

Value Added Course 2022-23



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

Department of Mathematics

Value Added Course 2022-23

Magic in Maths

COMMITTEE

Sr. No	Name of Faculty	Designation
1.	Smt. Jirage P.D.	Chairman
2.	Miss. Jadhav P.P.	Member
2.	Dr. Patil N.S.	Member
3.	Miss. Sovdande T.S	Member

Agenda:

1. To Arrange Value Added Course entitles Magic in Maths.
2. To start skill courses in mathematics for getting job opportunities.

Jirage
Head,

Department of Mathematics
Dr. Patangrao Kadam Mahavidyalaya
Head,
Department of Mathematics



Tsam
Principal,

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

Rayat Shikshan Sanstha's

Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)

Department of Mathematics

Course- Magic in Maths 2022-23

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

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Department of Mathematics

Course- Magic in Maths

2022-23

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.

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Department of Mathematics

Course- Magic in Maths 2022-23

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

Prage

Head,


Department of Mathematics

Dr. Patangrao Kadam Mahavidyalaya,
Department of Mathematics
Ramanandnagar,(Burli).

Rayat ShikshanSanstha's
Dr.Patangrao KadamMahavidyalaya, Ramanandnagar (Burli)
Department of Mathematics
Value added Course 2022-23
Magic in maths

Time table

Date	Name of Faculty	Time	Theory/Practical
01/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
02/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
03/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
08/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
09/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
10/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
15/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
16/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
17/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
22/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
23/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
24/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
29/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
30/09/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
01/10/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
06/10/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
07/10/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
08/10/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
13/10/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
14/10/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
15/10/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
20/10/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
21/10/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
22/10/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
03/11/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
04/11/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
05/11/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
10/11/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
11/11/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory
12/11/2022	Prof. Jadhav P.P.	10.00 to 11.00	Theory


Prof. Jadhav P.P.
(Coordinator)


Prage
Head,
Department of Mathematics
Dr. Patangrao Kadam Mahavidyalaya
Ramanandnagar, (Burli).

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Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)
Department of Mathematics
Value Added Course 2022-23
Magic in maths

Proceeding of Meeting

Departmental meeting was held on 22/08/2022 at 3.00 p.m. under the guidance of head of department, all faculty members were present, main agenda of meeting was to discuss about introduced Value Added Course in department for the students of B.Sc.I

Department has decided that 30 days Value Added Course entitled Magic in Maths will be started from 01/09/2022 to 12/11/2022. The governing of course committee is formed, this department committee will be run, govern and supervise the course. Besides this syllabus of course is finalized, work distribution also done as well as time table of course is constructed. Prof. Jadhav P.P. expressed vote of thanks and meeting is over.

Pirage

Head,
Department of Mathematics
Dr. Patangrao Kadam Mahavidyalaya,
Ramanandnagar, (Burli).

1. Prof. Jadhav .P.P.

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

Date: 01/12/2022

All the students of B.Sc.-I are hereby informed that the examination of value added course- "Magic in Maths" will be held on 07/12/2022, Wednesday at 10.00 a.m. to 11.00 a.m. All the students are requested to present for the exam. Attendance is mandatory.

Prage

Head,
Department of Mathematics
Dr. Patangrao Kadam Mahavidyalaya,
Ramanandnagar, (Burli).



Prasad

J/c. Principal,
Dr. Patangrao Kadam Mahavidyalaya,
Ramanandnagar (Burli)

Rayat Shikshan Sanstha's
Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burl)
Department of Mathematics
Course- Magic in Maths 2022-23

List of the Students

Sr.No	Roll.No	Name of the Students
1	1581	Dhokale Kishor Hanmant
2	1582	Gavade Ankita Ashok
3	1583	Inamdar Tasmiya Mustafa
4	1584	Javir Rushikesh Ishwaer
5	1585	Patil Anushka Ramesh
6	1586	Patil Jyoti Mahesh
7	1587	Patil Nikhil Sunil
8	1588	Patil Rushikesh Dhanaji
9	1589	Patil Vaishnavi Santosh
10	1590	Sawant Omkari Sunil
11	1591	Suryawanshi Aman Ravindra
12	1592	Dake Manish Mangesh
13	1593	Mali Harsh Bapurao
14	1594	Shinde Dikshya Dipak



Head,
Department of Mathematics
Dr. Patangrao Kadam Mahavidyalaya,
Department of Mathematics
Ramanandnagar, (Burl).

