Swami Keshvanand Institute of Technology,

Management &Gramothan, Jaipur

A

Report

on

A Three-Day Student Workshop On Applications of Engineering Mathematics

(December 09-12, 2023)

Organized by

Department of Mathematics, Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur

Swami Keshvanand Institute of Technology Management &Gramothan
Ramnagaria, Jagatpura, Jaipur-302 017, Rajasthan, India

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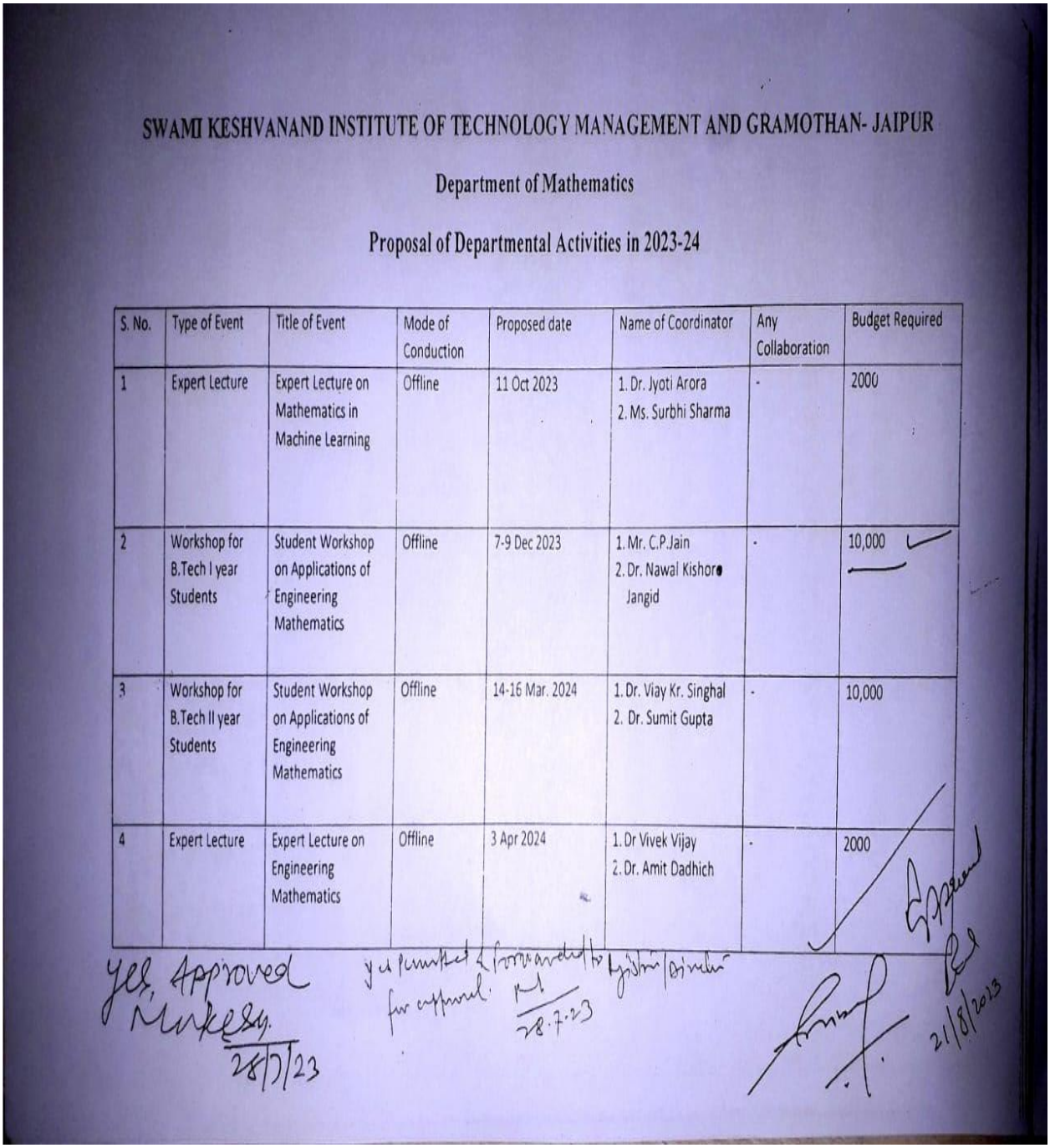
1. Objective and Outcome of the event

Objective of this workshop: The aim of the workshop is to introduce a Fourier series and to describe a periodic signal in terms of cosine and sine or it allows us to model any arbitrary periodic signal with a combination of sine and cosines and to gain proficiency in calculus computations as in calculus we use three main tools for analyzing and describing the behavior of functions: limits, derivatives and integrals. In the workshop it is also discussed to find the roots of a mathematical equation as the calculus helps us to understand the behavior and properties of the equation and calculating the areas under the curves.

Outcomes of this workshop: This workshop will be very helpful for those students, who have just started their study at graduate level in science and engineering stream and they want to explore and correlate their theoretical knowledge with practical approach. In the end of the workshop the students will be able to Find the Fourier series representation of a function and to find half range Fourier series for Odd/Even functions, to apply the concept of Multiple Integrals and various Vector Integral techniques to various engineering problems and also will be able to Solve the problems of area, volume of revolutions and evaluate proper, improper integrals.

2. Approval Letter of the Event



SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY MANAGEMENT AND GRAMOTHAN- JAIPUR

