK
2	PATHAN BUSHRA AFZALKHAN
3	RAUT TANVI KIRAN
4	DUBE VRUSHALI ARJUN
5	SHAHANE AARATI RAVINDRA
6	GURSAL ADITYA DIGAMBAR
7	· DHULE VAISHNAVI DATTU
8	TURKANE PRAPTI JALINDAR
9	MULE YOGENDRA NILESH
10	BHADANE TUSHAR SURESH
11	PATHAN MUSKAN ELIYAS
12	DUKARE KARAN BABASAHEB
13	LUTE ASWINI BANDUJI
14	KHOND DHANASHRI SOMNATH
15	PAWAR KOMAL MANIK
16	PACHORE PRASHANT MACHHINDRA
17	GADHAVE BHAGYASHRI SHRIKRISHNA
18	KANKUBJI KSHITIJ DHARAM
19	ABHALE POOJA SUNIL
20	SHINDE ASHWINI RAJARAM
21	AVHALE VAISHNAVI RAVINDRA
22	DOKHE ARTI KAILAS
23	GHODAKE PRADNYA SAKHAHARI
24	THOMBARE AKSHADA HRMRAJ
25	GAVHANE PRERNA

26	MODHE BHAGYSHRI BAJIRAO	
27	THORAT PRIYANKA GOVIND	
28	KHARDE PRATIKSHA ASHOK	
29	JADHAV GAYATRI BHISHMACHARYA	
30	SHELAR PRAGATI ANNASAHEB	
31	NIRMAL KOMAL RADHAKRISHNA	
32	KOLHE VAISHNAVI HARICHANDRA	
33	ROKADE SONALIKA BHIMRAO	
34	YEOLE KALYANI SHRIRAM	
35	DIKE VAISHNAVI CHANDRAKANT	
36	THOMBARE SHWETA	
37	ROHAMARE DNYANESHWARI SOMNATH	

Dr. B. D. Gavhane

Head, Dept. of Mathematics

Department of Mathematics
K. J. Sornaiya College, Kopargaon



Dr. B. S. Yadav Principal

# K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

Mohaniraj nagar, Kopargaon.423601

# Certificate Course in Mathematics "Principles of Programming Language"

(Computer based Practical)

#### TIME TABLE- 2022-2023

With Effect from: 10/11/2022

Time	Wednesday	Thursday	Friday	Saturday
2.30				
То	Lect. in classroom	Lect. in Classroom	Lect. in Classroom	Computer lab work /
4.30 PM.	(S-46)	(S-46)	(S-46)	practical (S-50)

For online Lectures:

See YouTube Channel Dr.B.D.Gavhane (Links of online lectures will be shared with you)

Name of the Teacher:-

1. Dr.B.D.Gavhane (Mathematics Dept.)

2. Prof. R.B.Chavan (Mathematics Dept.)

Head

Department of Mathematics

K. J. Somaiya College, Kopargaon

Dept. of Control of Co

# `K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

## Certificate Course in Mathematics (2022-23)

"Principles of Programming Language" (Computer based Practical)

### STUDENT ATTENDENCE SHEET

Sr.No	STUDENT NAME		
	DATE	10   11   12   10   11   12   11   12   12	4/3/23 24/3/23 15/3/23 25/3/23
1	ABHALE POOJA SUNIL		
2	AVHALE VAISHNAVI RAVINDRA	1-17-17-17-17-17-17-17-17-17-17-17-17-17	- 0 1
3	BACHKAR AMOL ASHOK		
4	BHADANE TUSHAR SURESH	Tushar Tu	Trapara Trapara
5	DHULE VAISHNAVI DATTU	The property of the property o	Orbade Orbade
6	DIKE VAISHNAVI CHANDRAKANT		Birl Birl
7	DOKHE ARTI KAILAS	soeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doe doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doe doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doeati doe doe doeati doeati doeati doeati doeati doeati	· · · · · · · ·
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Dr. B. D. Carhane Pro. R.B. Chavan

Head

Department of Mathematics K. J. Somaiya College, Kopargaon

# DEPARTMENT OF MATHEMATICS NOTICE

### **EXAMINAITON IN CERTIFICATE COURSE IN MATHEMATICS**

## **Principles of Programming language**

20/03/2023

All the students from Certificate Course in Mathematics (Principles of Programming Language) inform you that the examination scheduled on dated 28/03/2023 at 2.00 pm online using Google Forms.

Link of online examination will be shared with you before ten minutes of commencement of examination.

Dr. B. D. Gavhane

Department of Mathematics

Department of Mathematics

K. J. Somaiya College, Kopargaon

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Commence & Science & Soprangeon

Principal Transfer

### K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

#### **Certificate Course in Mathematics**

### "Principles of Programming Language"

### Result sheet of Certificate Course in Mathematics for the year- (2022-2023)

Sr.	N 00 00 1	Marks	Obtained	_	·
No.	Name of the Students	Theory Practica (50) (50)		Total	Grade
1	BACHKAR AMOL ASHOK	34	35	69	В
2	PATHAN BUSHRA AFZALKHAN	24	43	67	В
3	RAUT TANVI KIRAN	44	35	79	Α
4	DUBE VRUSHALI ARJUN	44	44	88	Α
5	SHAHANE AARATI RAVINDRA	34	42	76	Α
6	GURSAL ADITYA DIGAMBAR	22	25	47	D
7	DHULE VAISHNAVI DATTU	30	35	65	В
8	TURKANE PRAPTI JALINDAR	26	46	72	Α
9	MULE YOGENDRA NILESH	32	45	77	Α
10	BHADANE TUSHAR SURESH	30	42	72	Α
11	PATHAN MUSKAN ELIYAS	20	26	46	D
12	DUKARE KARAN BABASAHEB	20	23	43	D
13	LUTE ASWINI BANDUJI	22	26	46	D
14	KHOND DHANASHRI SOMNATH	14	29	43	D
15	PAWAR KOMAL MANIK	22	30	52	С
16	PACHORE PRASHANT MACHHINDRA	50	45	95	Α
17	GADHAVE BHAGYASHRI SHRIKRISHNA	30	44	74	Α
18	KANKUBJI KSHITIJ DHARAM	42	34	76	A
19	ABHALE POOJA SUNIL	46	45	91	Α
20	SHINDE ASHWINI RAJARAM	42	34	76	Α
21	AVHALE VAISHNAVI RAVINDRA	42	33	75	Α
22	DOKHE ARTI KAILAS	40	40	80	Α
23	GHODAKE PRADNYA SAKHAHARI	32	35	67	В
24	THOMBARE AKSHADA HRMRAJ	38	40	78	Α

25	GAVHANE PRERNA	42	42	82	Α
26	MODHE BHAGYSHRI BAJIRAO	44	34	78	Α
27	THORAT PRIYANKA GOVIND	34	43	77	Α
28	KHARDE PRATIKSHA ASHOK	46	34	80	Α
29	JADHAV GAYATRI BHISHMACHARYA	42	33	75	Α
30	SHELAR PRAGATI ANNASAHEB	42	29	71	Α
31	NIRMAL KOMAL RADHAKRISHNA	26	43	69	Α
32	KOLHE VAISHNAVI HARICHANDRA	32	42	74	Α
33	ROKADE SONALIKA BHIMRAO	48	43	91	Α
34	YEOLE KALYANI SHRIRAM	38	42	80	Α
35	DIKE VAISHNAVI CHANDRAKANT	28	28	56	С
36	THOMBARE SHWETA	14	35	49	D
37	ROHAMARE DNYANESHWARI SOMNATH	50	42	92	Α

1. Name and Signature of the Subject Teacher

Dr. B. D. Gavhane

2. Name and Signature of the Subject Teacher

Prof. R.B. Chavan

Dr. B. D. Gavhane Head, Dept. of Mathematics

Head

Department of Mathematics K. J. Somaiya College, Kopargaon Dr. B. S. Yadav Principal

# K.J.SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE KOPARGAON

### Department of Mathematics Academic year 2022-23

#### Report

Name of the certificate course	Principles of programming language
Date and Duration	10/11/2022 to 25/03/2023 30 Hours
Name of faculty	Dr. B.D. Gavhane
	Mr. R.B. Chavan
Number of participants enrolled	37
Venue	Department of Mathematics

#### Brief summary of activity/Event:

Department of Mathematics runs a certificate course "Principles of programming language". The objective of the course is to develop logics that will help students to create programs. It also aims to provide exposure to problem-solving through programming. Head of the department Dr. B.D. Gavhane inaugurated this course.

The course content is made available to students. The students learn about programming language and solve mathematical problems using programs. Students studied the implementation of numerical analysis to solve problems in Mathematics for which a quantitative theory already exists.

#### The outcome of activity/Event:

- 1. Developed logic that helped students to create programs.
- 2. Students learned the basic programming constructs they can easily switch over to any other language in the future.

Department of Mathematics K. J. Somaiya College, Kopargaon

K. J. Sommy Crage of Arts Commercial State Ice, Kopingaon



# K.J.Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon, Dist: Ahmednagar 423601 Certificate Course

On

"Principles of Programming Language"

Organized By
Department of Mathematics



This is to certify that, \_\_\_\_\_\_has successfully completed the certificate course on 'Principles of Programming Language' in the academic year —/—.

Dr. B.D.Gavhane
HOD (Mathematics)

Dr. B.B. Bhosale Science faculty I/C Dr. B.S. Yadav Principal

Department of Mathematics K. J. Somaiya College, Kopargaon





# K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

Mohaniraj nagar, Kopargaon.423601

# Organized by DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN MATHEMATICS

# "Principles of Programming Language"

Course Code- CC.004

Year of Commencement: 2019-20



# Certificate Course in MATHEMATICS 2021-22

#### -: Name of the Certificate Course:-

#### "Principles of Programming Language"

(Computer based Practical)

Designed By: -

Department of MATHEMATICS

Nature of Course: -

Theory + Practical (Computer based)

**Duration:** -

Two Months

Eligibility:-

12th Pass

Course Fee: -

Nil - Rs. per Student

Capacity: -

Min. 20 Students per batch

Total Lectures: -

30 lectures

**Evaluation Process:- Grade System (Marks Converted into Grade)** 

Theory exam.-

50 Marks

➤ Practical & Exercises.-

50 Marks

Total Marks: -

100 Marks

Grade System:-

1. 'A' Grade - More than 70 Marks

2. 'B' Grade - 60 to 70 Marks

3. 'C' Grade - 50 to 60 Marks

4. 'D' Grade - 40 to 50 Marks

Passing: - Obtained 40% Marks

Coordinator: - Dr. B. D. Gavhane

Head, Dept. of Mathematics

Head

Department of Mathematics K. J. Somaiya College, Kopargaon

Dept. of Commander of Mathematics m

K.J.Somaiya College Kopargaon

# K.J.SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE KOPARGAON

# Department of Mathematics 2021-22

1	Name of Department		Mathematics						
2	Title of Course		Principles of programming language						
3	Course Level		Certificate						
	Implementation acad	lemic	Since 2019-20						
4	year								
			1. Concepts of	programming					
5	Preamble of Syllabus	S	2. Programmin						
				al numerical m	ethods				
6	Faculty of the Course		Science						
7	Eligibility of Admiss	ion and	12 <sup>th</sup> Science Pa	SS					
/	prerequisite	<u></u>							
8	Duration of the Cour		30 days	_					
9	Intake capacity of stu		60						
10	Total hours of teachi	ng	30						
11	Pattern of examinati		T est		1 (1				
	Theory exam, Practi	cal and	"	ctical exam at t	the end of the				
	exercises		course.	<del>-</del>					
	Teaching Faculty	l =		Qualification					
12	Name of Faculty	Designati		Mathamatica					
	Dr. B.D. Gavhane		t Professor M.Sc., Ph.D., Mathematics t Professor M.C.A.						
	Mr. P.G.Gudaghe	Assistant	Professor M.C.A.  Computer Laboratory, Library						
13	Other Facilities		Computer Labor	bratory, Library	,				
14	Recommended books  1. Numerical Methods		oring And Science	A R C Grave	1 Marcury				
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15	Detailed Syllabus				No. of				
Sr. No.		Topic	Name		Lectures				
	Concepts of prog	ramming							
	1. Definition and		of algorithms,						
	Algorithm develop		_						
	2. Flow charts- syr	nbols and s	simple flowcharts	s.					
1	3. Flow charts and	3. Flow charts and Algorithms for Kinematic equations,							
	Free fall, Equation								
	4. Types of progra	mming lang	nguage: Lower, middle and						
	higher level langua	ages.							
	Programming wi	ith C							
2	1. Structure of C p				10				
2	Constants and var		12						
	their declarations,			• •					

	<ol> <li>Input/output functions: scanf (), printf (), getchar (), putchar (), getch (), gets (), puts ().</li> <li>Operators and Expressions: Arithmetic Operators, Relational Operators, Logical Operators, Assignment Operators, Conditional Operator. Formatted input and formatted Console, Loop control structures.</li> <li>Formatted input/output Control statements: If, if else, while, do while for loop, nested control structures (nested if, nested loops), break, continue, switch- case statement, go to statement.</li> <li>Function         Use of Library functions: e.g. mathematical, trigonometric, graphics.</li> <li>Arrays: 1-D, 2-D and String</li> <li>Concept of Pointers</li> </ol> Computational Numerical Methods	
3	<ol> <li>Errors in Computation: Inherent errors in storing numbers due to finite bit representation to use in Computer, Truncation error, round off errors (Explain with the help of examples)</li> <li>Iterative methods: Discussion of algorithm and flowcharts and writing C programs for finding single root of equation using Bisection method, False Position Method, Newton- Raphson method, Gauss-Elimination Method, Gauss-Jordon Elimination Method.</li> <li>Discussion of algorithm and flowcharts and writing C program for Trapezoidal rule and Simpson's 1/3rd rule, Simpson's 3/8th rule.</li> </ol>	12
	Total No. of Lectures	30

Department of Mathematics
K. J. Somaiya College, Kopargaon

### **Syllabus**

#### Department of Mathematics

Certificate Course: "Principles of Programming Language"

(Computer based Practical)
Syllabus: 2021-22

### **Objectives:**

- 1) The course is designed to provide principles of programming in C language.
- 2) Students will be able to develop logics which will help them to create programs, applications in C.
- 3) To provide exposure to problem solving through programming.
- 4) Also by learning the basic programming constructs they can easily switch over to any other language in future.
- 5) To study and implementation of numerical analysis to solve problems in Mathematics for which a quantitative theory already exists.

