



Sonopant Dandekar Shikshan Mandali's
Sonopant Dandekar Arts, V.S. Apte Commerce
& M.H. Mehta Science College, Palghar

Department of Mathematics

Presents

Certificate Course in Basic Concepts
& Skills in Mathematics

Academic Year: 2022-23

DEPARTMENT OF MATHEMATICS

Certificate Course in Basic Concepts and Skills in Mathematics.

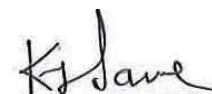
Programme	Basic Concepts and Skills in Mathematics
Objectives	<p>The main objective of this course is to give the overview of the basic concepts and basic skills of Mathematics to the students and introduce with its applications to problem solving and logical skills.</p> <p>Some important objectives of this course are:</p> <ol style="list-style-type: none">1) Understanding basic concepts, formulae and different rules in different subfields of mathematics like Analysis, Linear Algebra, Abstract Algebra, Probability Theory, Discrete Mathematics, Graph Theory, Calculus and Statistics.2) Become confident in using Mathematics to analyse & solve problems both in the field of their study and in real-life situations.3) Develop the mathematical curiosity & use inductive & deductive reasoning when solving problems.4) Have a deeper understanding of mathematical concepts & theory.5) Develop the knowledge, skills & attitudes necessary to pursue further studies in mathematics.6) Be life-long learners who are able to expand independently their mathematical expertise when needed.
Duration of Training	40 sessions (Each session of 1 hour)
Syllabus Committee	<ul style="list-style-type: none">• Prof. Dipali Mali (Course coordinator, Head, Mathematics Dept.)• Prof. Shirin Memon (Assistant professor, Mathematics Dept.)• Prof. Nidhi Mali (Assistant professor, Mathematics Dept.)• Prof. Ishrat Gawandi (Assistant professor, Mathematics Dept.)• Prof. Husnawaz Contractor (Assistant professor, Mathematics Dept.)
Course Fees	Free
Eligibility	<ul style="list-style-type: none">• Degree students of Science.
Testing	<ul style="list-style-type: none">• Assignments will be given topic wise and assessed time to time.

	<ul style="list-style-type: none"> Total evaluation will be out of 60 marks. Written Test : 40 marks Assignments : 20 marks
Certificate	After successful completion of the course, participants will get certificate from college.
Advisory Committee	<ol style="list-style-type: none"> 1) Dr. Kiran Save (Principal) 2) Prof. Mahesh Deshmukh (Vice Principal & IQAC Coordinator) 3) Dr. Tanaji pol (Vice Principal) 3) Mrs. Dipali Mali (Course Coordinator, Head, Mathematics dept.)



Asst. Prof. Dipali Mali

Head of Department of Mathematics



Dr. Kiran Save

PRINCIPAL
Principal
Sonopant Dandekar Arts College,
V.S. Apte Commerce College &
M.H. Mehta Science College
PALGHAR (W.R.)
Dist. Palghar, Pin-401404

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Proposal

Sonopant Dandekar Shikshan Mandali's
**SONOPANT DANDEKAR ARTS, V.S. APTE COMMERCE AND
M.H. MEHTA SCIENCE COLLEGE, Palghar.**

Department of Mathematics

Date: 12th April, 2023

To,
The Principal,
Sonopant Dandekar College, Palghar.

Subject: Regarding the permission to conduct Certificate Course entitled "Basic Concepts and Skills in Mathematics"

Respected Sir,
The Department of Mathematics to conduct Certificate Course entitled "Basic Concepts and Skills in Mathematics"

Objectives and Learning Outcomes -

- 1) Understanding basic concepts, formulae and different rules in different subfields of mathematics like Analysis, Linear Algebra, Abstract Algebra, Probability Theory, Discrete Mathematics, Graph Theory, Calculus and Statistics.
- 2) Become confident in using Mathematics to analyse & solve problems both in the field of their study and in real-life situations.
- 3) Develop the mathematical curiosity & use inductive & deductive reasoning when solving problems.
- 4) Have a deeper understanding of mathematical concepts & theory.
- 5) Develop the knowledge, skills & attitudes necessary to pursue further studies in mathematics.
- 6) Be life-long learners who are able to expand independently their mathematical expertise when needed.

Duration - 40 Hours

Eligibility - Degree students of Science

Fees - Free

Exam Pattern - Total evaluation will be out of 60 marks (Written Test : 40 marks &

Assignments : 20 marks)

Proposed Day & Date - Wednesday, 4th May, 2023

Kindly give the permission and we look forward for your kind cooperation.

Thanking You,



Yours sincerely,
Mrs. Dipali Mali.

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Notice



Sonopant Dandekar Shikshan Mandal
Sonopant Dandekar Arts,
V. S. Apte Commerce &
M. H. Mehta Science College, Palghar
Estb.: 14 August 1968
Dr. Kiran Save, Principal

Kharekuran Road, Palghar (W), Tal. & Dist. Palghar,
Maharashtra - 401 404, INDIA
Tel. : + 91 - 2525 - 252163
Principal : + 91 - 2525 - 252317
Email : sdscollege@yahoo.com
Web. : www.sdscollege.com

Date: 17th April, 2023

NOTICE

DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS

All the students of senior college (Science) are hereby informed that considering the importance of understanding our past and making prediction about the future, mathematics plays a vital role. The department of mathematics is starting a "Certificate Course in Basic Concepts and Skills in Mathematics" from 4th May, 2023.

Enrolment for the above course should be done on or before 21st April, 2023 in Department of Mathematics, common staffroom.

No fees will be charged for the course. After successful completion of the course, participants will get certificate from the college.

Asst. Prof. Dipali Mali
Head & Course Coordinator
Department of Mathematics

Prof. Mahesh Deshmukh
IQAC Coordinator

Dr. Kiran Save
PRINCIPAL
Sonopant Dandekar Arts College,
V.S. Apte Commerce College &
M.H. Mehta Science College
PALGHAR (W.R.)
Dist. Palghar, Pin-401404

(Best College - University of Mumbai, Amongst Top 100 Colleges in India as per India Today - MDRA Survey 2017, 2018, 2019, 2020, 2021 and 2022)

Brochure



Sonopant Dandekar Shikshan Mandali's

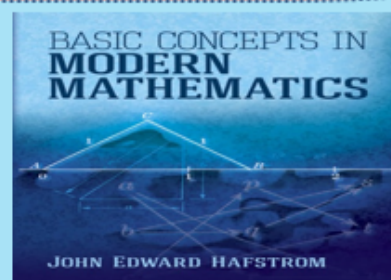
Sonopant Dandekar Arts, V.S. Apte Commerce & M.H. Mehta Science College
Palghar, Kharekuran Rd. Palghar, Dist. Palghar, 401404.

CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS

ORGANISED BY DEPARTMENT OF MATHEMATICS

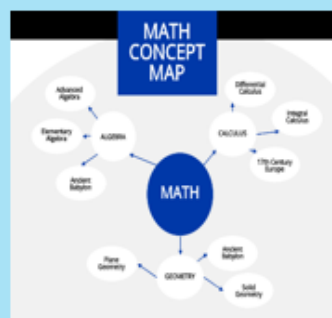
AIM & USE:

- The main objective of this course is to give the overview of the basic concepts and basic skills of Mathematics to the students and introduce with its applications to problem solving and logical skills.



ELIGIBILITY:

- Degree students of Science



SYLLABUS MODULES:

1. Calculus
2. Algebra
3. Topology of Metric Spaces
4. Graph Theory:
5. Discrete Mathematics
6. Statistics

ENQUIRY: Department of Mathematics,
Sonopant Dandekar College,
Email : dipali.mali@gmail.com
Contact Number :
Prof. Dipali Mali :-9049543079

COURSE DURATION : 3 months
TOTAL SESSIONS : 40 Sessions
(Each session of 1 hour)
COURSE FEES : FREE

Syllabus

Department of Mathematics

SYLLABUS: Certificate Course in Basic Concepts and Skills in Mathematics.

	Contents	No. Of sessions
Course Content	Calculus: <ul style="list-style-type: none">• Euclidean space \mathbb{R}^n.• Formulas of differentiation and problems.• Rules of Differentiation and problems.• Scalar valued functions and its properties.• Vector valued functions and its properties.• Concept of Partial differentiation.• Rules of Partial Differentiation and problems.	7
	Algebra: <ul style="list-style-type: none">• Vector Spaces Over Q, R, And C• Row Reduction• Matrix Operations• Division and Euclidean Algorithms• Unique Factorization of Polynomials• Permutations and Their Signs	5
	Topology of Metric Spaces: <ul style="list-style-type: none">• Definition and Examples• Open Balls and Open Sets• Bounded Sets• Dense Sets• Limit and Cluster Points• Continuity.• Sequences and its convergence.	7
	Graph Theory: <ul style="list-style-type: none">• The definition of a Graph• Seven bridges problem• Graphs as Models• Vertex Degrees• Sub graphs• Paths and Cycles	7

	<ul style="list-style-type: none"> The Matrix Representation of Graphs 	
	Discrete Mathematics <ul style="list-style-type: none"> Counting principles of addition & multiplication Stirling number of second kind. Pascal's identity Inclusion exclusion principle Composition and signature of permutation. Recurrence relation. 	7
	Statistics <ul style="list-style-type: none"> Distribution of data Measures of Central Tendency (Mean ,Median and Mode) Quartiles Deciles Percentiles Standard deviation , Expectation & Variance 	7
Advisory Committee	1) Dr. Kiran Save (Principal) 2) Prof. Mahesh Deshmukh (Vice Principal , IQAC Coordinator) 3) Dr. Tanaji pol (Vice Principal) 3) Prof. Dipali Mali (Course coordinator, Head, Mathematics Dept.)	
Teaching Faculties	<ul style="list-style-type: none"> Prof. Dipali Mali (Course coordinator, Head, Mathematics Dept.) Prof. Shirin Memon (Assistant professor, Mathematics Dept.) Prof. Nidhi Mali (Assistant professor, Mathematics Dept.) Prof. Ishrat Gawandi (Assistant professor, Mathematics Dept.) Prof. Husnawaz Contractor (Assistant professor, Mathematics Dept.) 	

Mrs. Dipali Mali

(Course coordinator,
Head, Mathematics
Dept.)

Dr. Tanaji Pol

(Vice Principal)

**Prof. Mahesh
Deshmukh**

(Vice Principal & IQAC
coordinator)

Dr. Kiran J. Save
PRINCIPAL

(Principal) Indekar Arts College,
V.S. Apt. Commerce College &
J.H. Mohite Science College
PALGHAR (W.R.)
Dist. Palghar, Pin-401404

Time Table



Sonopant Dandekar Shikshan Mandali's
 Sonopant Dandekar Arts, V. S. Apte Commerce
 & M. H. Mehta Science College, Palghar

(Best College - University of Mumbai)
 (Amongst Top 100 Colleges in India by 'India Today - NDRA Survey 2019')

DEPARTMENT OF MATHEMATICS

Certificate Course in Basic Concepts and Skills in Mathematics.

TIME TABLE				
SR. NO.	DATE	TIME	NO. OF HOURS	TOPIC
1	4/05/2023	8.30-11.30 A.M.	3	<ul style="list-style-type: none"> • Euclidean space \mathbb{R}^n. • Formulas of differentiation and problems. • Rules of Differentiation and problems.
2	6/05/2023	8.30-11.30 A.M.	3	<ul style="list-style-type: none"> • Scalar valued functions and its properties. • Vector valued functions and its properties. • Concept of Partial differentiation. • Rules of Partial Differentiation and problems.
3	8/05/2023	8.30-11.30 A.M.	3	<ul style="list-style-type: none"> • Rules of Partial Differentiation and problems. • Vector Spaces Over Q, R, And C • Row Reduction
4	9/05/2023	8.30-11.30 A.M.	3	<ul style="list-style-type: none"> • Matrix Operations • Division and Euclidean Algorithms • Unique Factorization of Polynomials • Permutations and Their Signs
5	10/05/2023	8.30-11.30 A.M.	3	<ul style="list-style-type: none"> • Definition and Examples • Open Balls and Open Sets • Bounded Sets • Dense Sets
6	11/05/2023	8.30-11.30 A.M.	3	<ul style="list-style-type: none"> • Limit and Cluster Points • Continuity. • Sequences and its convergence



Sonopant Dandekar Shikshan Mandali's

Sonopant Dandekar Arts, V. S. Apte Commerce
& M. H. Mehta Science College, Palghar

[Best College - University of Mumbai]

[Amongst Top 100 Colleges in India by 'India Today - MDRA Survey 2019']