Department of Mathematics

Proposal of Departmental Activities in 2023-24

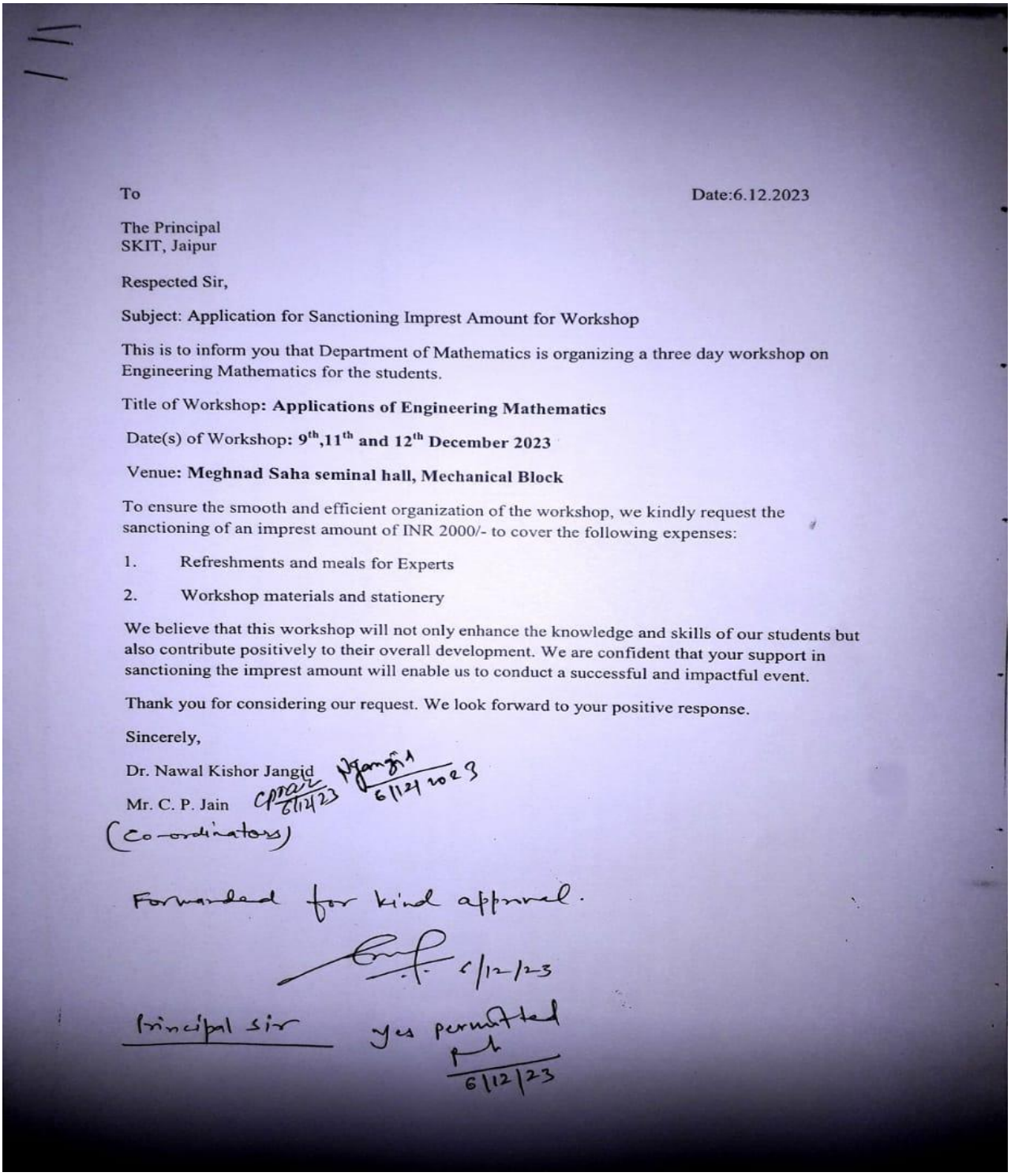
S. No.	Type of Event	Title of Event	Mode of Conduction	Proposed date	Name of Coordinator	Any Collaboration	Budget Required
1	Expert Lecture	Expert Lecture on Mathematics in Machine Learning	Offline	11 Oct 2023	1. Dr. Jyoti Arora 2. Ms. Surbhi Sharma	-	2000
2	Workshop for B.Tech I year Students	Student Workshop on Applications of Engineering Mathematics	Offline	7-9 Dec 2023	1. Mr. C.P.Jain 2. Dr. Nawal Kishore Jangid	-	10,000
3	Workshop for B.Tech II year Students	Student Workshop on Applications of Engineering Mathematics	Offline	14-16 Mar. 2024	1. Dr. Vijay Kr. Singhal 2. Dr. Sumit Gupta	-	10,000
4	Expert Lecture	Expert Lecture on Engineering Mathematics	Offline	3 Apr 2024	1. Dr Vivek Vijay 2. Dr. Amit Dadhich	-	2000

Yes, Approved
Mukesh.
28/7/23

28.7.23

Approved
21/8/2023

3. Approval Letter for Sanctioning Imprest Amount for Workshop



To

Date:6.12.2023

The Principal
SKIT, Jaipur

Respected Sir,

Subject: Application for Sanctioning Imprest Amount for Workshop

This is to inform you that Department of Mathematics is organizing a three day workshop on Engineering Mathematics for the students.

Title of Workshop: **Applications of Engineering Mathematics**

Date(s) of Workshop: **9th,11th and 12th December 2023**

Venue: **Meghnad Saha seminal hall, Mechanical Block**

To ensure the smooth and efficient organization of the workshop, we kindly request the sanctioning of an imprest amount of INR 2000/- to cover the following expenses:

1. Refreshments and meals for Experts
2. Workshop materials and stationery

We believe that this workshop will not only enhance the knowledge and skills of our students but also contribute positively to their overall development. We are confident that your support in sanctioning the imprest amount will enable us to conduct a successful and impactful event.

Thank you for considering our request. We look forward to your positive response.

Sincerely,

Dr. Nawal Kishor Jangid 6/12/2023

Mr. C. P. Jain 6/12/23

(Co-ordinators)

Forwarded for kind approval.

6/12/23

Principal sir

yes permitted

6/12/23

4. Poster of the Event

5. Schedule of the Event

Schedule of A Three-Day Student Workshop on "Applications of Engineering Mathematics"

(December 09th-12th, 2023)

Day/Date	Time	Speakers	Topic	Remark
9.12.2023 (Saturday)	10:00AM-11:30AM	Dr. Shalini Jain	Fourier Analysis and its Applications	Welcome by Dr. Pramila Kumawat
	11:30 AM-12:00PM	Quiz	----	Vote of Thanks by Ms. Surbhi Sharma
11.12.2023 (Monday)	10:00AM-11:30AM	Dr. Vikas Gupta	Differential Calculus and its Applications	Welcome by Dr. Vijay Kumar Singhal
	11:30 AM-12:00PM	Quiz	----	Vote of Thanks by Ms. Surbhi Sharma
12.12.2023 (Tuesday)	10:00AM-11:30AM	Dr. Pratibha Garg	Integral Calculus and its Applications	Welcome by Dr. Jyoti Arora
	11:30 AM-12:00PM	Quiz	----	Vote of Thanks by Ms. Surbhi Sharma

6. Responsibilities of the Event

<table>
<tr><th>Day/Date</th><th>Speakers</th><th>Remark</th><th>Report</th></tr>
<tr><td rowspan="2">9.12.2023
(Saturday)</td><td>Dr. Shalini Jain</td><td>Welcome
by
Dr. Sangeeta Gupta</td><td rowspan="2">Dr. Jyoti Arora</td></tr>
<tr><td>Quiz</td><td>Vote of Thanks
by
Ms. Surbhi Sharma</td></tr>
<tr><td rowspan="2">11.12.2023
(Monday)</td><td>Dr. Vikas Gupta</td><td rowspan="2">Welcome
By
Prof. Amber Srivastava
Vote of Thanks
by
Ms. Surbhi Sharma</td><td rowspan="2">Dr. Sumit Gupta</td></tr>
<tr><td>Quiz</td></tr>
<tr><td rowspan="2">12.12.2023
(Tuesday)</td><td>Dr. Pratibha Garg</td><td rowspan="2">Welcome
by
Dr. Jyoti Arora
Vote of Thanks
by
Ms. Surbhi Sharma</td><td rowspan="2">Dr. Vijay Kumar Singhal</td></tr>
<tr><td>Quiz</td></tr>
<tr><td colspan="2">Technical Support</td><td colspan="2">Dr. Vivek Vijay and Dr. Amit Dadheech</td></tr>
</table>

7. List of the Invited Speakers

S. No	Name of the Speakers	Affiliation
1.	Dr. Shalini Jain	Associate Professor, University of Rajasthan, Jaipur
2.	Dr. Vikas Gupta	Associate Professor, LNMIIT, Jaipur
3.	Dr. Pratibha Garg	Associate Professor, LNMIIT, Jaipur

8. List of Participants

S.No.	Student id	Name of Student	Branch	Year
1	B230377	Arjun gautam	AI	B. Tech. I Year
2	B231191	Ashutosh Gupta	AI	B. Tech. I Year
3	B231007	Chahat soni	AI	B. Tech. I Year
4	B230516	Rajnish Kumar patel	AI	B. Tech. I Year
5	B230632	Sushant Gupta	AI	B. Tech. I Year
6	B230575	Vishal Gour	AI	B. Tech. I Year
7	B231439	Rameshwar Choudhary	CE	B. Tech. I Year
8	B230807	Aditya Soni	CS	B. Tech. I Year
9	B230366	Anil Kumar Das	CS	B. Tech. I Year
10	B230898	Badal jangid	CS	B. Tech. I Year
11	B230444	Deepesh Agarwal	CS	B. Tech. I Year
12	B231050	Devanshu Jangid	CS	B. Tech. I Year
13	B230644	Disha Toshniwal	CS	B. Tech. I Year