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

Value Added Course: Magic in Maths 2022-23

Examination

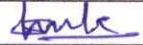
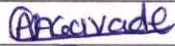



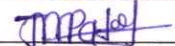
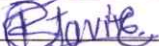

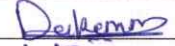
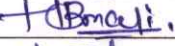

B.Sc.-I

Attendance Sheet

Date: 7/12/2022

Time: 1 hour

Marks: 50

Roll No.	Name of the Students	Signature
1581	Dhokale Kishor Hanmant	
1582	Gavade Ankita Ashok	
1583	Inamdar Tasmiya Mustafa	
1584	Javir Rushikesh Ishwaer	
1585	Patil Anushka Ramesh	
1586	Patil Jyoti Mahesh	
1587	Patil Nikhil Sunil	Ab
1588	Patil Rushikesh Dhanaji	
1589	Patil Vaishnavi Santosh	Ab
1590	Sawant Omkari Sunil	
1591	Suryawanshi Aman Ravindra	Ab
1592	Dake Manish Mangesh	
1593	Mali Harsh Bapurao	
1594	Shinde Dikshya Dipak	


Head,
Department of Mathematics
Dr. Patangrao Kadam Mahavidyalaya
Ramanandnagar, (Burli).

Rayat Shikshan Sanstha's
Dr.Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)
Department of Mathematics
Value Added Course-2022-23
Examination-B.Sc.-I

Day and Date: Wednesday, 07/12/2022

Marks: 50

Time: 10.00 a.m. to 11.00 a.m.

Instructions: 1) All questions are compulsory.

2) Figures to the right indicate full marks.

Que.1 Select the correct alternatives from each of the following.

10 Marks

- 1) What is the value of $\frac{d}{dx}(e^x \tan x)$ at $x = 0$.
a) 0 b) 1 c) -1 d) 2
- 2) If $\sqrt{x} + \sqrt{y} = a$, then $\frac{dy}{dx}$ is -----
a) $-\frac{\sqrt{x}}{\sqrt{y}}$ b) $-\frac{1\sqrt{y}}{2\sqrt{x}}$ c) $-\frac{\sqrt{y}}{\sqrt{x}}$ d) none of these
- 3) $\lim_{x \rightarrow 0} \frac{\sin x}{\tan x} =$ -----
a) 0 b) 1 c) ∞ d) 2
- 4) $\lim_{n \rightarrow \infty} (1 + \frac{1}{n})^n =$ -----
a) e b) e^{-1} c) 0 d) ∞
- 5) If a function f is continuous at a point $x = a$ then -----
a) $\lim_{x \rightarrow a} f(x) = f(a)$ b) $\lim_{x \rightarrow a} f(x) \neq f(a)$
b) $\lim_{x \rightarrow a} f(x) > f(a)$ d) None of these
- 6) The function $f(x) = \frac{4-x^2}{4x-x^3}$ is -----
a) Discontinuous at only one point at $x = 0$.
b) Discontinuous at exactly two points
c) Discontinuous at exactly three points
d) None of these
- 7) The necessary and sufficient condition for $Mdx + Ndy = 0$ to be exact is -----
a) $\frac{\partial M}{\partial x} = \frac{\partial N}{\partial y}$ b) $\frac{\partial^2 M}{\partial x^2} + \frac{\partial^2 N}{\partial y^2}$
c) $\frac{\partial M}{\partial y} = \frac{\partial N}{\partial x}$ d) $\frac{\partial^2 M}{\partial x \partial y}$
- 8) The equation $(2x + 3y + 1)dx + (3x + 2y + 1)dy = 0$ is ----- differential equation.
a) Non-homogeneous b) Homogeneous
c) Linear d) Exact

9) The value of $\int e^x(\sin x - \cos x)dx = \dots$

- a) $-e^x \cos x + c$
- b) $e^x \sin x + c$
- c) $e^x \sec x + c$
- d) None of these

10) The value of $\int \sin^{-1} x dx$ is -----

- a) $x \cos^{-1} x + \sqrt{1 - x^2} + c$
- b) $x \sin^{-1} x - \sqrt{1 - x^2} + c$
- c) $x \cos^{-1} x - \sqrt{1 - x^2} + c$
- d) $x \sin^{-1} x + \sqrt{1 - x^2} + c$

Que.2 Attempt any two of the following.