7	12/05/2023	8.30-11.30 A.M.	3	I	<ul style="list-style-type: none">• Convergence of sequence.• The definition of a Graph• Seven bridges problem.
8	13/05/2023	8.30-11.30 A.M.	3	I	<ul style="list-style-type: none">• Graphs as Models• Vertex Degrees• Subgraphs
9	15/05/2023	8.30-11.30 A.M.	3	I H	<ul style="list-style-type: none">• Paths and Cycles• The Matrix Representation of Graphs• Counting principle of addition
10	16/05/2023	8.30-11.30 A.M.	3	H	<ul style="list-style-type: none">• Counting principle of multiplication• Stirling number of second kind.• Pascal's identity
11	17/05/2023	8.30-11.30 A.M.	3	H	<ul style="list-style-type: none">• Inclusion exclusion principle• Composition and signature of permutation.• Recurrence relation.
12	18/05/2023	8.30-11.30 A.M.	3	I	<ul style="list-style-type: none">• Distribution of data• Measures of Central Tendency (Mean, Median and Mode)
13	19/05/2023	8.30-10.30 A.M.	2		<ul style="list-style-type: none">• Quartiles• Deciles• Percentiles
14	20/05/2023	8.30-10.30 A.M.	2		<ul style="list-style-type: none">• Standard deviation, Expectation & Variance

Student Enrollment List



Sonopant Dandekar Arts, V. S. Apte Commerce
& M. H. Mehta Science College, Palghar

(Best College - University of Mumbai)
(Amongst Top 100 Colleges in India by 'India Today' - MDRA Survey 2019)

DEPARTMENT OF MATHEMATICS

Certificate Course in Basic Concepts and Skills in Mathematics,
May 2023

List of students enrolled for the certificate course

SR.No.	NAME OF THE STUDENT	Class	Contact No.	SIGNATURE
1	Dipak Devilal suthar	SYBSC	8668708564	
2	Kiran sadya salkar	SYBSC	8262902565	
3	Luckyraj Niraj Singh	FYBSC	8488021537	
4	Pankaj Ramesh Yadav	FYBSC	8340538934	
5	Ankit Krishnakant Tiwari	MSC-II	8080942936	
6	Yadav Vivek Ramavtar	Msc II	9518313622	
7	Jayashwal Archita Shivkumar	Msc II	9168839075	
8	Shaikh Shafin A.	SYBSC	9226942606	
9	Uddhari Santosh Tamore	SYBSC	9764604291	
10	Isha Jaywant Mali	FYBSC	7263915950	
11	Verma Nitish Mundrika	FYBSC	84749941191	
12	Gaikwad Mansi Raju	FYBSC	8329551434	
13	Jadhav Tanishq Shiva ji	FYB.sc	9730369022	
14	Dukale Namita subash	S.Y.BSC	8208271207	
15	Chaure Sanjana Vijay	SYB.sc	9714605744	
16	Pachalkar Sonali Vasudev	S.Y. BSC	9021823727	
17	Bhoye Premkumar Chima	Msc-II	9372706201	
18	Vanga Sarika Santosh	Msc-I	8446250884	
19	Khulat Aditi Ananta	MSC-I	9022620633	
20	Gavit Vijaya Pandu	MSC-I	8010328287	
21	Thakare Vikas Dattu	MSC-I	9022981827	
22	Thorat Ashvini Kevaji	MSC-I	771906280	
23	Gond Shalaka Ramesh	Msc-I	8080264351	
24	Telwada Mahesh Namdev	Msc-I	8407981168	

25	Kharpade Shubham Subhash	MSc I	7387394553	Shubham
26	Varatha Sonali Gopinath	MSc I	8329796413	Varatha
27	More Snehal Baban	MSc I	7079112266	Snehal
28	Padher Mahendra Pandurang	MSc I	9545774841	Padher
29	Bhujada Sandesh	MSc I	7499202567	Bhujada
30	Khan Sadika Atikullah	F.Y.B.Sc	9021922750	Sadika
31	Patil Samruddhi Ganesh	S.Y.B.Sc	8551962354	Patil

Dipali Mali

Mrs. Dipali Mali

(Course Coordinator, Head,
Mathematics Dept.)

Student Attendance List



Sonopant Dandekar Shikshan Mandal's
SONOPANT DANDEKAR ARTS, V.SAPTE COMMERCE
AND M.H.MEHTA SCIENCE COLLEGE,
Palghar, Dist- Palghar, Pin- 401 404.

DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.

Attendance of students

Sr. No.	Name of student /Date	4/05/2023 8:30-9:30	4/05/2023 9:30-10:30	4/05/2023 10:30-11:30	6/05/2023 8:30-9:30	6/05/2023 9:30-10:30	6/05/2023 10:30-11:30	8/05/2023 8:30-9:30	8/05/2023 9:30-10:30	8/05/2023 10:30-11:30	9/05/2023 8:30-9:30
1	Di Pok D. Suthar	De	De	De	De	De	De	De	De	De	De
2	Kiran. S. Salkar	Salkar	Salkar	Salkar	Salkar	Salkar	Salkar	Salkar	Salkar	Salkar	Salkar
3	Luckyraj A. Singh	Sgs	Sgs	Sgs	Sgs	Sgs	Sgs	Sgs	Sgs	Sgs	Sgs
4	Pankaj R. Yadav	Pankaj	Pankaj	Pankaj	Pankaj	Pankaj	Pankaj	Pankaj	Pankaj	Pankaj	Pankaj
5	Yadav Vivek R.	Vivek	Vivek	Vivek	Vivek	Vivek	Vivek	Vivek	Vivek	Vivek	Vivek
6	Ankit Tiwari	Ank	Ank	Ank	Ank	Ank	Ank	Ank	Ank	Ank	Ank
7	Archita J.	Archit	Archit	Archit	Archit	Archit	Archit	Archit	Archit	Archit	Archit
8	Shalin Shaikh	Sh	Sh	Sh	Sh	Sh	Sh	Sh	Sh	Sh	Sh
9	Uddhai Tomare	Udd	Udd	Udd	Udd	Udd	Udd	Udd	Udd	Udd	Udd
10	Man si Gaikwad	Man	Man	Man	Man	Man	Man	Man	Man	Man	Man



Sonopant Dandekar Shikshan Mandal's
SONOPANT DANDEKAR ARTS, V.SAPTE COMMERCE
AND M.H.MEHTA SCIENCE COLLEGE,
Palghar, Dist- Palghar, Pin- 401 404.

DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.