14	B230538	DIVYANSH KHINCHI	CS	B. Tech. I Year
15	B230829	Divyansh Shrimal	CS	B. Tech. I Year
16	B230483	Hardeep Gurjar	CS	B. Tech. I Year
17	B230623	Harsh meena	CS	B. Tech. I Year
18	b231454	Harsh Sharma	CS	B. Tech. I Year
19	B231308	Krishna Wadhwa	CS	B. Tech. I Year
20	B230982	Priyanshu Khariwal	CS	B. Tech. I Year
21	B230465	Rachit tolambiya	CS	B. Tech. I Year
22	B231313	Raghav Pareek	CS	B. Tech. I Year
23	B230297	Rajput Devesh Bijendra Singh	CS	B. Tech. I Year
24	B231015	Rohit Thanvi	CS	B. Tech. I Year
25	B230591	Sakshi Agarwal	CS	B. Tech. I Year
26	b231460	Shamel Khan	CS	B. Tech. I Year
27	B231318	Shivam Verma	CS	B. Tech. I Year
28	B230292	Shivani	CS	B. Tech. I Year
29	B230580	Shreya saxena	CS	B. Tech. I Year
30	B230488	Sudhanshu Agrawal	CS	B. Tech. I Year
31	B230562	Tanishka yadav	CS	B. Tech. I Year
32	B230559	Vishal songara	CS	B. Tech. I Year
33	B230817	Yogendra Jain	CS	B. Tech. I Year
34	B230485	Aayush Agrawal	DS	B. Tech. I Year
35	B230439	Abhinav kumar chaudhary	DS	B. Tech. I Year
36	B231186	Abhiram Hosmane	DS	B. Tech. I Year

37	B230395	Aishani Billore	DS	B. Tech. I Year
38	B230676	Akshat Agarwal	DS	B. Tech. I Year
39	b231046	Akshat Goyal	DS	B. Tech. I Year
40	B231464	Amrita Kurani	DS	B. Tech. I Year
41	B231215	Ayush chahar	DS	B. Tech. I Year
42	B230841	Chirag Agrawal	DS	B. Tech. I Year
43	B231120	Chitranshu shekhawat	DS	B. Tech. I Year
44	b230616	Diksha Sharma	DS	B. Tech. I Year
45	B230514	Heet jain	DS	B. Tech. I Year
46	B231192	Jayant agarwal	DS	B. Tech. I Year
47	B230695	Kalp Mundra	DS	B. Tech. I Year
48	B230885	Keshav Maheshwari	DS	B. Tech. I Year
49	B230318	Krishan Kumar Jayaswal	DS	B. Tech. I Year
50	B230530	Kritika Dadheech	DS	B. Tech. I Year
51	B231118	Kunal Gupta	DS	B. Tech. I Year
52	b231009	Kunal Tarachandani	DS	B. Tech. I Year
53	B230758	LALIT SHARMA	DS	B. Tech. I Year
54	B231333	Lubhanshu kumawat	DS	B. Tech. I Year
55	B230951	Nandani rathore	DS	B. Tech. I Year
56	B230522	Nikita keswani	DS	B. Tech. I Year
57	B230592	Prachi Agarwal	DS	B. Tech. I Year
58	B231119	Pranjal rai	DS	B. Tech. I Year
59	B230438	Rahul Garg	DS	B. Tech. I Year

60	B230421	Rishu Sharma	DS	B. Tech. I Year
61	B230406	Riya Dhaked	DS	B. Tech. I Year
62	B231056	Sachin choudhary	DS	B. Tech. I Year
63	B230692	Sahil dhingra	DS	B. Tech. I Year
64	B230692	Sahil dhingra	DS	B. Tech. I Year
65	B230311	Sakshi parmar	DS	B. Tech. I Year
66	B231339	Samyak jain	DS	B. Tech. I Year
67	B231341	Sandeep mohanlal bajiya	DS	B. Tech. I Year
68	B231165	Sandeep yadav	DS	B. Tech. I Year
69	B230331	Sheikh Raihan	DS	B. Tech. I Year
70	B231130	SHRESTHA SWAMI	DS	B. Tech. I Year
71	B230969	Somendra tailor	DS	B. Tech. I Year
72	B231037	Sonia Mehta	DS	B. Tech. I Year
73	b230904@skit.ac.in	Tanu Shree Jangid	DS	B. Tech. I Year
74	B231167	Tejanshu Sharma	DS	B. Tech. I Year
75	B231344	Vansh kucchal	DS	B. Tech. I Year
76	b231103	Vinay jangid	DS	B. Tech. I Year
77	B230422	Vipul Kumar Gupta	DS	B. Tech. I Year
78	B230729	Virendra Kumar Sharma	DS	B. Tech. I Year
79	B230340	Yashvardhan Sharma	DS	B. Tech. I Year
80	B230875	Nainika Agrawal	ECE	B. Tech. I Year
81	B231345	Aastha Sharma	ECE	B. Tech. I Year
82	B231172	Aayush Jha	ECE	B. Tech. I Year

83	B231346	Aman Agarwal	ECE	B. Tech. I Year
84	B231469	Aman Bansal	ECE	B. Tech. I Year
85	B230913	B230913	ECE	B. Tech. I Year
86	B231471	Dev Gurjar	ECE	B. Tech. I Year
87	B231074	Dhruv Rathore	ECE	B. Tech. I Year
88	B230628	Harsh Kumar	ECE	B. Tech. I Year
89	B230899	Hiral Bhargava	ECE	B. Tech. I Year
90	B230684	Hunny gupta	ECE	B. Tech. I Year
91	B230591	Kashak Joshi	ECE	B. Tech. I Year
92	B230482	keshav soni	ECE	B. Tech. I Year
93	B230531	LOVE KUMAR BANSAL	ECE	B. Tech. I Year
94	B230289	Mayank Sharma	ECE	B. Tech. I Year
95	B230893	Mo Yunus	ECE	B. Tech. I Year
96	B231476	Naman balana	ECE	B. Tech. I Year
97	B230527	Nishchal Goyal	ECE	B. Tech. I Year
98	B231482	Abhishek Sharma	EE	B. Tech. I Year
99	B231483	Anmol Soni	EE	B. Tech. I Year
100	B230963	Aryan soni	EE	B. Tech. I Year
101	B230682	Ashok Kumar	EE	B. Tech. I Year
102	B231488	Devanshu Kumar	EE	B. Tech. I Year
103	B231509	Vishakha Sharma	EE	B. Tech. I Year
104	B230690	Aayush sankhla	IOT	B. Tech. I Year
105	B230414	Eshan Rathore	IOT	B. Tech. I Year

106	B230490	Himanshi	IT	B. Tech. I Year
107	B230476	Himanshu Khandal	IT	B. Tech. I Year
108	B231137	Jayant singh rajawat	IT	B. Tech. I Year
109	B230857	Kanak paliwal	IT	B. Tech. I Year
110	B230901	Kratika Sharma	IT	B. Tech. I Year
111	B230577	Kushagra sharma	IT	B. Tech. I Year
112	B231164	Lakshita Sharma	IT	B. Tech. I Year
113	B230475	Rohit saini	IT	B. Tech. I Year
114	B231402	Tanishka Jagetiya	IT	B. Tech. I Year
115	B231198	Vaibhav Soni	IT	B. Tech. I Year
116	B231325	Varun Agarwal	IT	B. Tech. I Year
117	b230711	Vinay Mohan Sharma	IT	B. Tech. I Year
118	B231523	Ansh	ME	B. Tech. I Year
119	b230499	Ayush kumar	ME	B. Tech. I Year
120	B231526	Dishant agarwal	ME	B. Tech. I Year
121	B230481	Himanshu Agrawal	ME	B. Tech. I Year
122	B231145	Vaibhav Agarwal	ME	B. Tech. I Year
123	B230698	Vijay Choudhary	ME	B. Tech. I Year
124	B231541	Virendra Singh	ME	B. Tech. I Year
125	b231552	yug Jangir	ME	B. Tech. I Year