Chapter No.	Topic Name	No. of Lectures
1	Concepts of programming  1. Definition and Properties of algorithms, Algorithm development.  2. Flow charts- symbols and simple flowcharts.  3. Flow charts and Algorithms for Kinematic equations, Free fall, Equation of state, Factorial of a number.  4. Types of programming language: Lower, middle and higher level languages.	6
2	Programming with C  1. Structure of C program, Character set, key words, Constants and variables, Variable names, Data types and their declarations, Symbolic Constants.  2. Input/output functions: scanf(), printf(), getchar(), putchar(), getch(), gets(), puts().  3. Operators and Expressions: Arithmetic Operators, Relational Operators, Logical Operators, Assignment	12

	Operators, Conditional Operator. Formatted input and formatted Console, Loop control structures.  4. Formatted input/output Control statements: If, if else, while, do while for loop, nested control structures (nested if, nested loops), break, continue, switch- case statement, go to statement.  5. Function Use of Library functions: e.g. mathematical, trigonometric, graphics.  6. Arrays: 1-D, 2-D and String  7. Concept of Pointers	
3	Computational Numerical Methods  1. Errors in Computation: Inherent errors in storing numbers due to finite bit representation to use in Computer, Truncation error, round off errors (Explain with the help of examples)  2. Iterative methods: Discussion of algorithm and flowcharts and writing C programs for finding single root of equation using Bisection method, False Position Method, Newton- Raphson method, Gauss-Elimination Method, Gauss-Jordon Elimination Method.  3. Discussion of algorithm and flowcharts and writing C program for Trapezoidal rule and Simpson's 1/3rd rule, Simpson's 3/8th rule.	12
	Total No. of Lectures	30

### Following programs will be discussed in theory lectures:

- 1. Sum of digits of an integer
- 2. To find factorial of a number
- 3. Checking and printing of prime numbers
- 4. Root of equation/s-Bisection method, Newton Raphson method, Gauss-Elimination Method
- 5. Numerical integration- Trapezoidal, Simpson's 1/3rd rule, Simpson's 3/8th rule.

### Reference Books:

- 1. Numerical Methods In Engineering And Science-B. S. Grewal, Mercury Learning And Information
- 2. Introductory methods of Numerical Analysis-S.S. Sastry, PHI Learning Private Limited, New Delhi.
- 3. Let Us C-Yashavant P. Kanetkar

Department of Mathematics

L. I. S. L. S.



#### Proposal to BCD

# K. J. Somaiya College of Arts, Commerce & Science, Kopargaon. Department of Mathematics

Date: 18/02/2022

To,
The Chairman,
Board of Curriculum Development,
K. J. Somaiya College, Kopargaon.

Subject: Regarding the permission for the certificate course in Principles of Programming Language.

Respected Sir,

Considering the skilled based requirement of students of Mathematics department. We have designed 30 contact hrs Certificate course entitled "Principles of Programming Language". It is skilled based course to understand the basic concepts in programming.

The certificate course is useful to the UG level students from Mathematics department. This is the basic knowledge course about computer programming information. We are quite sure about the success of this certificate course and desirous to start this course at diploma level next year.

The required infrastructure is available in the department. The present faculty is ready to provide such knowledge and teach to the students about the programs and its uses in the field of Mathematics.

So, I request you to please give me the permission to conduct the 30 contact hrs certificate course in the subject of Mathematics.

Thanking you.

Encl: Syllabus copy of Certificate Course.

Your faithfully,

Dr. B. D. Gavhane

Head, Dept. of Mathematics Head

Department of Mathematics
K. J. Somaiya College, Kopargaon



## K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)

Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)

☎: 9146142000, 9146152000 Email ID: kjscollege@rediffmail.com, Website: kjscollege.com

NAAC ACCREDITED 'A' GRADE AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal: Dr. B. S. Yadav (M.Sc., Ph.D.)

Founder President: Late K. B. Rohamare (Ex. M.L.A.)

Ref. No.:

Date: 20 /02 / 2022

## **Board of Curriculum Development**

To,
Head of the Department,
Department of Mathematics,
K. J. Somaiya College, Kopargaon.

Subject: Permission for the certificate course in Mathematics

Respected sir,

As per your application dated 18/02/2022. The members of BCD conducted a meeting and after thorough discussion we have decided to accept your proposal of certificate course 'Principles of Programming Language' in Mathematics. The Committee has permitted to Department of Mathematics for 30 contact hrs. Certificate course 'Principles of Programming Language' under following conditions.

The Term and Condition are follows:

- 1. Syllabus to be completed in stipulated time.
- 2. Conduct Theory examination at the end of the course.
- 3. Minimum 15 admissions are permissible for conducting the course.

#### Members of the committee -

- 1. Dr. B. S. Yadav
- 3. Prof. V. C. Thange
- 5. Prin. Dr. Gurasal
- 7. Dr. S. B. Kale
- 9. Smt. N. B. Shinde
- 11. Shri. Sachin Ingle

- 2. Dr. S. R. Pagare
- 4. Prin. Dr. Goswami
- 6. Dr. B. B. Bhosale
- 8. Dr. G. K. Chavhan
- 10.Prof. P. S. Bhadane
- 12. Shri Satyajeet Gondkar

Copy to-

- 1. IQAC, KJS College.
- 2. Head, Dept. of Mathematics
- 3. Account Officer, KJS College

Or. B. S. Yada Principal

Principal
K. J. Somaliya College of Arts
Commerce & Science, Kopargaor

Co-ordinator, IOAC
K. J. Somaiya College, Kopargaon





### K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE & SCIENCE,

Mohaniraj nagar, Kopargaon, Tal:- Kopargaon, Dist- Ahmednagar, Maharashtra, 423601. Website: www.kjscollege.com, Email- kjscollege@rediffmail.com

#### ADMISSION FORM FOR CERTIFICATE COURSES

Certificate course in the subject of	
Name of the Certificate Course:: "Principles of Programming	
Personal Information	
Name of the Student:-	
Class:	<del></del> i
Roll No	
Category	
Category  Address:	
Mobile No	
E- mail ID	
Last Qualification:-	
Percentage:%	
Computer Knowledge:- Yes . / No.  Name of the Completed Computer Course:-	

100

<sup>&</sup>quot;C-programming"

Declaration:

I am declared that, as per my knowledge the above information is true and correct.

Student Signature

### DEPARTMENTAL USE ONLY

Class	is admitted in certificate c	ourse in the subject of
for the Period of	to	And his / her roll no is
fc	or this course.	All
Date:- /	/20	Dept. of Mathematics

Department of Mathematics

Head
Department of Mathematics
K. J. Somaiya College, Kopargaon

Principal

# K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON Mohaniraj nagar, Kopargaon. 423601

## 2021-22 Certificate Course: Principles of programming language

Time- 1Hrs (9.00 To 10.00AM)	Date- 25/04/2022	Max. Marks – 50
1) The provides pictorial	representation of given problem	
a) Algorithm		
b) . Flowchart		
c) . Pseudocode		
d) All of these		
2) is a procedure or step by	step process for solving a proble	em.
a) Algorithm		
b) Flowchart		
c) Pseudocode		
d) all of these		01
3) Use Bisection Method to find o	but the root of $x - sinx - 0.5 =$	U between 1 and 2.
a) 1.497		
b) 1.947		
c) 1.479		
d) 1.974	a se total a se batusan n s	0 and b = 1 by using Risection
4) A function is given by $x - e^{-x}$	= 0. Find the root between a =	Oalla b = 1 by asing bisection
method.		
a) 0.655		
b) 0.565		
c) 0.665		
d) 0.656	4	0 and h = 1
5) Using Bisection method find the	he root of $cos(x) - xe^{x} = 0$ with	a = 0 and b - 1.
a) 0.617		
b) 0.517		
c) 0.417		
d) 0.550		
6) The address operator &, cann	ot act on	
a) R-values		
<ul><li>b) Arithmetic expression</li></ul>	ns .	
c) Both of the above		
d) Local variables		
7) A pointer is a		
a) variable that stores a	ddress of an instruction	
b) variable that stores a		
c) keyword used to crea	ite variables	
d) None of these		
8) The continue statement cann	ot be used with	
a) For		
b) While		

1

	•	do while
	d)	switch
9)	If you h	nave to make decision based on multiple choices, which of the following is best
	suited	
	a)	
		if-else
		if-else-if
	•	all of the above
10)	The act	t of initializing array is also called as
	a)	Populating an array
	•	Assigning array
		Initializing
		Factoring and array
11)		method is used to sort an array in visual basic.
	а)	Array.arrange()
	b)	Array.arrayArrange()
	c)	Array.Sort()
	•	Array.sortAscending()
12)	Arrangi	ng data in a specific order is called as
	-	Arranging
	•	Sorting
		Organizing
		Making
13)		method is used to reverse the values.
	•	Array.Reverse
	•	Array.Sort Desc
	•	Array.Sort Asc
	d)	Array.rev
14)	_	section method is also known as
		Binary Chopping
		Quaternary Chopping
	•	Tri region Chopping
	•	Hex region Chopping
15)		e positive root of the equation $3x - cosx - 1$ using Regula Falsi method and correct
		decimal places.
		0.6701
	b)	0.5071
	c)	0.6071
	•	0.5701
16)		e positive root of the equation $x - cos(x)$ using Regula Falsi method and correct
		cimal places.
	a)	0.73908
	b)	0.63908
	c)	0.74980
	d)	0.64908

	7 4.
17) By Simps	son's $\frac{1}{3}rd$ rule , the value of $\int_1^7 \frac{dx}{x}$ is
a)	1.458
b)	1.658
c)	1.958
d)	1.358
18) Simpson	It's $\frac{1}{3}rd$ rule is used to integrate the function $f(x) = \frac{3}{5}x^2 + \frac{9}{5}$ between $x = 0$ &
1040	sing the least number of equal subintervals. The value of integral is
250	2
b)	
10 mm	4
d)	$1 \cdot 1.4 \cdot 1.4 \cdot 1.4 \cdot 1.5 \cdot 1.4 \cdot $
19) The eva	luation of the definite integral $\int_{-1}^{1.4} x \cdot  x  dx$ by using Simpson's $\frac{1}{3} rd$ rule with step
size $h=0$	D.6 yields.
a)	0.914
b)	1.248
c)	0.581
	0.592
20) Using Si	mpson's $\frac{1}{3}rd$ rule the value of $\int y  dx$ for data given below is
X	1 2 3 LYIA
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	2 6 4
У	Copparation of Mathematics (2 (Pept of 1/2) K. J. Somalya Curege, Kopangaon)
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anello a	12 mos L N
b)	2000
c)	15
d)	
21) To dete	rmine whether a string has specific sequence of characters, use
a)	Contains method
b)	Specific method
c)	Sequence method
d)	Check method
22) The Cor	ntains Method returns
a)	Integer
b)	Void
c)	Boolean
d)	String
23) What is	the other name of Question Mark Colon Operator?
a)	Comparison Operator
b)	If-Else Operator
c)	Binary Operator
	Ternary Operator
24) Which	operator from the following has the lowest priority?

a) Assignment Operator

- b) Division Operator
- c) Comma Operator
- d) Conditional Operator

### 25) A pointer variable can be

- a) Passed to a function
- b) Changed within a function
- c) Returned by a function
- d) Can be assigned an integer value