Attendance of students

Sr. No.	Name of student /Date	4/05/2023 8:30-9:30	4/05/2023 9:30-10:30	4/05/2023 10:30-11:30	6/05/2023 8:30-9:30	6/05/2023 9:30-10:30	6/05/2023 10:30-11:30	8/05/2023 8:30-9:30	8/05/2023 9:30-10:30	8/05/2023 10:30-11:30	9/05/2023 8:30-9:30
11	ISHA Mali	ISHA	ISHA	ISHA	ISHA	ISHA	ISHA	ISHA	ISHA	ISHA	ISHA
12	Nitish M. Varma	Varma	Varma	Varma	Varma	Varma	Varma	Varma	Varma	Varma	Varma
13	Tomhig S. Jadhav	Tomhig	Tomhig	Tomhig	Tomhig	Tomhig	Tomhig	Tomhig	Tomhig	Tomhig	Tomhig
14	Namita Dukale	Dukale	Dukale	Dukale	Dukale	Dukale	Dukale	Dukale	Dukale	Dukale	Dukale
15	Sanjana Chauhan	Sanjana	Sanjana	Sanjana	Sanjana	Sanjana	Sanjana	Sanjana	Sanjana	Sanjana	Sanjana
16	Sonali Pechhalas	Pechhalas	Pechhalas	Pechhalas	Pechhalas	Pechhalas	Pechhalas	Pechhalas	Pechhalas	Pechhalas	Pechhalas
17	Premkumar Datta Dixit	Premkumar	Premkumar	Premkumar	Premkumar	Premkumar	Premkumar	Premkumar	Premkumar	Premkumar	Premkumar
18	Sarika Vanga	Sarika	Sarika	Sarika	Sarika	Sarika	Sarika	Sarika	Sarika	Sarika	Sarika
19	Aditi Khulal	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi
20	Vijaya Gavit	Vijaya	Vijaya	Vijaya	Vijaya	Vijaya	Vijaya	Vijaya	Vijaya	Vijaya	Vijaya



Sonopant Danekar Shiksha Mandal's
SONOPANT DANDEKAR ARTS, V.S. APTE COMMERCE
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Palghar, Dist- Palghar, Pin- 401 404.

DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.

Attendance of students

Sr. No.	Name of student /Date	14/05/2023 8:30-9:30	14/05/2023 9:30-10:30	14/05/2023 10:30-11:30	16/05/2023 9:30-10:30	16/05/2023 10:30-11:30	16/05/2023 10:30-11:30	18/05/2023 8:30-9:30	18/05/2023 9:30-10:30	18/05/2023 10:30-11:30	19/05/2023 8:30-9:30
21	W. Vikas Thakare	Thakare	Thakare	Thakare	Thakare		Thakare	Thakare	Thakare	Thakare	Thakare
22	Sandesh Bhujada	Bhujada	Bhujada	Bhujada		Bhujada	Bhujada	Bhujada	Bhujada	Bhujada	Bhujada
23	Ashwini Thorat	Thorat	Thorat	Thorat	Thorat	Thorat	Thorat		Thorat	Thorat	Thorat
24	Shalaka Gond	Gond	Gond	Gond	Gond	Gond		Gond	Gond	Gond	Gond
25	Mahesh Telwade	Telwade		Telwade	Telwade	Telwade	Telwade	Telwade	Telwade	Telwade	Telwade
26	Shubham Khosrapde	Khosrapde			Khosrapde	Khosrapde	Khosrapde	Khosrapde	Khosrapde	Khosrapde	
27	Sonali Varathia	Varathia	Varathia	Varathia	Varathia	Varathia		Varathia	Varathia	Varathia	
28	Snehal more	More	More	More	More		More	More	More	More	
29	Samruddhi Patil	Patil	Patil		Patil	Patil	Patil	Patil	Patil	Patil	Patil
30	Mahendra padhe	Padhe	Padhe	Padhe	Padhe	Padhe	Padhe	Padhe	Padhe	Padhe	Padhe
31	SADIKA KHAN	Sadika		Sadika	Sadika		Sadika	Sadika		Sadika	Sadika



Sonopant Danekar Shiksha Mandal's
SONOPANT DANDEKAR ARTS, V.S. APTE COMMERCE
AND M.H. MEHTA SCIENCE COLLEGE,
Palghar, Dist- Palghar, Pin- 401 404.

DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.

Attendance of students

Sr. No.	Name of student /Date	9/05/2023 9:30-10:30	9/05/2023 10:30-11:30	10/05/2023 8:30-9:30	10/05/2023 9:30-10:30	10/05/2023 10:30-11:30	11/05/2023 9:30-10:30	11/05/2023 10:30-11:30	11/05/2023 10:30-11:30	12/05/2023 8:30-9:30	12/05/2023 9:30-10:30
1	Dipak D. Surtor	Surtor	Surtor	Surtor	Surtor	Surtor	Surtor	Surtor	Surtor	Surtor	Surtor
2	Kiran .S. Salkar	Salkar	Salkar	Salkar	Salkar	Salkar	Salkar	Salkar	Salkar	Salkar	Salkar
3	Abhikumar Singh	Singh	Singh	Singh	Singh	Singh	Singh	Singh	Singh	Singh	Singh
4	Pankaj R. Yekar	Yekar	Yekar	Yekar	Yekar	Yekar	Yekar	Yekar	Yekar	Yekar	Yekar
5	Yadav Vivek	Vivek	Vivek	Vivek	Vivek	Vivek	Vivek	Vivek	Vivek	Vivek	Vivek
6	Ankit Tiwari	Tiwari	Tiwari	Tiwari	Tiwari	Tiwari	Tiwari	Tiwari	Tiwari	Tiwari	Tiwari
7	Archit Geraswad	Geraswad	Geraswad	Geraswad	Geraswad	Geraswad	Geraswad	Geraswad	Geraswad	Geraswad	Geraswad
8	Shafiq	Shafiq	Shafiq	Shafiq	Shafiq	Shafiq	Shafiq	Shafiq	Shafiq	Shafiq	Shafiq
9	Utkarsh S. Tambe	Tambe	Tambe	Tambe	Tambe	Tambe	Tambe	Tambe	Tambe	Tambe	Tambe
10	Mansi R. Desai	Desai	Desai	Desai	Desai	Desai	Desai	Desai	Desai	Desai	Desai



Sonopant Danekar Shiksha Mandali's
SONOPANT DANDEKAR ARTS, V.S.APTE COMMERCE
AND M.H.MEHTA SCIENCE COLLEGE,
Palghar, Dist- Palghar, Pin- 401 404.