9. Quiz & Analysis Report

(Quiz-01) (Fourier Analysis and its Applications)

Note: Consider the Fourier series $f(x)=\frac{a_0}{2}+\sum_{n=1}^{\infty}\left(a_n Cos\frac{2n\pi x}{b-a}+b_n Sin\frac{2n\pi x}{b-a}\right)$ in the interval (a, b)

1. The value of Fourier coefficient a_0 is equal to

(a) $\frac{1}{b-a}\int_a^b f(x)dx$ (b) $\frac{2}{b-a}\int_a^b f(x)dx$ (c) $\frac{2}{b-a}\int_a^b f(x)Cos\frac{2n\pi x}{b-a}dx$ (d) $\frac{2}{b-a}\int_a^b f(x)Sin\frac{2n\pi x}{b-a}dx$

2. The value of Fourier coefficient a_n & b_n is equal to

(a) $a_n=\frac{2}{b-a}\int_a^b f(x)Cos\frac{n\pi x}{b-a}dx$; $b_n=\frac{2}{b-a}\int_a^b f(x)Sin\frac{n\pi x}{b-a}dx$

(b) $a_n=\frac{1}{b-a}\int_a^b f(x)Cos\frac{2n\pi x}{b-a}dx$; $b_n=\frac{2}{b-a}\int_a^b f(x)Sin\frac{2n\pi x}{b-a}dx$

(c) $a_n=\frac{2}{b-a}\int_a^b f(x)Cos\frac{2n\pi x}{b-a}dx$; $b_n=\frac{1}{b-a}\int_a^b f(x)Sin\frac{2n\pi x}{b-a}dx$

(d) $a_n=\frac{2}{b-a}\int_a^b f(x)Cos\frac{2n\pi x}{b-a}dx$; $b_n=\frac{2}{b-a}\int_a^b f(x)Sin\frac{2n\pi x}{b-a}dx$

3. The Fourier coefficient a_0 of a function $f(x)$ in the interval $(0, 2\pi)$ is,

(a) $\frac{1}{\pi}\int_{-\pi}^{\pi} f(x)dx$ (b) $\frac{1}{\pi}\int_{-\pi}^{2\pi} f(x)\sin nxdx$ (c) $\frac{1}{\pi}\int_0^{2\pi} f(x)dx$ (d) $\int_0^{2\pi} f(x)\cos nxdx$

4. The Fourier coefficient a_n of a function $f(x)$ in the interval $(0, 2\pi)$ is,

(a) $\frac{1}{\pi}\int_{-\pi}^{\pi} f(x)\cos nxdx$ (b) $\frac{1}{\pi}\int_{-\pi}^{\pi} f(x)dx$ (c) $\frac{1}{\pi}\int_0^{2\pi} f(x)\sin nxdx$ (d) $\frac{1}{\pi}\int_0^{2\pi} f(x)\cos nxdx$

5. The Fourier coefficient b_n in the Half-Range Fourier sine series for the function $f(x)$ in the interval $(0, \pi)$ is,

(a) $\frac{1}{\pi}\int_0^{\pi} f(x)\sin nxdx$ (b) $\frac{2}{\pi}\int_0^{\pi} f(x)dx$ (c) $\frac{2}{\pi}\int_0^{\pi} f(x)\sin nxdx$ (d) $\frac{2}{\pi}\int_0^{\pi} f(x)\cos nxdx$

6. The Fourier coefficient a_0 for a function $f(x)=\begin{cases}-\pi\,; & -\pi<x<0\\ x\,; & 0<x<\pi\end{cases}$ is equal to

(a) $-\pi/2$ (b) $\pi/2$ (c) π (d) $\pi/3$

7. The Fourier coefficient a_0 for a function $f(x)=x$ in the interval $(0, 2\pi)$ is equal to

(a) -2π (b) 2π (c) π (d) $\pi/2$

8. The Fourier coefficient b_n for a function $f(x)=x^2$ in the interval $(-\pi, \pi)$ is equal to

(a) $-4\pi/n$ (b) $4\pi/n$ (c) 0 (d) $2\pi/n$

9. The Fourier series of a real periodic function for interval $(-\pi, \pi)$ has only

P: Cosine terms if it is even Q: Sine terms if it is even

R:Cosine terms if it is odd S:Sine terms if it is odd

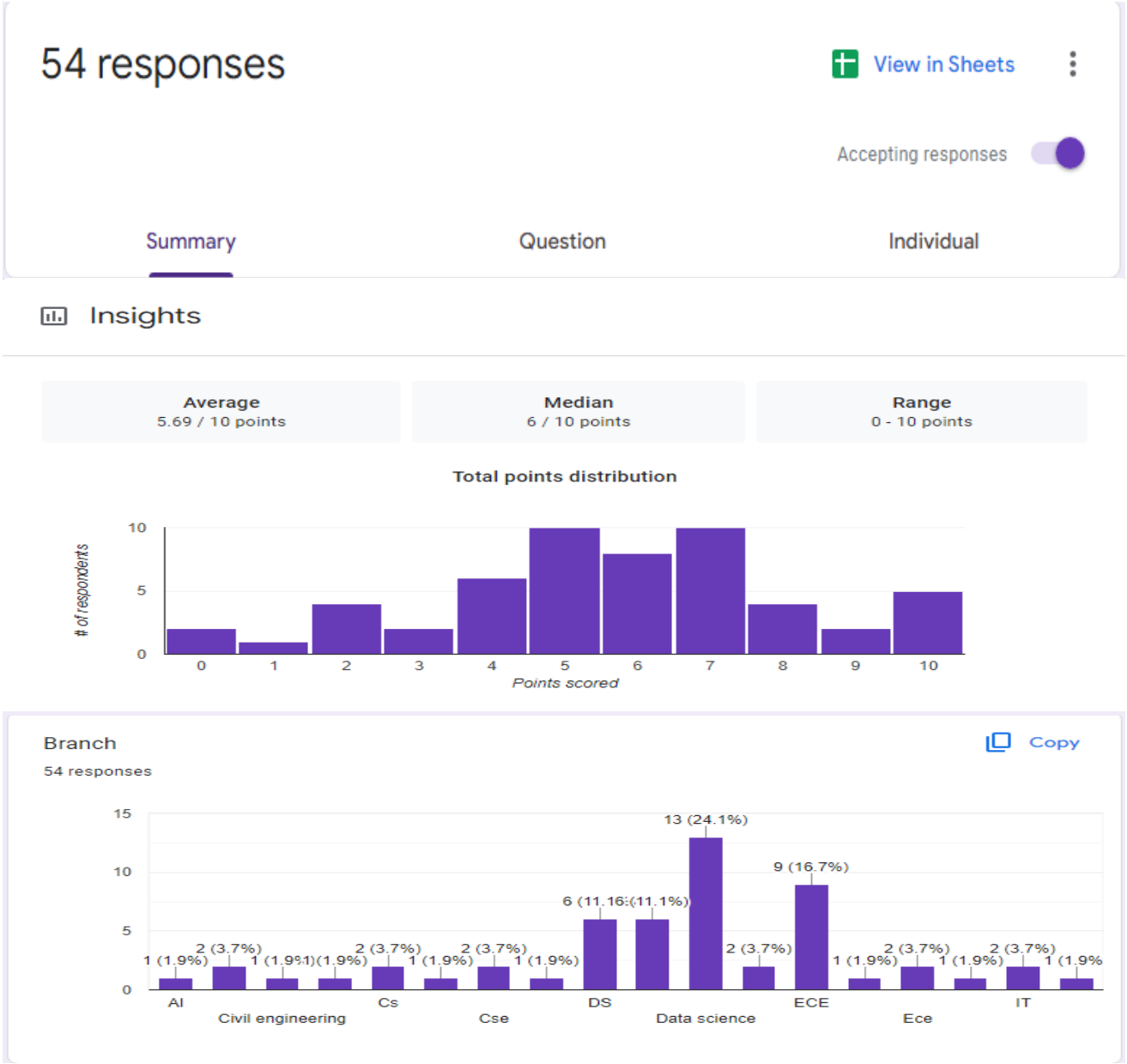
Which of the above statements are true ?