#### 26) What is wild pointer?

- a) Pointer which is wild in nature
- b) Pointer which has no value
- c) Pointer which is not initialized
- d) None

### 27) Python is said to easily .....

- a) Readable Language
- b) Writable Language
- c) Bug-able Language
- d) Script able Language

Head

Department of Mathematics \
K. J. Somaiya College, Kopargaon

Dept. of Mathematics Mathematics

## Kopargaon Taluka Education Society's K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

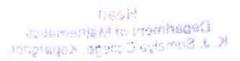
### **Certificate Course in Mathematics**

### "Principles of Programming Language" Admitted Students for the Certificate Course Year- (2021-2022)

Sr. No.	Name of the Students
1	ABHALE POOJA SUNIL
2	ABHALE SAMPADA SUNIL
3	BACHAKAR AMOL ASHOK
4	BHARUD SONALI RAMAN
5	BHOKARE DIVYA RAJENDRA
6	BORNARE SAKSHI SANJAY.
7	CHAUDHARI ABHISHEK RAMESH
8	DAHE AKSHADA BAPUSAHEB
9	DEOKAR VARSHA VILAS
10	DHAMALE PRITI CHANDRAKANT
11	DHULE VAISHNAVI DATTU.
12	DIKE VAISHNAVI CHANDRAKANT
13	DVENDRA KACHARU LOHAKARE
14	GADHAVE BHAGYASHRI SHRIKRISHNA
15	GHODAKE PRADNYA SAKHAHARI
16	GOSAVI SAKSHI POPAT
17	HOLE TEJAS VIJAY
18	JADHAV GAYATRI BHISHMACHARYA
19	JAMDHADE AISHWARYA VIJAY
20	JAWALE RUTUJA RAJARAM
21	JAWALE SAKSHI PANDIT
22	JOSHI ATHARV CHANDRASHEKHAR
23	KALOKHE ARCHANA UTTAM
24	KASHID SNEHAL RAJENDRA
25	KHALKAR RAJASHRI SUNIL







26	KHARAT VAISHALI SHIVAJI
27	KOLHE VAISHNAVI HARICHANDRA
28	KOTE ADITI SAMBHAJI
29	MEHETRE SOHAM SANTOSH
30	MORE ARTI SUNIL
31	MULE YOGENDRA NILESH
32	NIKAM JANAVI DILIP
33	PACHORE PRASHANT MACHHINDRA
34	PACHORE PRIYA RAJENDRA
35	PACHORE PRIYA RAJENDRA
36	PACHPIND BHAGYASHREE KALAS
37	PARADE KALYANI RAOSAHEB
38	PAWAR NIKITA SOPAN
39	PRATIKSHA ASHOK KHARDE
40	RAHANE SHWETA APPASAHEB
41	RANSHING DIYA PRAMOD
42	ROHIT NIKAM VILAS
43	SHAHANE AARATI RAVINDRA
44	SHAIKH AAYESHABI HASHAM
45	SHAIKH MAYESARA YAKUB
46	SHAIKH MUBASHSHIRA AZIMUDDIN
47	SHAIKH SABA ALMAS MAQSOOD AHMED
48	SHELAR PRAGATI ANNASAHEB
49	SHINDE SONALI GOVIND
50	SURVE DNYANESHWARI RAJENDRA
51	THORAT PRIYANKA GOVIND
52	THORAT SAKSHI MACHHINDRA

Dr. B. D. Gavhane Head, Dept. of Mathematics

Head

Department of Mathematics

K. J. Somaiya College, Kopargaon



Dr. B. S. Yadav Principal

Principal
K.J.Somalya C. "age
Kopargaon

# K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

Mohaniraj nagar, Kopargaon.423601

### Certificate Course in Mathematics "Principles of Programming Language"

(Computer based Practical)

TIME TABLE- 2021-2022

With Effect from: 11/03/2022

Time	Wednesday	Thursday	Friday	Saturday
1.30				
То	Lect. in classroom	Lect. in Classroom	Lect. in Classroom	Computer lab work /
2.30	(S-46)	(S-46)	(S-46)	practical (S-50)
PM.	(			

For online Lectures:

See YouTube Channel Dr.B.D.Gavhane (Links of online lectures will be shared with you)
Name of the Teacher:-

1. Dr.B.D.Gavhane (Mathematics)

2. Prof. Gudaghe Sir (Computer Science)

Head

Department of Mathematics K. J. Somaiya College, Kopargaon Comalya Colling Dept. of Mathematics

### K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

### Certificate Course in Mathematics (2021-22)

"Principles of Programming Language" (Computer based Practical)

### STUDENT ATTENDENCE SHEET

Sr.No	STUDENT NAME			1						1	1	ı	1	1	1	1	-1		1		,						1
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51	THORAT PRIYANKA GOVIND	morected	Therestag	Thorack &	Thoract PC		The racker	Thoract PG	Thorectpg	Thora 4P4	Merel Pa	RoralPg	Thereppo	Roratpy	The rect PG	Thorappa	Thorappy	A	Trongfpg	MoretPG	Therettog	Transpor	Thoras PG	Loral PC	More Spc	Trend Ppo
52	THORAT SAKSHI MACHHINDRA	Ballat.		BROWN.	Beat	Boom	Recoult	4	Bolland	The Bull	Market Market	A	MAG P	KARING.	Month of the same	BUSED	A BEEN	Kersett	HERONE.	A	BARNE	Shokent.	Breed	derent.	200 S	A SECOND

Dr. B. D. Garhane Pal Prot P.G. Gudaghe Quedage

Principal K.J.Somaiya College Kopargaon

Hand, Dept of many

Department of Mathematics
K. J. Somaiya College, Kopargaon

# DEPARTMENT OF MATHEMATICS NOTICE

## EXAMINAITON IN CERTIFICATE COURSE IN MATHEMATICS

## Principles of Programming language

20/04/2022

All the students from Certificate Course in Mathematics (Principles of Programming Language) inform you that the examination scheduled on dated 25/04/2022 at 12.30 pm online using Google Forms.

Link of online examination will be shared with you before ten minutes of commencement of examination.

Principal
K.J.Somaiya College
Kopargaon

Dr. B. D. Gavhane

Department of Mathematics

Department of Mathematics K. J. Somaiya College, Kopargaon

# K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON Department of Mathematics

## Result sheet of Certificate Course in Mathematics for the year- (2021-2022)

SR.	STUDENT NAME	CLASS	Marks Obta	ined	Total	Grade
NO			Theory(50)	Practical(50)		
1	ABHALE POOJA SUNIL	F.Y.B.Sc.	44	35	79	Α
2	ABHALE SAMPADA SUNIL	T.Y.B.Sc.	48	34	82	Α
3	BACHAKAR AMOL ASHOK	S.Y.B.Sc.	34	30	64	В
4	BHARUD SONALI RAMAN	T.Y.B.Sc.	36	26	62	В
5	BHOKARE DIVYA RAJENDRA	F.Y.B.Sc.	38	27	65	В
6	BORNARE SAKSHI SANJAY.	T.Y.B.Sc.	34	27	61	В
7	CHAUDHARI ABHISHEK RAMESH	S.Y.B.Sc.	34	29	63	В
8	DAHE AKSHADA BAPUSAHEB	T.Y.B.Sc.	48	42	90	A
9	DEOKAR VARSHA VILAS	F.Y.B.Sc.	34	32	66	В
10	DHAMALE PRITI CHANDRAKANT	F.Y.B.Sc.	38	30	68	В
11	DHULE VAISHNAVI DATTU.	S.Y.B.Sc.	44	39	83	А
12	DIKE VAISHNAVI CHANDRAKANT	S.Y.B.Sc.	42	38	80	A
13	DVENDRA KACHARU LOHAKARE	F.Y.B.Sc.	44	38	82	Α
14	GADHAVE BHAGYASHRI SHRIKRISHNA	F.Y.B.Sc.	32	22	54	С
15	GHODAKE PRADNYA SAKHAHARI	F.Y.B.Sc.	32	26	58	С
16	GOSAVI SAKSHI POPAT	T.Y.B.Sc.	42	30	72	Α
17	HOLE TEJAS VIJAY	S.Y.B.Sc.	28	24	52	С
18	JADHAV GAYATRI BHISHMACHARYA	F.Y.B.Sc.	30	30	60	B

M.J. Somains College

K.J. Somains College

Kopangaon

Kopangaon

Dept. of Mathematics Mathematics

19	JAMDHADE AISHWARYA VIJAY	S.Y.B.Sc.	38	32	70	A
20	JAWALE RUTUJA RAJARAM	T.Y.B.Sc.	40	32	72	A
21	JAWALE SAKSHI PANDIT	T.Y.B.Sc.	36	31	67	В
22	JOSHI ATHARV CHANDRASHEKHAR	F.Y.B.Sc.	44	40	84	Α
23	KALOKHE ARCHANA UTTAM	T.Y.B.Sc.	34	39	73	A
24	KASHID SNEHAL RAJENDRA	S.Y.B.Sc.	46	34	80	A
25	KHALKAR RAJASHRI SUNIL	S.Y.B.Sc.	44	32	76	А
26	KHARAT VAISHALI SHIVAJI	T.Y.B.Sc.	34	28	62	В
27	KOLHE VAISHNAVI HARICHANDRA	F.Y.B.Sc.	32	29	61	В
28	KOTE ADITI SAMBHAJI	S.Y.B.Sc.	34	30	64	В
29	MEHETRE SOHAM SANTOSH	F.Y.B.Sc.	50	40	90	А
30	MORE ARTI SUNIL	F.Y.B.Sc.	44	41	85	А
31	MULE YOGENDRA NILESH	S.Y.B.Sc.	32	27	59	С
32	NIKAM JANAVI DILIP	T.Y.B.Sc.	46	35	81	Α
33	PACHORE PRASHANT MACHHINDRA	F.Y.B.Sc.	46	36	82	A
34	PACHORE PRIYA RAJENDRA	F.Y.B.Sc.	40	32	72	Α
35	PACHORE PRIYA RAJENDRA	F.Y.B.Sc.	50	44	94	Α
36	PACHPIND BHAGYASHREE KALAS	S.Y.B.Sc.	26	25	51	С
37	PARADE KALYANI RAOSAHEB	S.Y.B.Sc.	34	30	64	В
18	PAWAR NIKITA SOPAN	F.Y.B.Sc.	44	35	79	А
9	PRATIKSHA ASHOK KHARDE	F.Y.B.Sc.	34	28	62	В
0	RAHANE SHWETA APPASAHEB	S.Y.B.Sc.	48	40	88	A
1	RANSHING DIYA PRAMOD	F.Y.B.Sc.	40	36	76	A

Dept. of

Mathemetics

ARGA

Head

Department of Mathematics

K. J. Somalya College, Kopargoon

42	ROHIT NIKAM VILAS	F.Y.B.Sc.	32	29	61	В
43	SHAHANE AARATI RAVINDRA	S.Y.B.Sc.	50	43	93	Α
44	SHAIKH AAYESHABI HASHAM	T.Y.B.Sc.	44	41	85	А
45	SHAIKH MAYESARA YAKUB	T.Y.B.Sc.	44	29	73	Α
46	SHAIKH MUBASHSHIRA AZIMUDDIN	T.Y.B.Sc.	46	28	74	Α
47	SHAIKH SABA ALMAS MAQSOOD AHMED	S.Y.B.Sc.	44	34	78	Α
48	SHELAR PRAGATI ANNASAHEB	F.Y.B.Sc.	46	29	75	А
49	SHINDE SONALI GOVIND	F.Y.B.Sc.	36	27	63	В
50	SURVE DNYANESHWARI RAJENDRA	S.Y.B.Sc.	34	24	58	С
51	THORAT PRIYANKA GOVIND	F.Y.B.Sc.	42	31	73	А
52	THORAT SAKSHI MACHHINDRA	F.Y.B.Sc.	42	29	71	Α

1. Name and Signature of the Subject Teacher

Dr. B. D. Gavhane

2. Name and Signature of the Subject Teacher

Prof. Gudlighe P

Dr. B. D. Gavhane

Head, Dept. of Mathematics

Head

Department of Mathematics K. J. Somaiya College, Kopargaon

Dr. B. S. Yadav

Principal

# K.J.SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE KOPARGAON

### Department of Mathematics Academic year 2021-22

### Report

Name of the certificate course	Principles of programming language
Date and Duration	11/04/2022 to 05/05/2022 30 Hours
Name of faculty	Dr.B.D. Gavhane
	Mr. P.G. Gudaghe
Number of participants enrolled	52
Venue	Department of Mathematics

#### Brief summary of activity/Event:

Department of Mathematics runs a certificate course "Principles of programming language". The objective of the course is to develop logics that will help students to create programs. It also aims to provide exposure to problem-solving through programming. Head of the department Dr. B.D. Gavhane inaugurated this course.

The course content is made available to students. The students learn about programming language and solve mathematical problems using programs. Students studied the implementation of numerical analysis to solve problems in Mathematics for which a quantitative theory already exists.