DEPARTMENT OF MATHEMATICS
CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.
Attendance of students

Sr. No.	Name of student /Date	09/05/2023 9:30-10:30	09/05/2023 10:30-11:30	10/05/2023 8:30-9:30	10/05/2023 9:30-10:30	10/05/2023 10:30-11:30	11/05/2023 8:30-9:30	11/05/2023 9:30-10:30	11/05/2023 10:30-11:30	12/05/2023 8:30-9:30	12/05/2023 9:30-10:30
11	Isha J. Mali	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
12	Nishu M. Varma	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
13	Tanisha S. Jadhav	SSS	SSS	SSS	SSS		SSS	SSS	SSS	SSS	SSS
14	Namita Duxde	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
15	Sonali Pachalkar	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
16	Seajana Chauve	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
17	Shoye Prembhara	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
18	Venga Sarika	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
19	Aditi Khatat	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
20	Gavit Vijaya	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni



Sonopant Danekar Shiksha Mandali's
SONOPANT DANDEKAR ARTS, V.S.APTE COMMERCE
AND M.H.MEHTA SCIENCE COLLEGE,
Palghar, Dist- Palghar, Pin- 401 404.

DEPARTMENT OF MATHEMATICS
CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.
Attendance of students

Sr. No.	Name of student /Date	09/05/2023 9:30-10:30	09/05/2023 10:30-11:30	10/05/2023 8:30-9:30	10/05/2023 9:30-10:30	10/05/2023 10:30-11:30	11/05/2023 8:30-9:30	11/05/2023 9:30-10:30	11/05/2023 10:30-11:30	12/05/2023 8:30-9:30	12/05/2023 9:30-10:30
21	Vikas Thakur	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
22	Sanduhghyada	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
23	Ashwini Thorat	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
24	Shalika Gond	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
25	Mehruh Telwade	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
26	Shubham Kharpede	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
27	Sonali Veratha	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
28	Snehal More	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
29	Samsubhaji Patil	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni
30	Mahendra Padhe	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni	Soni

31 SADIKA KHAN

Sadika Sadika

Sadika Sadika Sadika

Sadika Sadika



Sonopant Danekar Shiksha Mandal's
SONOPANT DANDEKAR ARTS, V.SAPTE COMMERCE
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DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.

Attendance of students

Sr. No.	Name of student /Date	12/05/2023	13/05/2023	18/05/2023	19/05/2023	16/05/2023	15/05/2023	15/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023
		10:30-11:30	8:30-9:30	9:30-10:30	10:30-11:30	8:30-9:30	9:30-10:30	10:30-11:30	8:30-9:30	9:30-10:30	10:30-11:30	9:30-10:30
1	Dipak D. Suthar	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
2	Umesh S. Tamore	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
3	Kiran S. Salkar	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
4	Prakash R. Yadav	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
5	Yadav Virek	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
6	Archita Jaiswal	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
7	Ankita Tiwari	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
8	Shafiq Shaikh	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
9	Mansi R. Gaikwad	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
10	Mukhya Singh	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL



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DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.

Attendance of students

Sr. No.	Name of student /Date	14/05/2023	16/05/2023	12/05/2023	13/05/2023	16/05/2023	15/05/2023	15/05/2023	15/05/2023	16/05/2023	16/05/2023	16/05/2023
		10:30-11:30	8:30-9:30	9:30-10:30	10:30-11:30	8:30-9:30	9:30-10:30	10:30-11:30	8:30-9:30	9:30-10:30	10:30-11:30	9:30-10:30
11	Isha J. Mali	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
12	Nitish M. Verma	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
13	Tanish S. Jadhav	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
14	Namita Duple	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
15	Sonali Pachankar	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
16	Sanjana Chavac	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
17	Pranav C. Dhare	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
18	Sarika Vanga	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
19	Aditi Khulit	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL
20	Vijaya Gavit	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL



Sonpant Dandekar Shikshan Mandal's
SONPANT DANDEKAR ARTS, V.SAPTE COMMERCE
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DEPARTMENT OF MATHEMATICS
CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.
Attendance of students

Sr. No.	Name of student /Date	12/05/2023	13/05/2023	13/05/2023	13/05/2023	15/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023
		10:30-11:30	9:30-10:30	9:30-10:30	10:30-11:30	9:30-10:30	9:30-10:30	10:30-11:30	9:30-10:30	10:30-11:30	9:30-10:30
21	Vikas Thakare	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
22	Sandesh Bhujade	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
23	Ashwini Thorat	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
24	Shalaka Gond	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
25	Mahesh Telwade	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
26	Shubham Khopade	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
27	Somali Vasahta	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
28	Snehal mose	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
29	Samruddhi patil	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
30	Mahendras pathar	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
31	SADIKHA KHAN	Sadikha	Sadikha	Sadikha	Sadikha	Sadikha	Sadikha	Sadikha	Sadikha	Sadikha	Sadikha



Sonpant Dandekar Shikshan Mandal's
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DEPARTMENT OF MATHEMATICS
CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.
Attendance of students

Sr. No.	Name of student /Date	19/05/2023	19/05/2023	19/05/2023	18/05/2023	18/05/2023	18/05/2023	19/05/2023	19/05/2023	20/05/2023	20/05/2023
		8:30-9:30	9:30-10:30	10:30-11:30	8:30-9:30	9:30-10:30	10:30-11:30	8:30-9:30	9:30-10:30	9:30-10:30	9:30-10:30
1	Dipak D. Suthar	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
2	Kiran S. Sarkar	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
3	Acharyaj Singh	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
4	Pankaj R. Yashar	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
5	Yashwanth Virele	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
6	Ankita Tiwari	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
7	Archit Jaysund	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
8	Shojin	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
9	Hemant S. Tamore	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
10	Mansi R. Gaikwad	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present



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DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.