(a) P and S (b) P and R (c) Q and S (d) Q and R

10. e^x is periodic, with period of

(a) 2π (b) $2\pi i$ (c) π (d) πi

Analysis Report(Quiz-01)



(Quiz-02)(Differential calculus and its Aplications)

1. If $u = sin^{-1}\frac{x^2+y^2}{x+y}$ then $x\frac{\partial u}{\partial x}+y\frac{\partial u}{\partial y}$ is

(a) u (b) $2u$ (c) $\tan u$ (d) $\sin u$

2. If $u = \log\frac{x^4+y^4}{x+y}$ then $x\frac{\partial u}{\partial x}+y\frac{\partial u}{\partial y}$ is

(a) $3u$ (b) u (c) 3 (d) $\log u$ I

3. f $u = x^2+y^2$ then $\frac{\partial^2 u}{\partial x \partial y}$ is equal to

(a) 0 (b) 1 (c) 2 (d) –1

4. With usual notations, a function $f(x,y)$ has a saddle point ***(a, b)***, if

(a) $r>0, rt-s^2>0$ (b) $r>0, rt-s^2<0$ (c) $r<0, rt-s^2<0$ (d) $r<0, rt-s^2>0$

5. With usual notations, a function $f(x,y)$ has a maxima at ***(a, b)***, if

(a) $rt-s^2=0$ (b) $rt-s^2<0$ (c) $rt-s^2>0$ (d) $rt=s$

6. The stationary points of $f(x,y)$ are given by

(a) $f_x=0, f_y=0$ (b) $f_{xy}=0$ (c) $f_{xx}=0$ *and* $f_{yy}=0$ (d) $f^2{}_{xx}+f^2{}_{yy}=0$

7. The curve given by the equation $x^3+y^3=3axy$ is symmetrical about

(a) x-axis (b) y-axis (c) $y=x$ *line* (d) tan *gent to* $x=y=a/3$

If $f(x,y)=0, \phi(y,z)=0$ then answer the following **(Q. 8-10):**

8. The value of $\frac{dy}{dx}$ is

(a) $\frac{-\partial f/\partial x}{\partial f/\partial y}$ (b) $\frac{-\partial f/\partial y}{\partial f/\partial x}$ (c) $\frac{\partial f/\partial x}{\partial f/\partial y}$ (d) $\frac{\partial f/\partial y}{\partial f/\partial x}$

9. The value of $\frac{dz}{dy}$ is

(a) $\frac{-\partial \phi/\partial y}{\partial \phi/\partial z}$ (b) $\frac{-\partial \phi/\partial z}{\partial \phi/\partial y}$ (c) $\frac{\partial \phi/\partial y}{\partial \phi/\partial z}$ (d) $\frac{\partial \phi/\partial z}{\partial \phi/\partial y}$

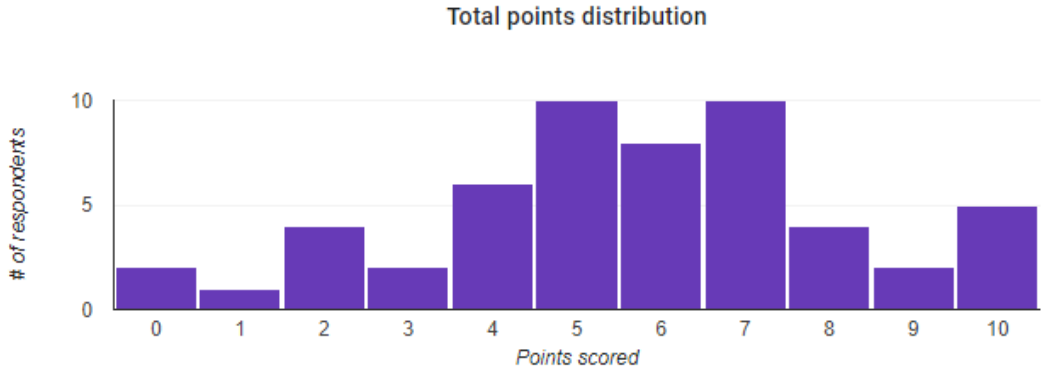
10. Which is true

(a) $\frac{\partial f}{\partial y}.\frac{\partial \phi}{\partial z}\frac{dz}{dx}=\frac{\partial \phi}{\partial y}.\frac{\partial f}{\partial x}$ (b) $\frac{\partial f}{\partial y}.\frac{\partial \phi}{\partial z}=\frac{dz}{dx}\frac{\partial \phi}{\partial y}.\frac{\partial f}{\partial x}$ (c) $\frac{\partial f}{\partial y}.\frac{\partial \phi}{\partial z}=\frac{\partial \phi}{\partial y}.\frac{\partial f}{\partial x}$ (d) $\frac{\partial f}{\partial y}.\frac{\partial \phi}{\partial z}\frac{dy}{dz}=\frac{\partial \phi}{\partial y}.\frac{\partial f}{\partial x}$

Analysis Report(Quiz-02)

Insights

Average	Median	Range
5.69 / 10 points	6 / 10 points	0 - 10 points



Branch

54 responses

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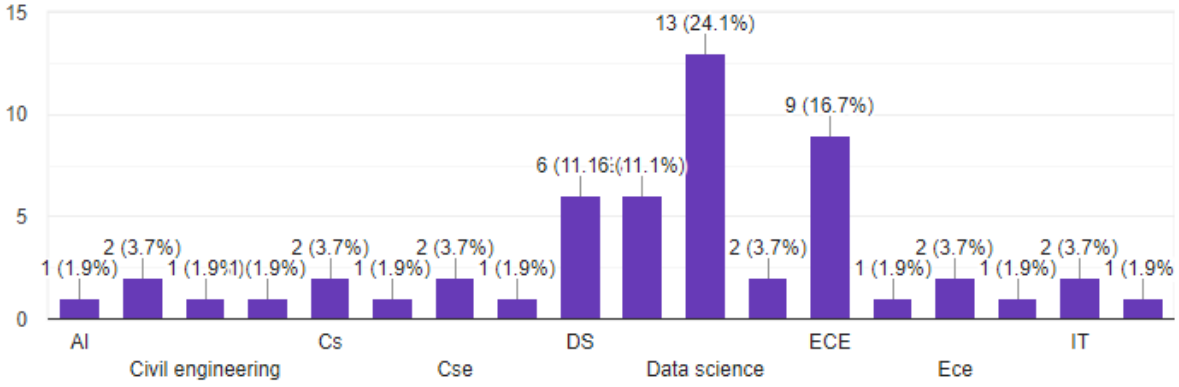


(Quiz-03)(Integral calculus and its Applications)

1. The value of $\int_0^{\pi/2} \sin^6 x dx$ is

(a) $\frac{5\pi}{64}$ (b) $\frac{5\pi}{32}$ (c) $\frac{7\pi}{64}$ (d) $\frac{\pi}{64}$