### The outcome of activity/Event:

- 1. Developed logic that helped students to create programs.
- 2. Students learned the basic programming constructs they can easily switch over to any other language in the future.

Department of Mathematics
K. J. Somaiya College, Kopargaon

K. J. Somer College of Arts Commerce & J. Line, Kepangaer

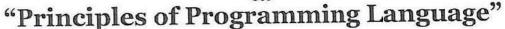


## K.J.Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon, Dist: Ahmednagar 423601

**Certificate Course** 

On



Organized By

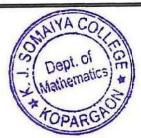
Department of Mathematics



This is to certify that, \_\_\_\_\_\_has successfully completed the certificate course on 'Principles of Programming Language' in the academic year —/—.

Dr. B.D.Gavhane HOD (Mathematics) Dr. B.B. Bhosale Science faculty I/C Dr. B.S. Yadav Principal

Head '
Department of Mathematics
K. J. Somaiya College, Kopargaon





# K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

Mohaniraj nagar, Kopargaon.423601

## Organized by DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN MATHEMATICS

## "Principles of Programming Language"

Course Code- CC.004

Year of Commencement: 2019-20





# K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

Mohaniraj nagar, Kopargaon.423601

# Organized by DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN MATHEMATICS

## "Principles of Programming Language"



Year of Commencement: 2019-20



### Certificate Course in MATHEMATICS

2020-21

-: Name of the Certificate Course:-

### "Principles of Programming Language"

(Computer based Practical)

Designed By: -

Department of MATHEMATICS

Nature of Course: -

Theory + Practical (Computer based)

**Duration:** -

Two Months

Eligibility:-

12th Pass

Course Fee: -

100/- Rs. per Student

Capacity: -

Min. 20 Students per batch

Total Lectures: -

30 lectures

### Evaluation Process:- Grade System (Marks Converted into Grade)

> Theory exam.-

50 Marks

Practical & Exercises.-

50 Marks

Total Marks: -

100 Marks

1. 'A' Grade - More than 70 Marks

Grade System:-

2. 'B' Grade - 60 to 70 Marks

3. 'C' Grade - 50 to 60 Marks

4. 'D' Grade - 40 to 50 Marks

Passing: - Obtained 40% Marks

Coordinator: - Dr. B. D. Gavhane

Head, Dept. of Mathematics

Department of Mathematics K. J. Somaiya College, Kopargaon

Commerce & Science, Kopargaon

# K.J.SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE KOPARGAON

# Department of Mathematics 2020-21

	Name of Description		No.d.	·	
1	Name of Departmen	<u>it</u>	Mathematics	<del></del>	
2	Title of Course		Principles of p	rogramming la	nguage
3	Course Level	7 .	Certificate		
4	Implementation aca year	demic	Since 2019-20		
				programming	
5	Preamble of Syllabu	IS	2. Programmir		
	T 14 60 G	<del></del>	3. Computation	nal numerical r	nethods
6	Faculty of the Cours		Science		
7	Eligibility of Admiss prerequisite	sion and	12th Science Pa	ass	
8	Duration of the Cou	rse	30 days		
9	Intake capacity of st	udents	60		
10	Total hours of teach	ing	30		
11	Pattern of examinati				
	Theory exam, Practi	ical and	Theory and pra	ctical exam at	the end of the
	exercises		course.		
	Teaching Faculty	T			
12	Name of Faculty	Designati		Qualification	No.
	Dr. B.D. Gavhane		Professor	M.Sc.,Ph.D.,	
	Mr. G.M. Kunjir	Assistant	Professor	M.Sc. Compu	
13	Other Facilities	_	Computer Laboration	oratory, Library	/
14	Recommended book	<del>-</del>	<del></del>		
	1. Numerical Methods		ering And Science	e-B.S.Grewal	, Mercury
_	Learning And Inform		:-1 A1 : G	G G : DIV	
	2. Introductory metho		ricai Analysis-S	.S. Sastry, PHI	Learning
	Private Limited, New 3. Let Us C-Yashavan				
		t P. Kanetka	ar		
15	Detailed Syllabus				
Sr. No.		Topic	Name		No. of Lectures
	Concepts of progr				
	1. Definition and 1	Properties of	f algorithms,		
	Algorithm develop				
1	2. Flow charts- syn				
	3. Flow charts and				6
	Free fall, Equation				
	4. Types of program	mming lang	uage: Lower, m	iddle and	
	higher level langua				
	Programming win			_	
2	1. Structure of C pr	rogram, Cha	racier set, key v	vords,	12
	Constants and vari	abies, Varia	ible names, Data	types and	12
	their declarations, S	symbolic Co	onstants		ſ

0

	Total No. of Lectures	30
3	Computational Numerical Methods  1. Errors in Computation: Inherent errors in storing numbers due to finite bit representation to use in Computer, Truncation error, round off errors (Explain with the help of examples)  2. Iterative methods: Discussion of algorithm and flowcharts and writing C programs for finding single root of equation using Bisection method, Newton-Raphson method, Guass Elimination method.  3. Discussion of algorithm and flowcharts and writing C program for Trapezoidal rule and Simpson's 1/3rd rule, Simpson's 3/8th rule.(Derivation of formula is not expected.)	12
	<ol> <li>Input/output functions: scanf (), printf (), getchar (), putchar (), getch (), gets (), puts ().</li> <li>Operators and Expressions: Arithmetic Operators, Relational Operators, Logical Operators, Assignment Operators, Conditional Operator.</li> <li>Formatted input/output Control statements: If, if else, while, do while for loop, nested control structures (nested if, nested loops), break, continue, switch- case statement, go to statement.</li> <li>Use of Library functions: e.g. mathematical, trigonometric, graphics.</li> <li>Arrays: 1-D, 2-D and String</li> <li>Concept of Pointers</li> </ol>	

Department of Mathematics
K. J. Somaiya College, Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

### **Syllabus**

### Department of Mathematics

## Certificate Course: "Principles of Programming Language"

(Computer based Practical)
Syllabus: 2020-21

#### **Objectives:**

- 1) The course is designed to provide principles of programming in C language.
- 2) Students will be able to develop logics which will help them to create programs, applications in C.
- 3) To provide exposure to problem solving through programming.
- 4) Also by learning the basic programming constructs they can easily switch over to any other language in future.
- 5) To study and implementation of numerical analysis to solve problems in Mathematics for which a quantitative theory already exists.

Chapter No.	Topic Name	No. of Lectures
1	Concepts of programming  1. Definition and Properties of algorithms, Algorithm development.  2. Flow charts- symbols and simple flowcharts.  3. Flow charts and Algorithms for Kinematic equations, Free fall, Equation of state, Factorial of a number.  4. Types of programming language: Lower, middle and higher level languages.	6
2	Programming with C  1. Structure of C program, Character set, key words, Constants and variables, Variable names, Data types and their declarations, Symbolic Constants.  2. Input/output functions: scanf (), printf (), getchar (), putchar (), getch (), gets (), puts ().  3. Operators and Expressions: Arithmetic Operators, Relational Operators, Logical Operators, Assignment Operators, Conditional Operator.	12

	Total No. of Lectures	30
3	Computational Numerical Methods  1. Errors in Computation: Inherent errors in storing numbers due to finite bit representation to use in Computer, Truncation error, round off errors (Explain with the help of examples)  2. Iterative methods: Discussion of algorithm and flowcharts and writing C programs for finding single root of equation using Bisection method, Newton-Raphson method, Gauss-Elimination Method.  3. Discussion of algorithm and flowcharts and writing C program for Trapezoidal rule and Simpson's 1/3rd rule, Simpson's 3/8th rule (derivation of formula is not expected).	12
	<ul> <li>4. Formatted input/output</li> <li>Control statements: If, if else, while, do while for loop, nested control structures (nested if, nested loops), break, continue, switch- case statement, go to statement.</li> <li>5. Function</li> <li>Use of Library functions: e.g. mathematical, trigonometric, graphics.</li> <li>6. Arrays: 1-D, 2-D and String</li> <li>7. Concept of Pointers</li> </ul>	

### Following programs will be discussed in theory lectures:

- 1. Sum of digits of an integer
- 2. To find factorial of a number
- 3. Checking and printing of prime numbers
- 4. Root of equation/s-Bisection method, Newton Raphson method, Gauss-Elimination Method
- 5. Numerical integration- Trapezoidal, Simpson's 1/3rd rule, Simpson's 3/8th rule.

### Reference Books:

- 1. Numerical Methods in Engineering And Science-B. S. Grewal, Mercury Learning And Information
- 2. Introductory methods of Numerical Analysis-S.S. Sastry, PHI Learning Private Limited, New Delhi.
- 3. Let Us C-Yashavant P. Kanetkar

Department of Mathematics K. J. Somaiya College, Kopargaon.

K. J. Somaiya College of Arts Commerce & Science, Kopargaon



#### Proposal to BCD

## K. J. Somaiya College of Arts, Commerce & Science, Kopargaon. Department of Mathematics

Date:

14/08/2020

To,
The Chairman,
Board of Curriculum Development,
K. J. Somaiya College, Kopargaon.

Subject: Regarding the permission for the certificate course in Principles of Programming Language.

Respected Sir,

Considering the skilled based requirement of students of Mathematics department. We have designed 30 contact hrs Certificate course entitled "Principles of Programming Language". It is skilled based course to understand the basic concepts in programming.

The certificate course is useful to the UG level students from Mathematics department. This is the basic knowledge course about computer programming information. We are quite sure about the success of this certificate course and desirous to start this course at diploma level next year.

The required infrastructure is available in the department. The present faculty is ready to provide such knowledge and teach to the students about the programs and its uses in the field of Mathematics.

So, I request you to please give me the permission to conduct the 30 contact hrs certificate course in the subject of Mathematics.

Thanking you

Your faithfully

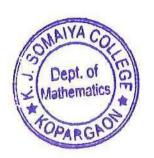
Dr. B. D. Gavhane Head, Dept. of Mathematics

**Encl: Syllabus copy of Certificate Course** 

Head

Department of Mathematics

K. J. Somaiya College, Kopargaop





## K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.) Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)

2: 9146142000, 9146152000 Email ID: kjscollege@rediffmail.com, Website: kjscollege.com

NAAC ACCREDITED 'A' GRADE AN ISO 9001-2015 CERTIFIED INSTITUTE SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal: Dr. B. S. Yadav (M.Sc., Ph.D.)

Founder President: Late K. B. Rohamare (Ex. M.L.A.)

Ref. No.:

Date: / /202 Date: 15 /08 / 2020

## Board of Curriculum Development

To,
Head of the Department,
Department of Mathematics,
K. J. Somaiya College, Kopargaon.

Subject: Permission for the certificate course in Mathematics

Respected sir,

As per your application dated 14/08/2020. The members of BCD conducted a meeting and after thorough discussion we have decided to accept your proposal of certificate course 'Principles of Programming Language' in Mathematics. The Committee has permitted to Department of Mathematics for 30 contact hrs. Certificate course 'Principles of Programming Language' under following conditions.

The Term and Condition are follows:

- 1. Syllabus to be completed in stipulated time.
- 2. Conduct Theory examination at the end of the course.
- 3. Minimum 15 admissions are permissible for conducting the course.

Members of the committee -

- 1. Dr. B. S. Yadav
- 3. Prof. V. C. Thange
- 5. Prin. Dr. Gurasal
- 7. Dr. S. B. Kale
- 9. Smt. N. B. Shinde
- 11. Shri. Sachin Ingle

- 2. Dr. S. R. Pagare
- 4. Prin. Dr. Goswami
- 6. Dr. B. B. Bhosale
- 8. Dr. G. K. Chavhan
- 10.Prof. P. S. Bhadane
- 12. Shri Satyajeet Gondkar

Copy to-

1. IQAC, KJS College.

2. Head, Dept. of Mathematics

3. Account Officer, KJS College

Prof. Vijay Thange Co-ordinator, IQAC

K. J. Somaiya College, Kopargaon

Dr. B. S. Yadav Principal

K. J. Som ya Conege of Arts Commerce & Science, Kopargaon



### K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE & SCIENCE,

Mohaniraj nagar, Kopargaon, Tal:- Kopargaon, Dist- Ahmednagar, Maharashtra, 423601.

Website: www. kjscollege.com, Email- kjscollege@rediffmail.com

### ADMISSION FORM FOR CERTIFICATE COURSES

Certificate course in the subject of
Name of the Certificate Course:: "Principles of Programming Language"
Personal Information
Name of the Student:-
Class:
Roll No
Category
Address:
Mobile No
E- mail ID
Last Qualification:-
Percentage:%
Computer Knowledge:- Yes. / No.
Name of the Completed Computer Course:-

**(**)

Declaration:

I am declared that, as per my knowledge the above information is true and correct.

