

Rayat Shikshan Sanstha's
Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)
Department of Mathematics
Course- Magic in Maths 2021-22

List of the Students

Roll.No	Name of the Students
1556	CHAVAN KARN JOTIRAM
1592	CHAVAN KISHOR SUBHASH
1593	CHOUGULE PRERNA PRASAD
1594	DAVARI SHUBHAM SANTOSH
1595	JADHAV SHUBHAM RAJARAM
1596	KADAM SANIKA BHALCHANDRA
1597	KADAM TEJAS ADHIKRAO
1598	LAD ABHAY SANGRAM
1599	MOHITE VAISHNAVI DADASO
1600	NADAF ALFEJ HAMID
1601	NALAWADE SAURABH SUNIL
1602	NERLEKAR OMKAR NANDKUMAR
1603	PATIL PRASHANT NANDKUMAR
1604	PAWAR NIKHIL MOHAN
1605	PAWAR SANDESH MAHESH
1606	PISAL DIGVIJAY KAILAS
1607	SALUNKHE SHRADDHA KUMAR
1608	SALUNKHE YOGESH SUDHAKAR
1609	SHINDE AMRUTA MAHADEV
1610	YADAV PRAJVAL SAMPATRAO

P. Prave
Head,

Department of Mathematics

Rayat Shikshan Sanstha's

Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)

Department of Mathematics

Course- Magic in Maths 2021-22

Syllabus

Unit-I Derivative and Continuity

10 Lectures

- ❖ Introduction
- ❖ Left hand derivative, Right hand derivative, limit, left hand limit, right hand limit.
- ❖ Chain Rule and Division Rule.
- ❖ Definition of Continuity (continuous function).
- ❖ Examples.
- ❖ L'Hospital's Rule.
- ❖ Indeterminate forms- $\frac{0}{0}$, $0 * 0$, $\frac{\infty}{\infty}$

Unit-II Differential Equation

10 Lectures

- ❖ Introduction
- ❖ Definition of differential equation and examples.
- ❖ Linear differential equation.
- ❖ Solution of linear equation and examples.
- ❖ Bernoulli's equation and examples.

Unit-III Integration

10 Lectures

- ❖ Introduction
- ❖ Definite and Indefinite integral
- ❖ Properties of integration
- ❖ Integration of trigonometric function
- ❖ Integration By parts Rule (LIATE rule)
- ❖ Examples

Rayat Shikshan Sanstha's

Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)

Department of Mathematics

Course- Magic in Maths 2021-22

Time-Table

Sr. No	Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	10.00 to 11.00				MIM	MIM	MIM

#Note- MIM=Magic in Math's

Prayc
Head,

Department of Mathematics

Rayat Shikshan Sanstha's
Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)

Department of Mathematics

Value Added Course 2021-22

Magic in Maths

Syllabus Distribution

Sr. No	Name of Faculty	Unit
1.	Smt. Jirage P.D.	Unit 1
2.	Smt. Jirage P.D.	Unit 2
3.	Smt. Jirage P.D.	Unit 3

Jirage
Head,

Department of Mathematics

Rayat Shikshan Sanstha's
Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)
Department of Mathematics
Value Added Course: Magic in Maths 2021-22
B.Sc.-I: Examination
Question Paper

Day and Date: Saturday, 22/01/2022

Marks: 50

Name of the Student:

Roll No.-

Que.1. Solve the following questions.

10 Marks

- i) If $y = \tan x + \sec x$, then show that $\frac{d^2y}{dx^2} = \cos x / (1 - \sin x)^2$
- ii) Determine the derivative of the function given by $f(x) = \sin(x^2)$.

Que.2 Solve the following questions.

10 Marks

- i) Prove that every polynomial function is continuous.
- ii) Discuss the continuity of the sine function and the cosine function.

Que.3 Solve the following questions.

10 Marks

- i) Find the solution for the differential equation $x \left(\frac{dy}{dx}\right) + 2y = x^2$, where $x \neq 0$.
- ii) Solve $\frac{dy}{dx} + x^5y = x^5y^7$

Que.4 Evaluate the following integrals.

10 Marks

- i) Solve :

$$\int \frac{\sqrt{\tan x}}{\sin x \cos x} dx.$$

- ii)

$$\text{Evaluate } \sin^3 x \cos^5 x.$$

Que.5 Evaluate the following.