20 Marks

- 1) State and prove necessary and sufficient condition for the differential equation to be exact.
- 2) State and prove Integration by parts rule.
- 3) State and prove chain rule of derivative.

Que.3 Attempt any four of the following.

20 Marks

- 1) Solve $y(1 + xy)dx + x(1 - xy)dy = 0$.
- 2) Solve $(1 + x^2) \frac{dy}{dx} + y = e^{\tan^{-1} x}$.
- 3) If $y = x \sin x$, find $\frac{dy}{dx}$.
- 4) If $y = (1 + x^2) \cdot \tan^{-1} x$, find $\frac{dy}{dx}$.
- 5) Find the limit $\lim_{x \rightarrow 5} \frac{x-5}{x^2-25}$.
- 6) Find the integration $\int e^x \sin x$.

Rayat Shikshan Sanstha's
Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)
Department of Mathematics
Value Added Course: Magic in Maths 2022-23
B.Sc.-I: Examination
Marksheet

Day and Date: Wednesday, 07/12/2022

Marks: 50

Roll No.	Name of the Students	Signature
1581	Dhokale Kishor Hanmant	45
1582	Gavade Ankita Ashok	48
1583	Inamdar Tasmiya Mustafa	40
1584	Javir Rushikesh Ishwaer	44
1585	Patil Anushka Ramesh	38
1586	Patil Jyoti Mahesh	47
1587	Patil Nikhil Sunil	Ab
1588	Patil Rushikesh Dhanaji	Ab
1589	Patil Vaishnavi Santosh	Ab
1590	Sawant Omkari Sunil	46
1591	Suryawanshi Aman Ravindra	Ab
1592	Dake Manish Mangesh	36
1593	Mali Harsh Bapurao	35
1594	Shinde Dikshya Dipak	42

Total No. of students	14
Present	10
Absent	04
Pass	10
Fail	04
Percentage	100%

Prage

Head,
Department of Mathematics,
Dr. Patangrao Kadam Mahavidyalaya,
Ramanandnagar, (Burli).

Rayat Shikshan Sanstha's
Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli)
Department of Mathematics
Value Added Course 2022-23

Course Name: Magic in Maths.

Date:

Name of the student:

Roll No:

FEEDBACK FORM

1. What is your overall assessment of the course? (1 = insufficient – 5 = excellent)

1 2 3 4 5

2. Which topics or aspects of the course did you find most interesting or useful?

3. Knowledge and information gained from participation at this course?

Met your Expectations.	Yes	No.	Same how
Will be useful/Applicable in my work.	Definitely	Mostly Somehow	Not at all

4. Comments and Suggestions

Signature

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

Department of Mathematics

Course- Magic in Maths 2022-23
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 01 September 2022 to 12 October 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.

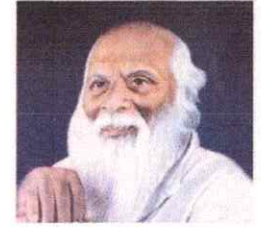


Head,
Department of Mathematics





I/c. Principal,
Dr. Patangrao Kadam Mahavidyalaya,
Ramanandnagar (Burli)



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

VALUE ADDED COURSE 2022-23.

Value Added Course- Magic in Math's

C E R T I F I C A T E

This is to certify that Mr./Miss./Mrs. *Garade Ankita Ashok* of Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli) Participated value added course entitled "**Magic in Math's**" organized by Department of Mathematics, Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli) for the year 2022-23.

Head,
Department of Mathematics



Principal,
Dr. Patangrao Kadam Mahavidyalaya,
Ramanandnagar (Burli)