**Student Signature** 

#### DEPARTMENTAL USE ONLY

Class	is admitted in certificate	course in the subject of
or the Period of	to	, And his / her roll no is

Date:-

/20

Department of Mathematics Head

Department of Mathematics K. J. Somaiya College, Kopargaon

Dept. Seal





## K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

### CERTIFICATE Course: Principles of programming language QUESTION PAPER (2020-21)

Time-	1Hrs	(9.00)	To	10.	00A	M)
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Date-28th July 2021

Max. Marks - 50

Name of the student:	Roll No.		
Class:			
	Jr. Supervisor Name and Signature:		
QueAttempt any TWENTY FIVE of the following	(50)		
<ul><li>1) The provides pictorial representation</li><li>a) Algorithm</li><li>b) Flowchart</li><li>c) Pseudocode</li></ul>	ion of given problem.		
d) All of these  2) is a procedure or step by step proces  a) Algorithm  b) Flowchart  c) Pseudocode	ss for solving a problem.		
<ul> <li>d) All of these</li> <li>3) Why variable names beginning with the uncapture at the conflict of the co</li></ul>	nd loaders use such names es use such names		
<ul> <li>4) All keywords in C are in</li> <li>a) Lower Case letters</li> <li>b) UpperCase letters</li> <li>c) CamelCase letters</li> <li>d) None of the mentioned</li> </ul>	*		
<ul><li>5) What will be the maximum size of a double</li><li>a) 1 bytes</li></ul>	e variable?		

	h) 4 bytes
	b) 4 bytes
	c) 8 bytes
6	d) 16 bytes
U	A declaration float a,b; occupies of memory
	a) 1 bytes :
	b) 4 bytes
	c) 8 bytes
71	d) 16 bytes
/)	Which of the following language is the predecessor to C Programming Language?
	5 5
	a) Ab
	b) B
	c) BCPL
-1	d) C++
8)	What is a String in C Language?
	a) String is a new Data Type in C
	b) String is an array of Characters with null character as the last element
	c) String is an array of Characters with null character as the first
	cicinent of array
_	d) String is an array of Integers with 0 as the last element of array
9) V	the following is the variable type defined in header string ha
	b) Size
	c) size_t
	d) size-t
10)	What is the maximum length of a C String?
	a) 32 characters
	b) 64 characters
	c) 256 characters
	d) None of the above
11)	How do you accept a Multi Word Input in C Language?
	a) SCANF

	b) GETS
	c) GETC
	d) FINDS
12)	Choose a correct C Statement about Strings.
	a) PRINTF is capable of printing a multi word string
	b) PUTS is capable of printing a multi word string
	c) GETS is capable of accepting a multi word string from console or command prompt
	d) All the above
13)	An array elements are always stored in memory locations.
	a) Random
	b) Sequential
	c) Sequential and Random
	d) None of the above
14)	What is the maximum number of dimensions an array in C may have?
	a) 2
	b) 3
	c) 12
	d) No limit
15)	What is a structure in C language?
	a) A structure is a collection of elements that can be of same datatype
	b) A structure is a collection of elements that can be of different
	datatype
	c) Elements of a structure are called members
1	d) All of the these
16)	Choose a correct statement about C structure elements?
	a) Structure elements are stored on random free memory locations
	b) structure elements are stored in register memory locations
	c) structure elements are stored in contiguous memory locations
17)	d) None of the above
17)	A C structure or User defined datatype is also called
	a) Derived data type
	b) Secondary data type

	d) All the above
18)	) Which of the following return-type cannot be used for a function in
	C?
	a) char *
	b) struct
	c) void
	d) none of the mentioned
19)	. Which loop is faster in C Language, for, while or Do While?
	a) For
	b) While
	c) do while
	d) All work at the same speed
20)	The conditional operator are also known as
	a) Relational operator
	b) Binary operator
	c) ternary operator
	d) Arithematic operator
21)	If you have to make decision based on multiple choices, which of the
to	onowing is pest snited;
	a) If
	b) if-else
	c) if-else-if
	d) all of the above
22)	The continue statment cannot be used with
	a) For
	b) While
	c) do while
	d) switch
23)	A pointer is a
	a) variable that stores address of an instruction
	b) variable that stores address of other variable
	c) keyword used to create variables

c) Aggregate data type

- d) None of these
- 24) The address operator &, cannot act on..........
  - a) R-values
  - b) Arithmetic expressions
  - c) Both of the above
  - d) Local variables
- Using Bisection method find the root of cos(x) x \* ex = 0 with a = 0 and b = 1.
  - a) 0.617
  - b) 0.517
  - c) 0.417
  - d) 0.550
- 26) A function is given by  $x e^x = 0$ . Find the root between a = 0 and b = 1 by using Bisection method.
  - a) 0.655
  - b) 0.565
  - c) 0.665
  - d) 0.656
- 27) Use Bisection Method to find out the root of  $x \sin x 0.5 = 0$  between 1 and 2.
  - a) 1.497
  - b) 1.947
  - c) 1.479
  - d) 1.974
- 28) What is the smallest unit of information.
  - a) A bit
  - b) A byte
  - c) A block
  - d) A nibble

Departmen: ...'athematics K. J. Somaiya College, Kopargaon

## Kopargaon Taluka Education Society's K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

## **Certificate Course in Mathematics**

## "Principles of Programming Language" Admitted Students for the Certificate Course Year- (2020-2021)

Sr. No.	Name of the Students
1	Sadafal Kiran Sharad
2	Shrutika Devidas Rathi
3	Rathi Shweta Devidas
4	Vaishali shivaji kharat
5	Shaikh Mubashshira Azimuddin
6	Barwant Poonam Balasaheb
7	Gadhave Sulochana Machhindra
8	Joshi Vaishnavi Nitin
9	Shinde swati Bhagwat
10	Jawale Rutuja Rajaram
11	Dahe akshada bapusaheb
12	Jawale Sakshi Pandit
13	Mhaske prasad babasaheb
14	Nikam sayali vaijinath
15	Sachin Rajendra Gawal
16	Yogita Popatrao Gujar
17	Ugale Yogita Rajendra
18	Kalwaghe kalyani annsaheb
19	Adik Vaishnavi kailas
20	Shaikh mayesara yakub
21	Gavhale Shrutika Pandit
22	Bornare Sakshi Sanjay
23	Bharud sonali raman
24	Hon Payal Dilip
25	Autade Rutik Bhausaheb

26	Sakshi Gosavi	
27	Nikam Ashwini Rajaram	
28	Nikam Janavi Dilip	
29	Shaikh Aayeshabi Hasham	
30	Ranshur Shraddha Ashok	
31	Pangavhane vaishnavi sanjay	
32	Pachore Dnyaneshwari Annasaheb	
33	Inamke Lina Kishor	
34	Borawake shweta dilip	
35	Gawali Ashirwad Somnath	-
36	Kalokhe Archana Uttam	
37	Abhale Sampada Sunil	
38	Kale vaishnavi rajendra	
39	Jadhav Manisha Gorakh	- 7
40	Vaishnavi Gorakh Pagar	,
41	Sadafal Snehal Santosh	

Dr. B. D. Gavhane Head, Dept. of Mathematics

Hr-4

Departm: K. J. Sen

'hamatics . Spargaon

Dr. B. S. Yadav

Principal

Principal K.J. Somaiya College of Arts merce & Science, Kopargaon

## K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, **KOPARGAON**

Mohaniraj nagar, Kopargaon.423601

### Certificate Course in Mathematics "Principles of Programming Language"

(Computer based Practical)

#### TIME TABLE- 2020-2021

With Effect From: 18/08/2020(online) 27/01/21 (offline)

Time	Wednesday	Thursday	Friday	Saturday
12.30				
То	Lect. in classroom	Lect. in Classroom	Lect. in Classroom	Computer lab work /
1.30 PM.	(S-46)	(S-46)	(S-46)	practical (S-50)

For online Lectures:

See YouTube Channel Dr.B.D.Gavhane (Links of online lectures will be shared with you) Name of the Teacher:-

1. Dr. B. D. Gavhane (Mathematics)

2. Prof. G. M. Kunjir (Computer Science)

Department of Mathematics

K. J. Somaiya College, Kopargaon

K.J.Somaiya College Kopargaon

## K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

### **Certificate Course in Mathematics (2020-21)**

"Principles of Programming Language" (Computer based Practical)

#### STUDENT ATTENDENCE SHEET

Sr. No.	Name of the students Date	02/8/81	218/20	26/8/20	27/8/20	28/20	14/9/20	व्यक्ता	016/9/10	17/9/20	216181	19/9/20	17/10/FI	18/01/24	19/0/21	30/01/21	10110110	03/20/20	Rholho	12/20/50	12/20/30	03/02/21	10/05/21	 E.	¥e			emarks on attendance
1.	Sadafal Kiran Sharad	<	Wansi	kirans.	Kirans	Kirans	Kirans	V	Kirans.	Kirans.	Kirans.	Isgrans.			Wrans.	Kirans.	Kirans.	Kiron S	Kirans	A	Kirans.	Kirch S-	Kiran S.					
2.	Shrutika Devidas Rathi	2 aphis		Ratho	good his	Rathis	Rathes				Red HA	Roothis	Rothis	Por			Rothis	ROTAIL		Rochis	eathis	RadAls	C					
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4.	Vaishali shivaji kharat	Kharah V.	1	-When V.	thanch.	Khorat.	Wart V.	Whatahy.	Warahy.	Khurah	Khard V.	Leherrahy.	>	Khanchy	100	Kharah V.	Wharehy	Khand V.	Khand V.	Kharahy	Kharet V.	Khancoty.	u -					16
5.	Shaikh Mubashshira Azimuddin	shaikm,	Shallen	Shallen	Shaikm	Shaibm	Shallen	Shalem	shaken	shallen	V	shailm.		Shailen	shallon.	Shailm	shaltm	shailm	V	shailon		Shaibn	Shailen					
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27	Nikam Ashwini Rajaram	Ashahi	Ashainí	4		Ahain	Ashalai	Alhalni		AS hain	ASHOTH	Ashain	14,004st	Ashain	Ashain	4	18 holin	Injour 1	-talands	Ashani	Ashain	Ahoin	¥						

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29	Shaikh Aayeshabi Hasham	Shailth	K.		ShalkA.	10.20	-			Shalthy		1.			1	Shaibh	- 15 V	1		Shaibh (	1	1.	ShaibhA						
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38	Kale vaishnavi		
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39	Jadhav Manisha Gorakh	Momishe Momish	
0	Vaishnavi Gorakh Pagar	P.V.G. P.	
1	Sadafal Snehal Santosh	Shehale Shehal	

Signature of Subject Teacher

Signature of HOD

Dr. B. D. Gavhane

Department of Mathematics
K. J. Somaiya College, Kopargaon

Signature of Principal

Dr. B. S. Yaday

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon



# DEPARTMENT OF MATHEMATICS NOTICE

## EXAMINAITON IN CERTIFICATE COURSE IN MATHEMATICS

## Principles of Programming language

21/07/2021

All the students from Certificate Course in Mathematics (Principles of Programming Language) inform you that the examination scheduled on dated 28/07/2021 time 9.00 to 10.00 am. online using Google Forms.

Link of online examination will be shared with you before ten minutes of commencement of examination.

Dr. B. D. Gavhane

Department of Mathematics
Head

Department of flathematics K. J. Somaiya College, Kopargaon

### K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

#### **Certificate Course in Mathematics**

### "Principles of Programming Language"

### Result sheet of Certificate Course in Mathematics for the year- (2020-2021)

Sr.	STATES SERVICE SCHOOL SELVEN S	Marks	Obtained		mal &
No.	Name of the Students	Theory (50)	Practical (50)	Total	Grade
1	Sadafal Kiran Sharad	20	28	48	D
2	Shrutika Devidas Rathi	44	35	79	Α
3	Rathi Shweta Devidas	26	27	53	С
4	Vaishali shivaji kharat	36	34	70	Α
5	Shaikh Mubashshira Azimuddin	32	40	72	Α
6	Barwant Poonam Balasaheb	46	42	88	Α
7	Gadhave Sulochana Machhindra	50	44	94	Α
8	Joshi Vaishnavi Nitin	50	46	96	Α
9	Shinde swati Bhagwat	46	45	91	Α
10	Jawale Rutuja Rajaram	40	42	82	Α
11	Dahe akshada bapusaheb	50	46	96	Α
12	Jawale Sakshi Pandit	50	43	93	Α
13	Mhaske prasad babasaheb	34	36	70	Α
14	Nikam sayali vaijinath	34	35	69	В
15	Sachin Rajendra Gawal	50	40	90	Α
16	Yogita Popatrao Gujar	46	45	91	Α
17	Ugale Yogita Rajendra	48	44	92	Α
18	Kalwaghe kalyani annsaheb	48	35	83	Α
19	Adik Vaishnavi kailas	50	43	93	Α
20	Shaikh mayesara yakub	145 38	35	73	Α
21	Gavhale Shrutika Pandit	50/	44	94	Α
22	Bornare Sakshi Sanjay	40944	42	86	А
23	Bharud sonali raman	50	43	93	Α
24	Hon Payal Dilip	44	45	1 89 min	eq=CA

25	Autade Rutik Bhausaheb	40	42	82	А
26	Sakshi Gosavi	36	34	70	A
27	Nikam Ashwini Rajaram	48	43	91	A
28	Nikam Janavi Dilip	30	34	64	В
29	Shaikh Aayeshabi Hasham	26	23	49	D
30	Ranshur Shraddha Ashok	28	29	57	С
31	Pangavhane vaishnavi sanjay	50	43	93	Α
32	Pachore Dnyaneshwari Annasaheb	48	42	90	Α
33	Inamke Lina Kishor	44	43	87	Α
34	Borawake shweta dilip	42	42	84	Α
35	Gawali Ashirwad Somnath	50	48	98	Α
36	Kalokhe Archana Uttam	48	35	83	Α
37	Abhale Sampada Sunil	38	42	80	Α
38	Kale vaishnavi rajendra	46	32	78	Α
39	Jadhav Manisha Gorakh	30	34	64	В
40	Vaishnavi Gorakh Pagar	50	42	92	Α
41	Sadafal Snehal Santosh	30	34	64	В

1. Name and Signature of the Subject Teacher

Dr. B. D. Gavhane

2. Name and Signature of the Subject Teacher

Prof. Kunjir G.M.