Attendance of students

Sr. No.	Name of student /Date	17/05/2023 8:30-9:30	17/05/2023 9:30-10:30	17/05/2023 10:30-11:30	18/05/2023 8:30-9:30	18/05/2023 9:30-10:30	18/05/2023 10:30-11:30	19/05/2023 8:30-9:30	19/05/2023 9:30-10:30	20/05/2023 8:30-9:30	20/05/2023 9:30-10:30
11	Jsha J. Nani	Jsheli	Jsheli	Jsheli	Jsheli	Jsheli	Jsheli	Jsheli	Jsheli	Jsheli	Jsheli
12	Mish.M. Wani	Mish	Mish	Mish	Mish	Mish	Mish	Mish	Mish	Mish	Mish
13	Tanish S. Jethoi	Tsh	Tsh	Tsh	Tsh	Tsh	Tsh	Tsh	Tsh	Tsh	Tsh
14	Nanika Dabale	Nanika	Nanika	Nanika	Nanika	Nanika	Nanika	Nanika	Nanika	Nanika	Nanika
15	Seena Pacharkar	Seena	Seena	Seena	Seena	Seena	Seena	Seena	Seena	Seena	Seena
16	Sanjana Chavre	Sanja	Sanja	Sanja	Sanja	Sanja	Sanja	Sanja	Sanja	Sanja	Sanja
17	Bhaye Pramkumar	Bhaye	Bhaye	Bhaye	Bhaye	Bhaye	Bhaye	Bhaye	Bhaye	Bhaye	Bhaye
18	Vanya Sanka	Vanya	Vanya	Vanya	Vanya	Vanya	Vanya	Vanya	Vanya	Vanya	Vanya
19	Aditi Khulke	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi
20	Geet Vijaya	Geet	Geet	Geet	Geet	Geet	Geet	Geet	Geet	Geet	Geet



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DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.

Attendance of students

Sr. No.	Name of student /Date	12/05/2023 8:30-9:30	17/05/2023 9:30-10:30	17/05/2023 10:30-11:30	18/05/2023 8:30-9:30	18/05/2023 9:30-10:30	18/05/2023 10:30-11:30	19/05/2023 8:30-9:30	19/05/2023 9:30-10:30	20/05/2023 8:30-9:30	20/05/2023 9:30-10:30
21	Vikas Thakur	Vikas	Vikas	Vikas	Vikas	Vikas	Vikas	Vikas	Vikas	Vikas	Vikas
22	Sanduh Bhyada	Sanduh	Sanduh	Sanduh	Sanduh	Sanduh	Sanduh	Sanduh	Sanduh	Sanduh	Sanduh
23	Ashwini Thorat	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini
24	Shobha Good	Shobha	Shobha	Shobha	Shobha	Shobha	Shobha	Shobha	Shobha	Shobha	Shobha
25	Mehesh Telwade	Mehesh	Mehesh	Mehesh	Mehesh	Mehesh	Mehesh	Mehesh	Mehesh	Mehesh	Mehesh
26	Shubham Khavade	Shubham	Shubham	Shubham	Shubham	Shubham	Shubham	Shubham	Shubham	Shubham	Shubham
27	Sooni Varatha	Sooni	Sooni	Sooni	Sooni	Sooni	Sooni	Sooni	Sooni	Sooni	Sooni
28	Sorhal More	Sorhal	Sorhal	Sorhal	Sorhal	Sorhal	Sorhal	Sorhal	Sorhal	Sorhal	Sorhal
29	Somradhi Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
30	Mahendra Padhe	Padhe	Padhe	Padhe	Padhe	Padhe	Padhe	Padhe	Padhe	Padhe	Padhe
31	Sadika Khan	Sadika	Sadika	Sadika	Sadika	Sadika	Sadika	Sadika	Sadika	Sadika	Sadika

Teachers Attendance Record


 Sonopant Dandekar Shikshan Mandal's
 Sonopant Dandekar Arts, V. S. Apte Commerce
 & M. H. Mehta Science College, Palghar
(Best College - University of Mumbai)
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DEPARTMENT OF MATHEMATICS
Certificate Course in Basic Concepts and Skills in Mathematics, May 2023
Teachers Attendance Record

sr. No.	Date	Time	Topic Taught	Signature
1.	4/05/2023	8:30-9:30 AM	Euclidean space \mathbb{R}^n - Basic properties, Norm, Distance between two points, examples.	<i>[Signature]</i>
2.	4/05/2023	9:30-10:30 AM	Formulas & Rules of Differentiation, Examples.	<i>[Signature]</i>
3.	4/05/2023	10:30-11:30 AM	Increasing & decreasing functions, Tangent and Normal to the curve.	<i>[Signature]</i>
4.	6/05/2023	8:30-9:30 AM	Scalar valued functions - Def, limit, Directional derivative, Gradient with examples.	<i>[Signature]</i>
5.	6/05/2023	9:30-10:30 AM	Total Derivative of a Scalar field, Relation between Total Derivative & Gradient.	<i>[Signature]</i>
6.	6/05/2023	10:30-11:30 AM	partial Differentiation - Definition, Rules, examples.	<i>[Signature]</i>
7.	8/05/2023	8:30-9:30 AM	partial Differentiation - Rules, examples.	<i>[Signature]</i>
8.	8/05/2023	9:30-10:30 AM	Vector spaces over \mathbb{Q} , \mathbb{R} & \mathbb{C} , examples. Linear combination with examples.	<i>[Signature]</i>



DEPARTMENT OF MATHEMATICS
Certificate Course in Basic Concepts and Skills in Mathematics, May 2023
Teachers Attendance Record

9.	8/05/2023	10:30-11:30 AM	Subspace, Row Reduction, Examples.	<i>[Signature]</i>
10.	9/05/2023	8:30-9:30 AM	Matrix operations, examples.	<i>[Signature]</i>
11.	9/05/2023	9:30-10:30 AM	Division and Euclidean Algorithms, Unique Factorization of polynomials.	<i>[Signature]</i>
12.	9/05/2023	10:30-11:30 AM	permutations & their signs.	<i>[Signature]</i>
13.	10/05/2023	8:30-9:30 AM	Definition and Examples of Open Balls	<i>[Signature]</i>
14.	10/05/2023	9:30-10:30 AM	Open Sets and Bounded Sets	<i>[Signature]</i>
15.	10/05/2023	10:30-11:30 AM	Example of Bounded Sets & Dense Sets	<i>[Signature]</i>
16.	11/05/2023	8:30-9:30 AM	Limit and Cluster Points	<i>[Signature]</i>
17.	11/05/2023	9:30-10:30 AM	Continuity definitions & Examples	<i>[Signature]</i>



DEPARTMENT OF MATHEMATICS
Certificate Course in Basic Concepts and Skills in Mathematics, May 2023
Teachers Attendance Record