2. The value of $\int_0^{\pi/2} \sin^6 x \cos^2 x dx$ is

(a) $\frac{5\pi}{128}$ (b) $\frac{7\pi}{32}$ (c) $\frac{5\pi}{256}$ (d) $\frac{\pi}{64}$

3. The value of $\int_{-\infty}^{0} e^x dx$ is

(a) 0 (b) 1 (c) -1 (d) 2

4. The value of $\int_{-\infty}^{0} e^{-x} dx$ is

(a) 0 (b) 1 (c) ∞ (d) $-\infty$

5. The value of $\int_{-\infty}^{\infty} \frac{1}{1+x^2} dx$ is

(a) $\pi/2$ (b) $-\pi/2$ (c) $-\pi$ (d) π

6. The value of $\Gamma(1/2)$ is

(a) $\pi/2$ (b) $-\pi/2$ (c) $\sqrt{\pi}$ (d) π

7. The value of $\int_0^1 e^{-4x} x^{1/2} dx$ is

(a) $\frac{\pi}{16}$ (b) $\frac{\sqrt{\pi}}{16}$ (c) $\frac{\sqrt{\pi}}{8}$ (d) $\frac{\pi}{8}$

8. The value of $\int_0^{\infty} \frac{x^8(1-x^6)}{(1+x)^{24}} dx$ is

(a) 0 (b) 1 (c) ∞ (d) None

9. The value of $\int_0^{\infty} e^{-x} x^{n-1} dx$ is

(a) $\Gamma(n+1)$ (b) $\Gamma(n-1)$ (c) $\Gamma(n)$ (d) $n!$

10. The value of $\int_0^1 x^{m-1}(1-x)^{n-1} dx$ is

(a) $B(m,n)$ (b) $B(m,n+1)$ (c) $B(m+1,n)$ (d) $B(m-1,n-1)$

Analysis Report(Quiz-03)

53 responses

View in Sheets

Not accepting responses

Message for respondents

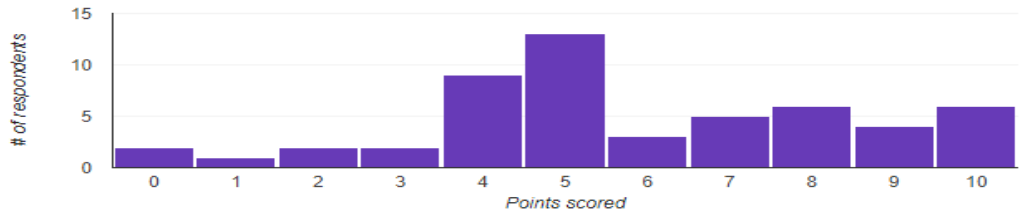
This form is no longer accepting responses

Summary Question Individual

Insights

Average	Median	Range
5.83 / 10 points	5 / 10 points	0 - 10 points

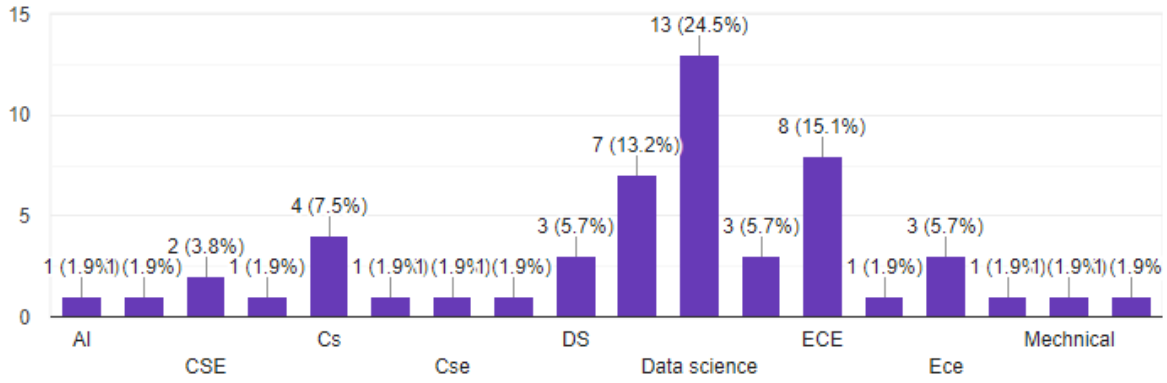
Total points distribution



Branch

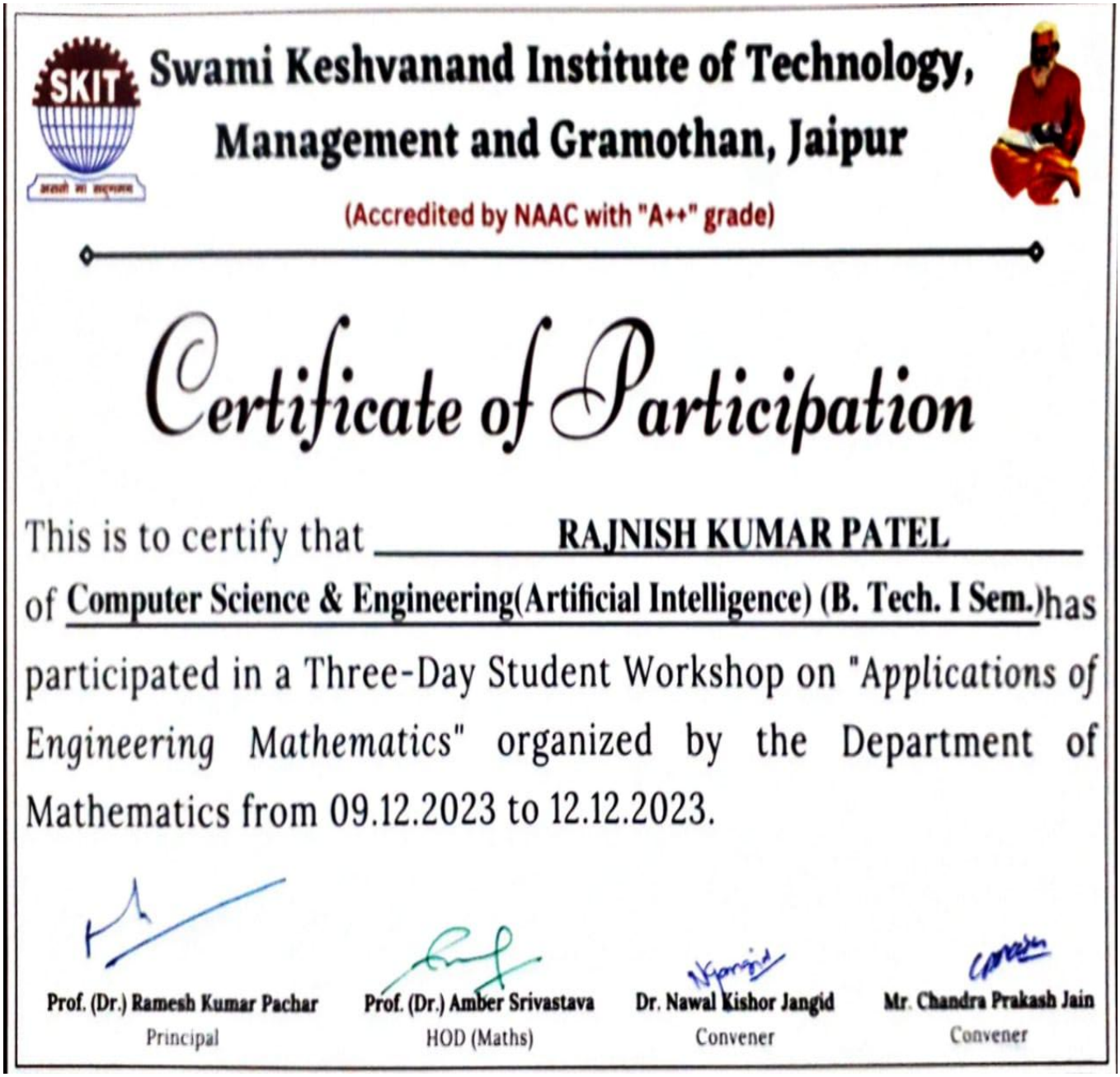
Copy

53 responses



10. Sample Copy of Certificate

Participant Certificate



Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur

(Accredited by NAAC with "A++" grade)

Certificate of Participation

This is to certify that RAJNISH KUMAR PATEL of Computer Science & Engineering(Artificial Intelligence) (B. Tech. I Sem.) has participated in a Three-Day Student Workshop on "Applications of Engineering Mathematics" organized by the Department of Mathematics from 09.12.2023 to 12.12.2023.