Dr. B. D. Gavhane Head, Dept. of Mathematics

Department of Mathematics K. J. Somaiya College, Kopargaon Dr. B. S. Yadav

Principal

K.J.Somaiya Coffege Kopargaon

## Kopargaon Taluka Education Society's K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

## Certificate Course in Mathematics

### "Principles of Programming Language" Result sheet of Certificate Course in Mathematics for the year- (2020-2021)

Sr. No.	Name of the Students	Obtained Marks	Grade
1	Sadafal Kiran Sharad	20	С
2	Shrutika Devidas Rathi	44	Α
3	Rathi Shweta Devidas	26	В
4	Vaishali shivaji kharat	36	B
5	Shaikh Mubashshira Azimuddin	32	В
6	Barwant Poonam Balasaheb	46	A
7	Gadhave Sulochana Machhindra	50	Α
8	Joshi Vaishnavi Nitin	50	A
9	Shinde swati Bhagwat	46	A
10	Jawale Rutuja Rajaram	40	Α
11	Dahe akshada bapusaheb	50	Α
12	Jawale Sakshi Pandit	50	Α
13	Mhaske prasad babasaheb	34	В
14	Nikam sayali vaijinath	34	В
15	Sachin Rajendra Gawal	50	Α
16	Yogita Popatrao Gujar	46	Α
17	Ugale Yogita Rajendra	48	Α
18	Kalwaghe kalyani annsaheb	48	Α
19	Adik Vaishnavi kailas	50	Α
20	Shaikh mayesara yakub	38	Α
21	Gavhale Shrutika Pandit	50	A
22	Bornare Sakshi Sanjay	44	Α
23	Bharud sonali raman	50	A
24	Hon Payal Dilip	44	A
25	Autade Rutik Bhausaheb	40	A

Department of Mathematics
K. J. Somalya College, Kopargaon

Dept. of Something Mathematics of the Mathematics o

Principal

K.J.Somaiya College

Kopargaon

26	Sakshi Gosavi	36	
27	Nikam Ashwini Rajaram	100	A
28	Nikam Janavi Dilip	48	Α
29		30	В
30	Shaikh Aayeshabi Hasham	26	С
SE (87.6)	Ranshur Shraddha Ashok	28	C
31	Pangavhane vaishnavi sanjay	50	
32	Pachore Dnyaneshwari	0.9200	A
	Annasaheb	48	Α
33	Inamke Lina Kishor		2
34		44	Α
	Borawake shweta dilip	42	A
35	Gawali Ashirwad Somnath	50	
36	Kalokhe Archana Uttam	48	A
37	Abhale Sampada Sunil		Α
38	A STATE OF THE STA	38	Α
1.05()	Kale vaishnavi rajendra	46	A
39	Jadhav Manisha Gorakh	30	В
10	Vaishnavi Gorakh Pagar	50	
1	Sadafal Snehal Santosh	20080 4	Α
	- Tinal Salitosii	30	В

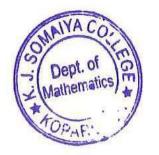
1. Name and Signature of the Subject Teacher

Dr. B. D. Gavhane

2. Name and Signature of the Subject Teacher

Prof. Kunjir G.M.

Dr. B. D. Gavhane Head, Dept. of Mathematics



Dr. B. S. Yadav

Principal **Principal** 

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#### K.J.SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE KOPARGAON

#### Department of Mathematics Academic year 2020-21

#### Report

Name of the certificate course	Principles of programming language
Date and Duration	18/08/2020 to 10/02/2021 30 Hours
Name of faculty	Dr.B.D. Gavhane Mr. G.M. Kunjir
Number of participants enrolled	41
Venue	Department of Mathematics

#### Brief summary of activity/Event:

Department of Mathematics runs a certificate course "Principles of programming language". The objective of the course is to develop logics that will help students to create programs. It also aims to provide exposure to problem-solving through programming. Head of the department Dr. B.D. Gavhane inaugurated this course.

The course content is made available to students. The students learn about programming language and solve mathematical problems using programs. Students studied the implementation of numerical analysis to solve problems in Mathematics for which a quantitative theory already exists.

#### The outcome of activity/Event:

- 1. Developed logic that helped students to create programs.
- 2. Students learned the basic programming constructs they can easily switch over to any other language in the future.

Department of Mathematics
K. J. Somaiva Jonege, Kopargaon

K. J. Somaiya College of Arts Commerce & Science, Kopargaon

## K.J.Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon, Dist: Ahmednagar 423601 Certificate Course

On

"Principles of Programming Language"

Organized By
Department of Mathematics



This is to certify that, \_\_\_\_\_\_\_ has successfully completed the certificate course on 'Principles of Programming Language' in the academic year —/—.

Dr. B.D.Gavhane
HOD (Mathematics)

Dr. B.B. Bhosale Science faculty I/C Dr. B.S. Yadav Principal

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Department of Mathematics
K. J. Somaiya College, Kopargaon



## K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

Mohaniraj nagar, Kopargaon.423601

## Organized by DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN MATHEMATICS

## "Principles of Programming Language"

Course Code- CC.004

Year of Commencement: 2019-20







## K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

Mohaniraj nagar, Kopargaon.423601

## Organized by DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN MATHEMATICS

## "Principles of Programming Language"



Year of Commencement: 2019-20



#### Certificate Course in MATHEMATICS

#### -: Name of the Certificate Course:-"Principles of Programming Language"

(Computer based Practical)

Designed By: -

Department of MATHEMATICS

Nature of Course: -

Theory + Practical (Computer based)

Duration: -

Two Months

Eligibility:-

12th Pass

Course Fee: -

100/- Rs. per Student

Capacity: -

Min. 20 Students per batch

Total Lectures: -

30 lectures

### Evaluation Process:- Grade System (Marks Converted into Grade)

> Theory exam.-

Grade System:-50 Marks

> Practical & Exercises.-

50 Marks

Total Marks: -

100 Marks

1. 'A' Grade - More than 70 Marks

2. 'B' Grade - 60 to 70 Marks

3. 'C' Grade - 50 to 60 Marks

4. 'D' Grade - 40 to 50 Marks

Passing: - Obtained 40% Marks

Coordinator: - Dr

Head, Dept. of Mathematics

Vathematic

K.J.Somaiya Coffege Kopargaon

<sup>&</sup>quot;Principles of Programming Language"

## K.J.SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE KOPARGAON

## Department of Mathematics 2019-20

1	Name of Departmen	t	Mathematics		
2	Title of Course		Principles of p	rogramming lar	nguage
3	Course Level		Certificate Certificate		
	Implementation academic year		Since 2019-20		
4					
			1. Concepts of programming		
5			2. Programmin		
				nal numerical m	nethods
6	Faculty of the Cours		Science		
7	Eligibility of Admiss	ion and	12 <sup>th</sup> Science Pa	iss	
	prerequisite				
8	Duration of the Cou		30 days		
9	Intake capacity of st		60		
10	Total hours of teach		30		
11	Pattern of examinati		l mi		
	Theory exam, Practi	cal and		ctical exam at	the end of the
	exercises To a him a Formula	<del>.</del>	course.		
	Teaching Faculty	Dagigmadi		O1:6:4:	
12	Name of Faculty	Designati	Professor	Qualification	
	Mr. S.R. Ukirde	<del> </del>	The state of the s	M.Sc., Mather	
13	Mr. G.M. Kunjir Assistant Professor			M.Sc. Compu	
14	Other Facilities Computer Laboratory, Library Recommended books			-	
14	1. Numerical Methods In Engineering And Science- B.S. Grewal, Mercury				
	Learning And Information				
	2. Introductory methods of Numerical Analysis-S.S. Sastry, PHI Learning				
	Private Limited, New Delhi.				Dourning
	3. Computer oriented Numerical Methods – V. Rajaram.				
	4. Let Us C-Yashayan			<u>J</u>	
15	Detailed Syllabus			***	
C. No		TD •	N		No. of
Sr. No.		1 opic	Name		Lectures
	Concepts of progr				
	1. Definition and Properties of algorithms,				
	Algorithm development.				
1	2. Flow charts- symbols and simple flowcharts.				
	3. Flow charts and Algorithms for Kinematic equations,			6	
	Free fall, Equation of state, Factorial of a number. 4. Types of programming language: Lower, middle and				
	4. Types of program	mming lang	guage: Lower, m	iddle and	
	higher level langua				
2	Programming wi				12
	1. Structure of C p	rogram, Ch	aracter set, key v	words.	14

	Total No. of Lectures	30
3	numbers due to finite bit representation to use in Computer, Truncation error, round off errors (Explain with the help of examples)  2. Iterative methods: Discussion of algorithm and flowcharts and writing C programs for finding single root of equation using Bisection method, Newton-Raphson method, System of equations  3. Discussion of algorithm and flowcharts and writing C program for Trapezoidal rule and Simpson's 1/3rd rule, Simpson's 3/8th rule.	12
	Computational Numerical Methods 1. Errors in Computation: Inherent errors in storing	
	6. Arrays: 1-D, 2-D and String 7. Concept of Pointers	
	Use of Library functions e.g. mathematical, trigonometric, graphics.	
	5. Function:	
	nested control structures (nested if, nested loops), break, continue, switch- case statement, go to statement.	
	Control statements: If, if else, while, do while for loop,	
	Operators, Conditional Operator. 4. Formatted input/output	
	Relational Operators, Logical Operators, Assignment	
	3. Operators and Expressions: Arithmetic Operators,	
	2. Input/output functions: scanf (), printf (), getchar (), putchar (), getch (), gets (), puts ().	
	their declarations, Symbolic Constants.	
	Constants and variables, Variable names, Data types and	

Department of Mathematics
K. J. Somaiya College, Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaen

### **Syllabus**

#### Department of Mathematics

Certificate Course: "Principles of Programming Language"

(Computer based Practical)
Syllabus: 2019-20

#### **Objectives:**

- 1) The course is designed to provide principles of programming in C language.
- 2) Students will be able to develop logics which will help them to create programs, applications in C.
- 3) To provide exposure to problem solving through programming.
- 4) Also by learning the basic programming constructs they can easily switch over to any other language in future.
- 5) To study and implementation of numerical analysis to solve problems in Mathematics for which a quantitative theory already exists.

Chapter No.	Topic Name	No. of Lectures
1	Concepts of programming 1. Definition and Properties of algorithms, Algorithm development. 2. Flow charts- symbols and simple flowcharts. 3. Flow charts and Algorithms for Kinematic equations, Free fall, Equation of state, Factorial of a number. 4. Types of programming language: Lower, middle and higher level languages.	6
2	Programming with C  1. Structure of C program, Character set, key words, Constants and variables, Variable names, Data types and their declarations, Symbolic Constants.  2. Input/output functions: scanf(), printf(), getchar(), putchar(), getch(), gets(), puts().  3. Operators and Expressions: Arithmetic Operators, Relational Operators, Logical Operators, Assignment Operators, Conditional Operator.	12

	Total No. of Lectures	30
3	with the help of examples)  2. Iterative methods: Discussion of algorithm and flowcharts and writing C programs for finding single root of equation using Bisection method, Newton-Raphson method. System of Equations.  3. Discussion of algorithm and flowcharts and writing C program for Trapezoidal rule and Simpson's 1/3rd rule, Simpson's 3/8th rule (derivation of formula is not expected).	12
	Computational Numerical Methods  1. Errors in Computation: Inherent errors in storing numbers due to finite bit representation to use in Computer, Truncation error, round off errors (Explain	
	4. Formatted input/output Control statements: If, if else, while, do while for loop, nested control structures (nested if, nested loops), break, continue, switch- case statement, go to statement. 5. Function Use of Library functions: e.g. mathematical, trigonometric, graphics. 6. Arrays: 1-D, 2-D and String 7. Concept of Pointers	

### Following programs will be discussed in theory lectures:

- 1. Sum of digits of an integer
- 2. To find factorial of a number
- 3. Checking and printing of prime numbers
- 4. Root of equation/s-Bisection method, Newton Raphson method, Gauss-Elimination Method
- 5. Numerical integration- Trapezoidal, Simpson's 1/3rd rule, Simpson's 3/8th rule.