10 Marks

- i)

$$\text{Evaluate } \int_0^{\frac{1}{2}} \frac{x \sin^{-1} x}{\sqrt{1-x^2}} dx$$

- ii)

$$\text{Evaluate } \int_2^3 \frac{dx}{(x+1)\sqrt{x^2-1}}$$

Rayat Shikshan Sanstha's
Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)
Department of Mathematics
Value Added Course: Magic in Maths 2021-22
B.Sc.-I: Examination
Marksheet

Day and Date: Saturday, 22/01/2022

Marks: 50

Roll No.	Name of the Students	Marks
1597	Chavan Karn Jotiram	34
1598	Chavan Kishor Subhash	20
1599	Chougule Perna Prasad	32
1600	Davari Shubham Santosh	Ab
1601	Jadhav Shubham Rajaram	42
1602	Kadam Sanika Bhalchandra	46
1603	Kadam Tejas Adhikrao	Ab
1604	Lad Abhay Sangram	46
1605	Mohite Vaishnavi Dadaso	40
1606	Nadaf Alfej Hamid	38
1607	Nalawade Saurabh Sunil	30
1608	Nerlekar Omkar Nandkumar	37
1609	Patil Prashant Nandkumar	36
1610	Pawar Nikhil Mohan	37
1611	Pawar Sandesh Mahesh	40
1612	Pisal Digvijay Kailas	40
1613	Salunkhe Shraddha Kumar	42
1614	Salunkhe Yogesh Sudhakar	44
1615	Shinde Amruta Mahadev	46
1616	Yadav Prajval Sampatrao	28

Total No. of students	20
Present	18
Absent	2
Pass	18
Fail	2
Percentage	100%.

[Signature]
Head,
Department of Mathematics

Rayat Shikshan Sanstha's
Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)

Department of Mathematics

Course- Magic in Maths

2021-22

Programme Outcomes

After completion of this programme students will be able to:

- ❖ **PO-1:** Calculate left hand derivative, right hand derivative, left hand limit, right hand limit.
- ❖ **PO-2:** Explain Chain Rule, Division Rule, L'Hospital's Rule and Indeterminate forms- $\frac{0}{0}$, $0 * 0$, $\frac{\infty}{\infty}$
- ❖ **PO-3:** Evaluate limits using Indeterminate forms- $\frac{0}{0}$, $0 * 0$, $\frac{\infty}{\infty}$.
- ❖ **PO-4:** Examine continuity of various functions.
- ❖ **PO-5:** Solve differential equation by choosing proper method.
- ❖ **PO-6:** Tell definitions of definite and indefinite integration.
- ❖ **PO-7:** Illustrate properties of integration.
- ❖ **PO-8:** Evaluate integration of Trigonometric functions.
- ❖ **PO-9:** Use Integration by parts rule to find integration of multiplication of two functions.

“Education through Self-help is our motto” -Karmveer

Rayat Shikshan Sanstha's

Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burl)

Tal: Palus, Dist: Sangli, Pin: 416308

Value Added Course- Magic in Math's

CERTIFICATE

This is to certify that Mr./Miss./Mrs. of Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burl) Participated value added course entitled “ **Magic in Math's**” organized by Department of Mathematics, Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burl) for the year 2021-22.

Head,

Department of Mathematics

Principal,

Arts, Science and Commerce College, Ramanandnagar (Burl)

Rayat Shikshan Sanstha's

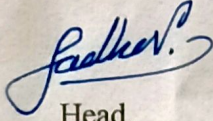
Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)

Department of Mathematics

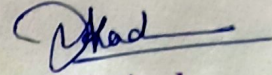
Course- Magic in Maths 2021-22
Annual Report

The department of mathematics conduct a value added course, Magic in Math's for the B.Sc.-I students. In this academic year 20 students are enrolled for this course.

This course has been started from 11 November 2021 to 20 January 2022. Per week 3 lectures have allotted for this course. After the completion of course students familiar with basic concepts of mathematics such as finding derivatives, integrations, limit and continuity of a function, differential equation etc.



Head,
Department of Mathematics



Principal,
Dr. Patangrao Kadam Mahavidyalaya,
Ramanandnagar (Burli)
Tal. Palus, Dist. Sangli,
Ramanandnagar (Burli)