Prof. (Dr.) Ramesh Kumar Pachar	Prof. (Dr.) Amber Srivastava	Dr. Nawal Kishor Jangid	Mr. Chandra Prakash Jain
Principal	HOD (Maths)	Convener	Convener

Expert Certificate

Swami Keshvanand Institute of Technology, Management & Gramothan
Jaipur(Rajasthan), India
(Accredited by NAAC with "A++" grade)

Certificate of Recognition

This certificate is presented to

Dr. Shalini Jain

University of Rajasthan,
Jaipur

for delivering a talk on

Fourier Analysis and its Applications

during

A THREE-DAY STUDENT WORKSHOP

on

"Applications of Engineering Mathematics",

9th, 11th & 12th December, 2023

Organized by

Department of Mathematics

Prof. Ramesh Kumar Pachar
Principal, SKIT

Prof. Amber Srivastava
HOD (Maths), SKIT

Dr. Nawal Kishor Jangid
Convener

Mr. Chandra Prakash Jain
Convener

Place:
Jaipur(India) Date:
09/12/2023

Swami Keshvanand Institute of Technology, Management & Gramothan
Jaipur(Rajasthan), India
(Accredited by NAAC with "A++" grade)

Certificate of Recognition

This certificate is presented to

Dr. Vikas Gupta

LNMIIT,
Jaipur

for delivering a talk on

Differential Calculus and its Applications

during

A THREE-DAY STUDENT WORKSHOP

on

"Applications of Engineering Mathematics",
9th, 11th & 12th December, 2023

Organized by

Department of Mathematics

Prof. Ramesh Kumar Pachar
Principal, SKIT

Prof. Amber Srivastava
HOD (Maths), SKIT

Dr. Nawal Kishor Jangid
Convener

Mr. Chandra Prakash Jain
Convener

Place:
Jaipur(India) Date:
11/12/2023

Swami Keshvanand Institute of Technology, Management & Gramothan
Jaipur(Rajasthan), India
(Accredited by NAAC with "A++" grade)

Certificate of Recognition

This certificate is presented to

Dr. Pratibha Garg

LNMIIT,
Jaipur

for delivering a talk on

Integral Calculus and its Applications

during

A THREE-DAY STUDENT WORKSHOP

on

"Applications of Engineering Mathematics",

9th, 11th & 12th December, 2023

Organized by

Department of Mathematics

Prof. Ramesh Kumar Pachar
Principal, SKIT

Prof. Amber Srivastava
HOD (Maths), SKIT

Dr. Nawal Kishor Jangid
Convener

Mr. Chandra Prakash Jain
Convener

Place:
Jaipur(India) Date:
12/12/2023

Volunteer Certificate

Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur

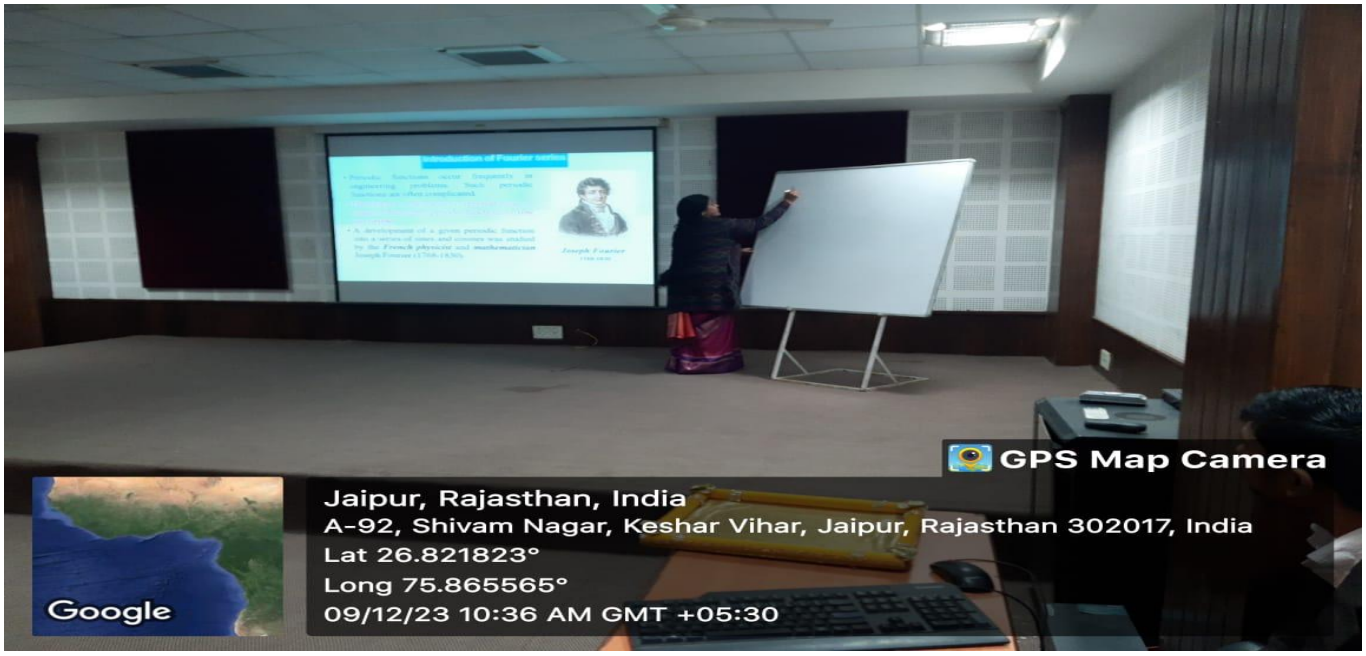
(Accredited by NAAC with "A++" grade)

Certificate of Volunteering

This is to certify that **YATHARTH BAJAJ** of **Information Technology (B.Tech. III sem)** has volunteered in a Three-Day Student Workshop on "*Applications of Engineering Mathematics*" organized by the Department of Mathematics from 09.12.2023 to 12.12.2023.