#### **Reference Books:**

1. Numerical Methods In Engineering And Science-B. S. Grewal, Mercury

Learning And Information

- 2. Introductory methods of Numerical Analysis-S.S. Sastry, PHI Learning Private Limited, New Delhi.
- 3. Computer oriented Numerical Methods V. Rajaraman.
- 4. Let Us C-Yashavant P. Kanetkar.

Department of Mathematics
K. J. Somaiya College, Kopargaon

K. J. Somaiya College of Arts Commerce & Science, Kopargaon



#### Proposal to BCD

## K. J. Somaiya College of Arts, Commerce & Science, Kopargaon. Department of Mathematics

Date: 03 / 07/2019

To,
The Chairman,
Board of Curriculum Development,
K. J. Somaiya College, Kopargaon.

Subject: Regarding the permission for the certificate course in Principles of Programming Language.

Respected Sir,

Considering the skilled based requirement of students of Mathematics department. We have designed 30 contact hrs Certificate course entitled "Principles of Programming Language". It is skilled based course to understand the basic concepts in programming.

The certificate course is useful to the UG level students from Mathematics department. This is the basic knowledge course about computer programming information. We are quite sure about the success of this certificate course and desirous to start this course at diploma level next year.

The required infrastructure is available in the department. The present faculty is ready to provide such knowledge and teach to the students about the programs and its uses in the field of Mathematics.

So, I request you to please give me the permission to conduct the 30 contact hrs certificate course in the subject of Mathematics.

Dept. of lathematic

Thanking you

Your faithfully

Head, Dept. of Methamatics

Department of Mathematics K. J. Somaiya College, Kopargaon

Encl: Syllabus copy of Certificate Course

ecommended 2019

ded the said course



## K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)

Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)

2: 9146142000, 9146152000 Email ID: kjscollege@rediffmail.com, Website: kjscollege.com

NAAC ACCREDITED 'A' GRADE

AN ISO 9001-2015 CERTIFIED INSTITUTE

SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal: Dr. B. S. Yadav (M.Sc., Ph.D.)

Founder President: Late K. B. Rohamare (Ex. M.L.A.)

Date: 06 (07/2019

Ref. No.:

## **Board of Curriculum Development**

To. Head of the Department, Department of Mathematics, K. J. Somaiya College, Kopargaon.

Subject: Permission for the certificate course in Mathematics

Respected sir,

As per your application dated 03/07/2019. The members of BCD conducted a meeting and after thorough discussion we have decided to accept your proposal of certificate course 'Principles of Programming Language' in Mathematics. The Committee has permitted to Department of Mathematics for 30 contact hrs. certificate course 'Principles of Programming Language' under following conditions.

The Term and Condition are follows:

- 1. Syllabus to be completed in stipulated time.
- 2. The Admission fee applicable for per students is Rs.100 only.
- 3. Conduct Theory examination at the end of the course.
- 4. Minimum 15 admissions are permissible for conducting the course.

#### Members of the committee -

- 1. Dr. B. S. Yadav
- 3. Prof. V. C. Thange
- 5. Prin. Dr. Gurasal
- 7. Dr. S. B. Kale
- 9. Smt. N. B. Shinde
- 11. Shri. Sachin Ingle

#### Copy to-

- 1. IQAC, KJS College.
- 2. Head, Dept. of Mathematics
- 3. Account Officer, KJS College

K .I Somaiya College, Kopargaon

2. Dr. S. R. Pagare

4. Prin. Dr. Goswami

6. Dr. B. B. Bhosale

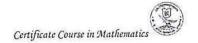
8. Dr. G. K. Chavhan

10.Prof. P. S. Bhadane

12. Shri Satyajeet Gondkar

Dr. B. S. Yadav Principal

auge of Arts Comme ce & Ccience, Kopargaon





K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE & SCIENCE, Mohaniraj nagar, Kopargaon, Tal:- Kopargaon, Dist- Ahmednagar, Maharashtra, 423601. Website: www. kjscollege.com, Email- kjscollege@rediffmail.com

### ADMISSION FORM FOR CERTIFICATE COURSES

Certificate course in the subject of	es of Programming Language"
Personal Inform	ation
Name of the Student:-	
Class:	
Category	_ 134
Address:	t makel
Mobile No.	Menament of Mathematics K. J. Somalya College, Koppingen
E- mail ID	-
Last Qualification;-	
Percentage:%	
Computer Knowledge:- Yes. / No.  Name of the Completed Computer Course:-	

<sup>&</sup>quot;Principles of Programming Language"



Declaration:

I am declared that, as per my knowledge the above information is true and correct.

Student Signature

#### DEPARTMENTAL USE ONLY

Mr. /Miss./Mrs		
Class is admitted in certifi	cate course in the subject of	f
for the Period of to	, And his /	her roll no is
for this course.		
Date:- / /20		
Head,	Dept. Seal	Principal
Department of Mathematics  Head  Department of Mathematics K. J. Somaiya College, Kopargaon	Dept. of Mathematics	Rusoma a College Kopargaon



#### K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

#### **Certificate Course in Mathematics**

## : "Principles of Programming Language" QUESTION PAPER

Date :- / /	Time: 10 am to 12 pm	Marks: 50	
Name of the student:	<del> </del>	Roll N	o
Class:			,
	In Co.	namilaan Nama and C	anatı
	Jr. Su	pervisor Name and Si	gnau
Note: 1. All questions are co 2. The right side nume	ompulsory.  nerical value is indicating the marks	for the question.	
Q. 1. How many keyword	ds and operators are used in C	language?	(
	-		
	····		
Q.2. What is Algorithm a solving problems?	and explain the advantages of a	algorithm approacl	n wh
			_
Q.3. What is the return ty	ype of scanf ( ), printf ( ), getcl	nar (), putchar (),	
	ype of scanf (), printf (), getcl		

<sup>&</sup>quot;Principles of Programming Language"

Q.4. Draw flow chart and write C-Program to integrate $\int_0^1 \frac{1}{\sqrt{1-x^2}} dx$ using Trapezoidal rule in ten iterations.	0
Q.4. Draw flow chart and write C-Program to integrate $\int_0^1 \frac{1}{\sqrt{1-x^2}} dx$ using Trapezoidal rule in ten iterations.	0
Q.4. Draw flow chart and write C-Program to integrate $\int_0^1 \frac{1}{\sqrt{1-x^2}} dx$ using Trapezoidal rule in ten iterations.	C
Q.4. Draw flow chart and write C-Program to integrate $\int_0^1 \frac{1}{\sqrt{1-x^2}} dx$ using Trapezoidal rule in ten iterations.	- C
Trapezoidal rule in ten iterations.	
	_
	_
	_
Q.5. Write C-program to print prime numbers between 1 to 100.	0
	_
2-6 What is Array programming?	_
	0
	_
-7 Write a programme for Newton-Raphson method to find out first two	
approximations for root $x^3 + 3x^2 - 5 = 0$ .	0:



```
Q-8. Write a programme for Simpson's 1/3rd method to find out first four
    approximations for root sin x + e^x = 0.
                                                                             03
Q-9. Draw a flow chart for Bisection method to find root of equation.
                                                                             05
Q-10. What will be the output of the C program?
                                                                           03
#include<stdio.h>
int main()
       char *ptr;
       char string[] = "learn C from 2braces.com";
       ptr = string;
       ptr += 6;
       printf("%s",ptr);
       return 0;
```

```
"Principles of Programming Language"
```

	( E
Certificate Course in Mathematics	W.

Q-11 Write a program in C to display the first 10 natural numbers	05
Q-12 Write a program in C to make such a pattern like right angle triangle a number which will repeat a number in a row.	e with
Q-13 Write a program in C to find LCM of any two numbers.	03
Q-14 Explain the binary operator?	02
******************	

"Principles of Programming Language"

Department of thematics
K. J. Somaiya College, Kopargaon



## K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON Certificate Course in Mathematics

### "Principles of Programming Language"

List of admitted students for the certificate course in Mathematics (2019-2020)

Roll. No.	Name of the Students	Completed Qualification	Admitted Class	
1.	Bhakare Tushar Ashok	S.Y.B.Sc		
2.	Bornarc Surckha Prakash	S.Y.B.Sc	T.Y.B.Sc	
3.	Gavhane Chaitali Suryabhan	S.Y.B.Sc	T.Y.B.Sc	
4.	Gaikwad Tejas Madhukar	S.Y.B.Sc	T.Y.B.Sc	
5.	Ghuge Pallavi Madan	S.Y.B.Sc	T.Y.B.Sc	
6.	Laware Pratiksha Shivaji	S.Y.B.Sc	T.Y.B.Sc	
7.	Mandole Ashwini Sanjay	S.Y.B.Sc	T.Y.B.Sc	
8.	Nikam Anita Kailas	S.Y.B.Sc T.Y.B.S		
9.	Pandey Anuradha Jayprakash	S.Y.B.Sc	T.Y.B.Sc	
10.	Rashinkar Rajshri Ashok	S.Y.B.Sc	T.Y.B.Sc	
11.	Shinde Rutuja Changdev	S.Y.B.Sc	T.Y.B.Sc	
12.	Sonawane Pooja Ganpat	S.Y.B.Sc	T.Y.B.Sc	
13.	Sonawane Shivam Rajendra	S.Y.B.Sc	T.Y.B.Sc	
14.	Ugale Neha Devidas	S.Y.B.Sc	T.Y.B.Sc	
15.	Chaudhari Vivek R.	S.Y.B.Sc	T.Y.B.Sc	
16.	Kumavat Prafull T.	S.Y.B.Sc	T.Y.B.Sc	
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Dr. B.D. Gavhane

Head, Dept. of Mathematics

Department of Mathematics
K. J. Somaiya College, Kopargaon

SOMAIVAC Mathematics Co ARGAON \*

Dr. B. S. Yadav
Principal
Principal
K.J. Somaiya College
Kopergaen



# Kopargaon Taluka Education Society's K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

Mohaniraj nagar, Kopargaon.423601

### Certificate Course in Mathematics

## "Principles of Programming Language"

(Computer based Practical)

#### TIME TABLE- 2019-2020

Course Duration:- Two Months

Time	Wednesday	Thursday	Friday	Saturday
12.30 To 1.30 PM.	Lect. in classroom (S-40)	Lect. in Classroom (S-40)	Lect. in Classroom (S-40)	Computer lab work / Practical (S-50)

#### Name of the Teacher:-

- 1. Prof. S. R. Ukirde (Mathematics)
- 2. Prof. G. M. Kunjir (Computer Science)

(Dr. B.D.Gavhane)

Head, Dept. of Mathematics

GOMAIYA COLLAR Mathematics Con ARGAON

(Dr. B. S. Yadav)

Principal

Kopare or

<sup>&</sup>quot;Principles of Programming Language"

# K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

# Certificate Course in Mathematics (2019-20)

"Principles of Programming Language" (Computer based Practical)

### STUDENT ATTENDENCE SHEET

Sr. No.	Name of the students  Date	aborte 112119	hallower 112/19	ट्रामाग	46/21/19		22/11/19			28/12/19	121/08	02/10/20	10/6		04/0/90		02/10/24	13/01/20	16/01/20	46/01/20	02/10/81	22/01/20	Trakous 30/01/20	37/10/120			Remarks on Attendance
1.	Bhakare T.A.	Mohabar	Thehom	Totakone	Thorong	Mohaken	Monkare	Thakare		Blokus	Markore	Bukane		Scholage 1	A Parent	Thelone	The beart	Thekur	The kone	The dans	Tobakart	Making	Thekore	M			
2.	Chaudhari V.R.	EVP	6.42		P.V.P.	_	6.4.P			6.VPC		Q	_+	6.V.K	0	6.VB	4.1.6		E.ViP	Cit	EN.P	E V.R	-CIVIR				
3.	Gaikwad T.M.	Tgairead	Tgalwad	Toping		1	19 aumag	Tgailing	Tgaine	Tagion	Taajwa	_		Taerings	190 mag	- Cashind	Tachwoo	Tgailand	Tgalwag	Tapicae	Tgahand	A	Tapiaco	- Jackond	>		
4.	Ghuge P.M.	4 huga	they to	apres de	Spare of the state	40000	950	printo.	Dimite.	Ghead	dhung.	をかか	なられると	からって	中でする	Ores 4	を見る	たか	pp. 19.	tobanyo.	Strate of the state of the stat	たる	Start P		>		
5.	Laware P.S.	burne	Governo		3/	4.	- Lamore		Comerce	hourse	(enucose	Corners	Comera	31,	3/2	1 1	- aware	· lewre	(more	Jamere	turante	-luwre	Luck	13			
6.	Mandole A.S.	ASMOOD	Stronge	Asmonda	- Pallondy	Allond	As mondy	Asmonde	4	Asmond	Arthorack	Astronas	A mond	L'envery	Astronol	Marback	Almonda	Hrvade	Asmond	A	Asmorale	TOWOUST	Astronole	Homonde			
7.	Rashinkar R.A.	Room	Rooht.	d	1.	Konny	Pagal	Rochit				Rachil	Rowh	Dach!	Pachil	1		- Roody	Pachit	Raphil	Rochit.	Raphi	Pachy	Pach			
8.	Shinde R.C.	Chinde	Phinde	O Drind	Shinde	o dick	Singe Singe	Phinde	Sminde	Chinde	Phiade	0	Shines	Supple 1	Sind of	Of Inde	Phide	Chide	Phinde	Phinde	Phide	Birde	SHIPL	A			