18.	11/05/2023	10:30-11:30 AM	Sequence and its convergence	<i>[Signature]</i>
19.	12/05/2023	8:30-9:30 AM	Convergence of Sequence.	<i>[Signature]</i>
20.	12/05/2023	09:30-10:30 AM	Basics of Graphs.	<i>[Signature]</i>
21.	12/05/2023	10:30-11:30 AM	Seven bridges problem	<i>[Signature]</i>
22.	13/05/2023	8:30-9:30 AM	Graphs as Models.	<i>[Signature]</i>
23.	13/05/2023	9:30-10:30 AM	Vertex degrees	<i>[Signature]</i>
24.	13/05/2023	10:30-11:30 AM	Subgraphs.	<i>[Signature]</i>
25.	15/05/2023	8:30-9:30 AM	Paths & Cycles.	<i>[Signature]</i>
26.	15/05/2023	9:30-10:30 AM	The matrix representation of Graphs.	<i>[Signature]</i>



DEPARTMENT OF MATHEMATICS
Certificate Course in Basic Concepts and Skills in Mathematics, May 2023
Teachers Attendance Record

27.	15/05/2023	10:30 - 11:30 _{am}	Counting Principle of Addition	AA
28.	16/05/2023	8:30 - 9:30 _{am}	Counting Principle of Multiplication	} AA
29.	16/05/2023	9:30 - 10:30 _{am}	Stirling Number of Second Kind	
30.	16/05/2023	10:30 - 11:30 _{am}	Pascal's Identity	
31.	17/05/2023	8:30 - 9:30 _{am}	Inclusion - Exclusion Principle	} AA
32.	17/05/2023	9:30 - 10:30 _{am}	Composition and Signature of permutation	
33.	17/05/2023	10:30 - 11:30 _{am}	Recurrence Relation	
34.	18/05/2023	8:30 - 9:30 _{am}	Distribution of Data	} P. Mehta
35.	18/05/2023	9:30 - 10:30 _{am}	Measure of Central Tendency - Mean	



DEPARTMENT OF MATHEMATICS
Certificate Course in Basic Concepts and Skills in Mathematics, May 2023
Teachers Attendance Record

36.	18/05/2023	10:30 - 11:30 _{am}	Median and Mode	P. Mehta
37.	19/05/2023	8:30 - 9:30 _{am}	Quartiles	} AA
38.	19/05/2023	9:30 - 10:30 _{am}	Deciles	
39.	19/05/2023	10:30 - 11:30 _{am}	Percentiles	
40.	20/05/2023	8:30 - 10:30 _{am}	Standard deviation and Variance	AA

Question Paper for Exam



Sonopant Dandekar Education Mandali's
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(Academic Year 2022-23)

Department of Mathematics

CERTIFICATE COURSE IN BASIC CONCEPTS AND SKILLS IN MATHEMATICS.

DATE: - 22/05/2023

TIME: - 2 Hours (9:00 am to 11:00 am)

MAX MARKS: - 60

Note: - (1) All Sections are Compulsory.

(2) There are Total 6 Sections every section has 3 question.

(3) Every Section is having 10 marks.

(4) Attempt any 2 question from each section.

Section I – Calculus

1. Differentiate $f(x) = x^{1001} + 5x^3 - 6x + 10,687$ with respect to x .
2. Find gradient of the function $f(x, y, z) = \sin x e^y \ln(z)$
3. What is the speed that a vehicle is travelling according to the equation $d(t) = 2 - 3t^2$ at the fifth second of its journey? In this instance space is measured in meters and time in seconds.

Section II– Algebra

1. Solve the following system of equation using row reduction method $x+y-z=1, x+2y=0, x+3y+2z=0$ where x, y, z are real numbers.

2. Find $3A+2B$, where $A = \begin{bmatrix} 1 & -2 & 0 \\ 0 & -1 & 2 \\ 4 & 3 & -6 \end{bmatrix}$ and

$$B = \begin{bmatrix} -1 & 2 & 1 \\ 0 & -3 & 2 \\ 0 & 1 & -4 \end{bmatrix}$$

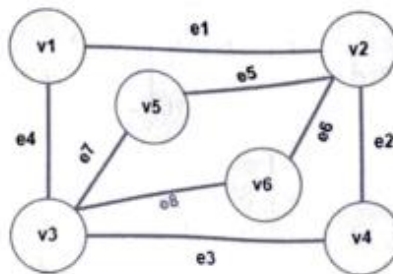
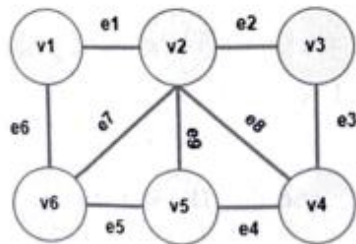
3. For the polynomials $p(x) = x^2 + x + 5$ and $g(x) = x + 2$, then find the value of $q(x)$ and $r(x)$.

Section III – Topology of Metric Spaces

- Define the following terms:
 - Metric Spaces
 - Open Ball & Open Set
- $d: \mathbb{R} \times \mathbb{R} \rightarrow \mathbb{R}$ defined as $d(x, y) = |x - y|$. Then d is a metric on \mathbb{R} and d is called the usual metric on \mathbb{R} .
- Prove that every function $f: (\mathbb{N}, d) \rightarrow (Y, d')$ where d is the usual metric and (Y, d') is any metric space is continuous.

Section IV – Graph Theory

- Define Simple, Regular and Complete Graph. Give examples.
- Draw the following graphs, or explain they cannot exist:
 - a graph with an isolated vertex and a universal vertex.
 - a bipartite graph of order 5 and size 7.
 - a bipartite graph of order 8 and size 10.
- Find adjacency and incidence matrix of the following graphs:



Section V – Discrete Mathematics

- There are 73 students in the first year Humanities class at the University of California. Among them a total of 52 can play the piano, 25 can play the violin, 12 can play piano and flute, and 7 can play violin and flute, but only one student can play all three instruments. How many in the class cannot play any of them?
- Find the first 5 terms of the following recurrence relation?
 $a_1 = 2, a_2 = -1, a_n = 2a_{n-1} - a_{n-2}$ for $n \geq 3$
- Find signatures of the following permutations

$$(i) \alpha = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 \\ 5 & 3 & 2 & 4 & 1 \end{pmatrix} \quad (ii) \beta = (3,5,6)(5,2) \in S_6$$

Section VI – Statistics

- Find the mode for the following data:

Income in Rs.	2000-4000	4000-6000	6000-8000	8000-10000	10000-12000
No. of Persons	16	34	60	37	13

- Find the variance and standard deviation of the following data:

Size of shoe	7	8	9	10	11
No. of persons	5	10	20	10	5

- Find the Q_1 & Q_2 quartiles for the following data:

Class Interval	45-50	50-55	55-60	60-65	65-70	70-75
Frequency	2	8	20	25	10	5

Exam Attendance Sheet



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Certificate Course in Basic Concepts and Skills in Mathematics, May
 2023

Date :- 22/05/2023

Attendance Sheet

SR. No.	ROLL NO	Class	NAME OF THE STUDENT	SIGNATURE
1	25052	SYBSC	Dipak Devilal suthar	<i>[Signature]</i>
2	25070	SYBSC	Kiran sadya salkar	<i>[Signature]</i>
3	90225	F.Y.B.Sc.	Luckyraj Niraj Singh	<i>[Signature]</i>
4	90213	FYBSC.	Pankaj Ramesh Yadav	<i>[Signature]</i>
5	18017	MSC-II	Ankit Krishnakant Tiwari	<i>[Signature]</i>
6	18007	MSC II	Yadav Vivek Ramavtar	<i>[Signature]</i>
7	18015	MSC II	Jaysawal Archita Shivkumar	<i>[Signature]</i>
8	2364	SYBSC	ShajikhShafin A.	<i>[Signature]</i>
9	25101	SYBSC	Uddhari Santosh Tamore	<i>[Signature]</i>
10	90062	FYBSC	Isha Jaywant Mali	<i>[Signature]</i>
11	90083	FYBSC	Verma Nitish Mundrika	<i>[Signature]</i>
12	2095	FYBSC	Gaikwad Mansi Raju	<i>[Signature]</i>
13	90192	FYB.Sc.	Jadhav Tanishq Shiva Ji	<i>[Signature]</i>
14	25053	SYBSC	Dukale Namita subash	<i>[Signature]</i>
15	25111	SYBSC	Chaure Sanjana Vijay	<i>[Signature]</i>
16	2363	SYBSC	Pachalkar Sonali Vasudev	<i>[Signature]</i>
17	18001	MSC-II	Bhoye Premkumar Chitr.	<i>[Signature]</i>
18	17001	MSC-I	Vanga Sarika Santosh	<i>[Signature]</i>
19	17002	MSC-I	Khulal Aditi Ananta	<i>[Signature]</i>

20	17004	Msc-I	Gavit Vijaya Pandu	<i>Pavit</i>
21	17005	Msc-I	Thakare Vikas Dattu	<i>Vikas</i>
22	17008	Msc-I	Thorat Ashvini Kevaji	<i>Ashvini</i>
23	17014	Msc-I	Gond Shalaka Ramesh	<i>Shalaka</i>
24	17016	Msc-I	Telwada Mahesh Namdev	<i>Mahesh</i>
25	17018	Msc-I	Kharpade Shubham Subhash	<i>Shubham</i>
26	17012	Msc-I	Varatha Sonali Gopinath	<i>Sonali</i>
27	17013	Msc-I	More Snehal Baban	<i>Snehal</i>
28	17011	Msc-I	Padher Mahendra Pandurang	<i>Mahendra</i>
29	17007	Msc-I	Bhujada Sandesh	<i>Sandesh</i>
30	90080	F.Y.B.Sc	Khan Sadika Atikullah	<i>Sadika</i>
31	2376	S.Y.B.Sc	Patil Samruddhi Genesh	<i>Samruddhi</i>

TOTAL STUDENTS PRESENT :- 31

TOTAL STUDENTS ABSENT :- 00

SIGNATURE

INTERNAL EXAMINER SIGN:-

[Signature]
22/05/23

[Signature]
22/05/23

SIGNATURE

HEAD OF DEPARTMENT

Certificate



Sonopant Dandekar Shikshan Mandal's
Sonopant Dandekar Arts, V.S. Apte Commerce
and M.H. Mehta Science College, Palghar
(Affiliated to University of Mumbai)
Amongst top 150 colleges as per India Today Nation wise survey
Awarded Best College by University of Mumbai

CERTIFICATE OF COMPLETION

CENTER FOR EXCELLENCE & INNOVATION
DEPARTMENT OF MATHEMATICS

"Certificate Course In Basic Concepts And Skills In Mathematics"

This is to acknowledge that
Mr/Ms. Jyaha Jaywant Mali
of FYBSc class of Sonopant Dandekar College
has successfully completed "Certificate Course In Basic Concepts And Skills In Mathematics"
conducted by Department of Mathematics during the academic year 2022-23
and secured A grade.

Jyaha

MD Deshmukh

Kirane



Prof. Dipali Mali
HOD, Dept. of Mathematics

Prof. Mahesh Deshmukh
IQAC Co-ordinator

Dr. Kiran Save
Principal



Sonopant Dandekar Shikshan Mandal's
Sonopant Dandekar Arts, V.S. Apte Commerce
and M.H. Mehta Science College, Palghar
(Affiliated to University of Mumbai)
Amongst top 150 colleges as per India Today Nation wise survey
Awarded Best College by University of Mumbai

CERTIFICATE OF COMPLETION

CENTER FOR EXCELLENCE & INNOVATION
DEPARTMENT OF MATHEMATICS

"Certificate Course In Basic Concepts And Skills In Mathematics"

This is to acknowledge that

Mr/Ms. Yashvardh Manvi Rajin

of FY BSc class of Sonopant Dandekar College

has successfully completed "Certificate Course In Basic Concepts And Skills In Mathematics"
conducted by Department of Mathematics during the academic year 2022-23
and secured A grade.

Prof.:

MDeshmukh

K. J. Javare



Prof. Dipali Mali
HOD, Dept. of Mathematics

Prof. Mahesh Deshmukh
IQAC Co-ordinator

Dr. Kiran Save
Principal

Report

Graduates of the certificate course in Basic Concepts and Skills in Mathematics have acquired a comprehensive understanding of foundational mathematical concepts and their applications across diverse fields. They are equipped with analytical and problem-solving skills essential for both academic pursuits and practical applications in various professional domains. Learners gained proficiency in foundational mathematics, practical problem-solving capabilities, and the readiness to pursue further studies or apply their skills in various professional contexts. Thirty one students completed this course.

Duration: 40 Hours.

Format: Lectures, Discussion, Case studies, Tests.

Date of Commencement: 02-05-2023

Date of Completion: 22-05-2023

No. of Student Passed: 31



Asst. Prof. Dipali Mali

Head of Department of Mathematics