9.	Ugale N.D.	Ugaley	, W	Ugelar	vagaen	Charles	Capaton	Caput	yaleh	Capto	chalen	V	Spales	Chalen	Ugalet	Capary	Usalan	Coaler	ugaline	Cycles	Ugalin	capaler	Salar	Ugalen,	Ugeley	y,			•
10.	Bornare S.P.	gornal 8	Borne	Bones	Bornell		Bornes	Bornale	Brond	Bornale.	Berne		Bornes	Some	Bern	Bornes	Ben	Bernes	Borns	Bear	C	- 1	Burne	Bond	Boms	Burnes			
11.	Gavhane C.S.	garhous	garhames	garhomed	Savhones	N.	garhones	garhan2	genhaned	gerhone	gashme	genhaned Bornes	genham	N	genhans	genhans	garhone	ganhon	garhane	gowhomes	genhama	garhones	genhons	genhanes	garhar	4		·	
12.	Kumavat P.T.	K.P.T	K.P.T	K.P.T	t.f.T			Kipi I	k.p.T	k.f. T	下子子	KIELT	下。江	k.f.T	V	k.P.T	k. P.T	上个工	K.P.T		k.P.T	*·P·丁	k. P.T	Y	+				
13.	Nikam A.k.	Wiltem	Nikana	N. Won A	M. Kany	H Ken P	N. Kung	MikanA	U	HIKEMA	Nikan A	W.KanA	H. Kam. A	Nikama	NIKumA	NikanA	W. Kanil	Milhan	Wrang	N. Kamp	Mikani	NikamA	N'Kam A	H. Kom A	A	A			
14.	Pandey A.J.	Pended	Paradu	Pomdey		क्	0	pomper	A	Pombey	2777-7-1	Pomoly	pandey	- 4		Randus	A.	Romby	Pondey	Rondy			Rondey	Panden of	Pande	Acmoleu			
15.	Sonawane P.G.	Book	١.		1	Book	(Sovja	Sough	Soya	Booga	Soige	4	18 poid	Kooly	-	1	िठिखी	Book	1500ld	1	1.5	300g	- Proof	Book	1	1			
16.	Sonawane S.R.	Brown?		Shirm	Rism	Show Show		4	Shiram	Shirm	Shrows	Shivens	Shrann	Shirams	Shires	Shiram	Shirwon	Shiram	the som	Sallow	Shirar	Shirms	SHIVOM	Shiram	A LITOMAN	Sinan			

Poot Utirole SOR.

Signature of Subject Teacher

Signature of HOD

Head
Department of Mathematics
K. J. Somaiya College, Kopargaon

Signature Berincipal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

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#### DEPARTMENT OF MATHEMATICS

#### NOTICE

#### **EXAMINATION IN CERTIFICATE COURSE IN MATHEMATICS**

### **Principles of Programming language**

02/02/2020

All the students from Certificate Course in Mathematics (Principles of Programming Language) inform you that the theory examination scheduled on dated 04/02/2020 time 12.00 pm to 2.00 pm.

Students present before 15 min. in examination hall with college identity cards.

Exam Hall - (S-46)

Dr. B

r. B.D. Gavhane

Department of Mathematics

Department of Mathematics K. J. Somaiya College, Kopargaon



# K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON Mohaniraj nagar, Kopargaon. 423601

### Certificate Course in Mathematics

#### "Principles of Programming Language"

(Computer based Practical)

#### Result sheet

#### Certificate Course in Mathematics (2019-2020)

Sr.	Name of the Students	Class	Obtaine	ed Marks	Total	Grade
No.			Theory (50)	Practical (50)	(100)	
1.	Bhakare Tushar Ashok	T.Y.B.Sc	37	38	75	A
2.	Bornare Surekha Prakash	T.Y.B.Sc	32	40	72	Α
3.	Gavhane Chaitali Suryabhan	T.Y.B.Sc	35	42	77	Α
4.	Gaikwad Tejas Madhukar	T.Y.B.Sc	30	38	68	В
5.	Ghuge Pallavi Madan	T.Y.B.Sc	35	38	73	Α
6.	Laware Pratiksha Shivaji	T.Y.B.Sc	38	42	80	A
7.	Mandole Ashwini Sanjay	T.Y.B.Sc	37	42	79	Α
8.	Nikam Anita Kailas	T.Y.B!Se	40	45	85	A
9.	Pandey Anuradha Jayprakash	T.Y.B.Sc	42	46	88	A
10.	Rashinkar Rajshri Ashok	T.Y.B.Sc	38	35	78	Α
11.	Shinde Rutuja Changdev	T.Y.B.Sc	32	41	73	Α
12.	Sonawane Pooja Ganpat	T.Y.B.Sc	38	37	75	Α
13.	Sonawane Shivam Rajendra	T.Y.B.Sc	38	41	79	A
14.	Ugale Neha Devidas	T.Y.B.Sc	30	36	66	В
15.	Chaudhari Vivek R.	T.Y.B.Sc	31	33	64	В
16.	Kumavat Prafull T.	T.Y.B.Sc	39	42	81	A
17.						3
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<sup>&</sup>quot;Principles of Programming Language"

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1. Name and Signature of the Subject Teacher

Prof Ukirde S.R

2. Name and Signature of the Subject Teacher

Prof. Kunjir G.M.

Dr. B. D. Gavhane Head, Dept. of Mathematics

Head
Department of Mathematics
J. Somalya College Konstanting

Dept. of Mathematics Mathemati

Dr. B. S. Yadav Principal

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<sup>&</sup>quot;Principles of Programming Language"





## K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE,

KOPARGAON Mohanirajnagar, Kopargaon. 423601

## Certificate Course in Mathematics "Principles of Programming Language"

(Computer based Practical)

#### Admitted Students for the Certificate Course Year- (2019-2020)

#### Paid Fee Details

Sr. No.	Name of the Students	Receipt No.	Paid Fee	Receipt issue- Sign. of Students
1.	Bhakare Tushar Ashok	17.0	100	1
2.	Bornare Surekha Prakash	16	100	
3.	Gavhane Chaitali Suryabhan	Carlo Carlo	100	
4.	Gaikwad Tejas Madhukar		100	
5.	Ghuge Pallavi Madan		100	
6.	Laware Pratiksha Shivaji		100	
7.	Mandole Ashwini Sanjay		100	
8.	Nikam Anita Kailas		100	
9.	Pandey Anuradha Jayprakash		100	
10.	Rashinkar Rajshri Ashok		100	
11.	Shinde Rutuja Changdev		100	
12.	Sonawane Pooja Ganpat		100	
13.5	Sonawane Shivam Rajendra		100	
14.	Ugale Neha Devidas		100	
15.	Chaudhari Vivek R.		100	
16.	Kumavat Prafull T.		100	
17.				
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<sup>&</sup>quot;Principles of Programming Language"

22.			
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	Total	1600	
1. Fee Submitted to Office Rec	eint No. 676 Date _ 1	8/02/2020	

. Fee Submitted to Office Receipt No. 676, Date – 18/02/2020, Amount:- 1600/-Amount in Word: One Thousand Six hundred only.

Total Course fee paid to office - Rs. 1600/-

Dr. B. D. Gavhane Head, Dept. of Mathematics



Dr. B. S. Yadav Principal

# KOPARGAON TALUKA EDUCATION SOCIETY'S K. J. SOMAIYA (PG) COLLEGE

Kopargaon, Dist: Ahmednagar

Misc.	Fee	Receipt	

Section: P.G.

n Type: NON-GRAN
oll No.: 0
R

#### Fee Details

Bus Fee	0	T.C. Fee	0	Cost of Book	0	CollegeDev.Fund	0
Library Fine	0	NCC Admission	0	Application Fee	0	Extra. Curi. Ac	0
Hostel Fee	0	Post / Telegram	0	Veri/Rev. Fee	0	Computerisation	0
Hostel Breakage	0	SCI.JOURNAL	0	Lib. Deposit	0	Equip. Maintanc	0
Term Fee	0	Canteen Rent	0	Xerox	0	Sci. Breakage	0

Fee In Words: Rupees One Thousand Six Hundred Only

Paid Fee

1600

Narration:

Certificate Course in C Programming 16x100

For Principal

K. J. SOMAIYA (PG) COLLEGE

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# K.J.SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE KOPARGAON

# Department of Mathematics Academic year 2019-20

#### Report

Name of the certificate course	Principles of programming language
Date and Duration	12/12/2019 to 31/01/2020 30 Hours
Name of faculty	Mr. S.R. Ukirde Mr. G.M. Kunjir
Number of participants enrolled	16
Venue	Department of Mathematics

#### Brief summary of activity/Event:

Department of Mathematics runs a certificate course "Principles of programming language". The objective of the course is to develop logics that will help students to create programs. It also aims to provide exposure to problem-solving through programming. Head of the department Dr. B.D. Gavhane inaugurated this course.

The course content is made available to students. The students learn about programming language and solve mathematical problems using programs. Students studied the implementation of numerical analysis to solve problems in Mathematics for which a quantitative theory already exists.

### The outcome of activity/Event:

- 1. Developed logic that helped students to create programs.
- Students learned the basic programming constructs they can easily switch over to any other language in the future.

Department of Mathematics
K. J. Somaiya College, Kopargaon

K. J. Somaiya College of Arts Commerce & Science, Kopargaon



# K.J.Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon, Dist: Ahmednagar 423601

**Certificate Course** 

On



Organized By

**Department of Mathematics** 

Certificate

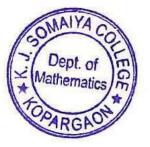
This is to certify that, \_\_\_\_\_\_ has successfully completed the certificate course on 'Principles of Programming Language' in the academic year —/—.

Dr. B.D.Gavhane
HOD (Mathematics)

Dr. B.B. Bhosale Science faculty I/C Dr. B.S. Yadav

Principal

Department of Mathematics K. J. Somaiya College, Kopargaon



Principal
K.J.Somaiya College
Kopargaon

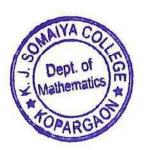
## K. J. Somaiya College of Arts, Commerce & Science, Mohanirajnagar, Kopargaon, Dist: Ahmednagar.

# "Principles of Programming Language" Certificate Course Feedback Form

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
The course fulfilled the objectives set out in the brochure	5	4	3	2	1
The course satisfied my own needs and expectations	5	4	3	2	1
The content was presented at a level which could readily be understood	5	4	3	2	1.
There was opportunity for group work	5	4	3	2	1
There was opportunity for individual participation	5	4	3	2	1
The material presented had practical relevance	5	4	3	2	1
The course content built on prior learning and experience	-5	4	3	2	1
I feel I contributed to class discussion	5	4	3	2	1
I was motivated to learn	5	4	3	2	1
Course handouts & texts helped reinforce learning	5	4	3	2	1
There was a variety of teaching methods	5	4	3	2	1
The teaching methods used helped me learn effectively	5	4	3	2	1
The Teacher knew his/her subject thoroughly	5	4	3	2	1
The Teacher achieved a good rapport with the group	5	4	3	2	1
There was opportunity for feedback and evaluation	5	4	3	2	1

Additional Con		W 9 V			
Additional Con Which aspects of th	nments (Please se course worked	: feel free to co I well?	ntinue comme	ents overleaf)	

How could the course be improved?	
Would you recommend this course to others? If not, please outline your reasons.	
Any other comments,	
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# K. J. Somaiya College of Arts, Commerce & Science, Mohanirajnagar, Kopargaon, Dist: Ahmednagar.

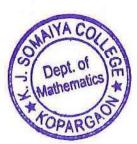
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Additional Comments (Please feel free to continue comments overleaf) Which aspects of the course worked well?					

How could the course be improv	ed?		-	
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Department of Mathematics
K. J. Somaiya College, Kopargaon



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Head
Department of Mathematics
K. J. Somaiya College, Kopargaon