Prof. (Dr.) Ramesh Kumar Pachar	Prof. (Dr.) Amber Srivastava	Dr. Nawal Kishor Jangid	Mr. Chandra Prakash Jain
Principal	HOD (Maths)	Convener	Convener

11. Photographs of the Event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Long 75.865565°
09/12/23 10:36 AM GMT +05:30
Google


GPS Map Camera
Jaipur, Rajasthan, India
A-92, Shivam Nagar, Keshar Vihar, Jaipur, Rajasthan 302017, India
Lat 26.821823°
Long 75.865565°
09/12/23 10:36 AM GMT +05:30
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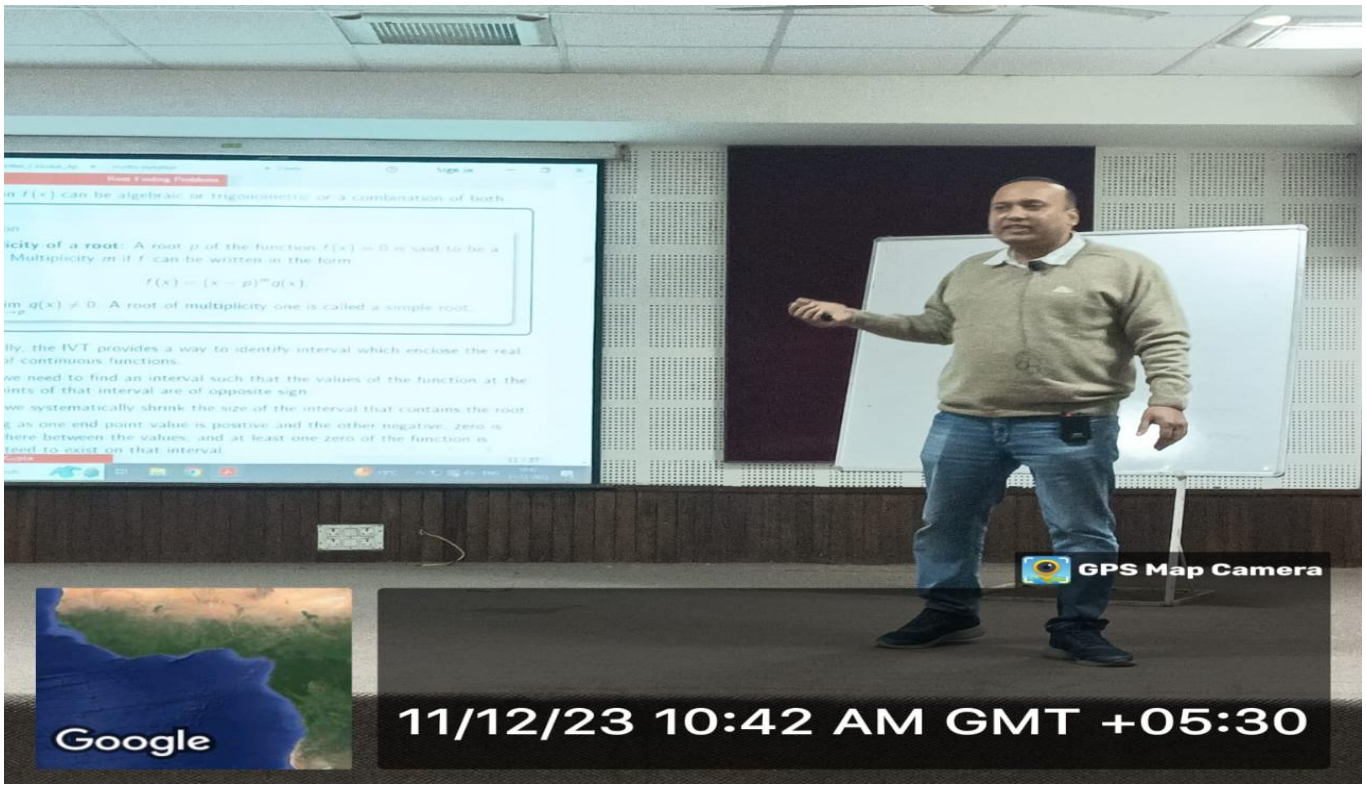
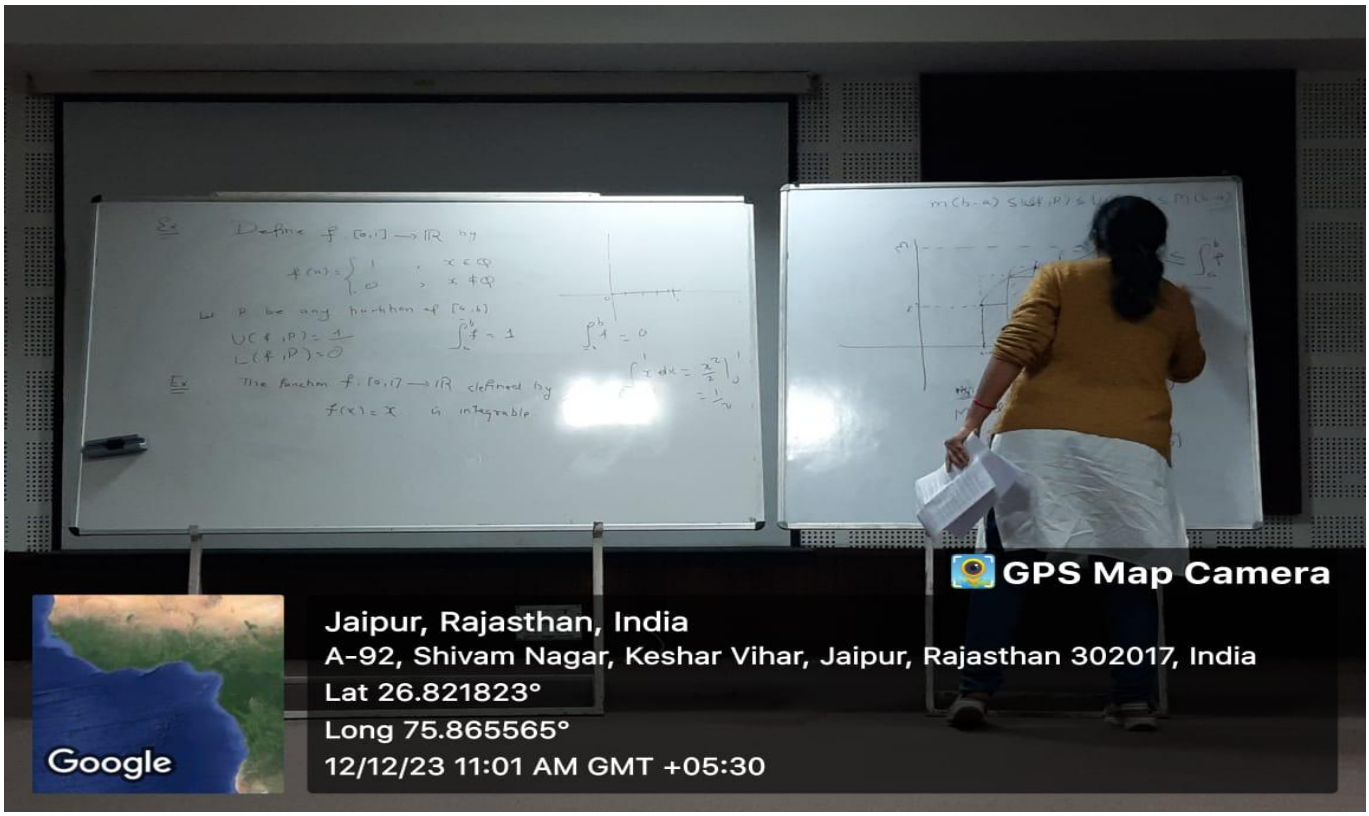
GPS Map Camera
Jaipur, Rajasthan, India
A-92, Shivam Nagar, Keshar Vihar, Jaipur, Rajasthan 302017, India
Lat 26.821823°
Long 75.865565°
09/12/23 11:45 AM GMT +05:30
Google


SWAMI KESHVANAND INSTITUTE OF TECHNOLOGY, MANAGEMENT & GRAMOTHAN, JAIPUR
A THREE-DAY STUDENT WORKSHOP
on
"Applications of Engineering Mathematics"
9th, 11th & 12th December, 2023
Time: 10:00 AM To 12:00 PM
Venue:- Meghnad Saha Seminar Hall
Organized by
Department of Mathematics
INVITED SPEAKERS


GPS Map Camera
Google
11/12/23 10:42 AM GMT +05:30


Thank You...
Certificate of Recognition
SKIT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Jaipur, Rajasthan, India
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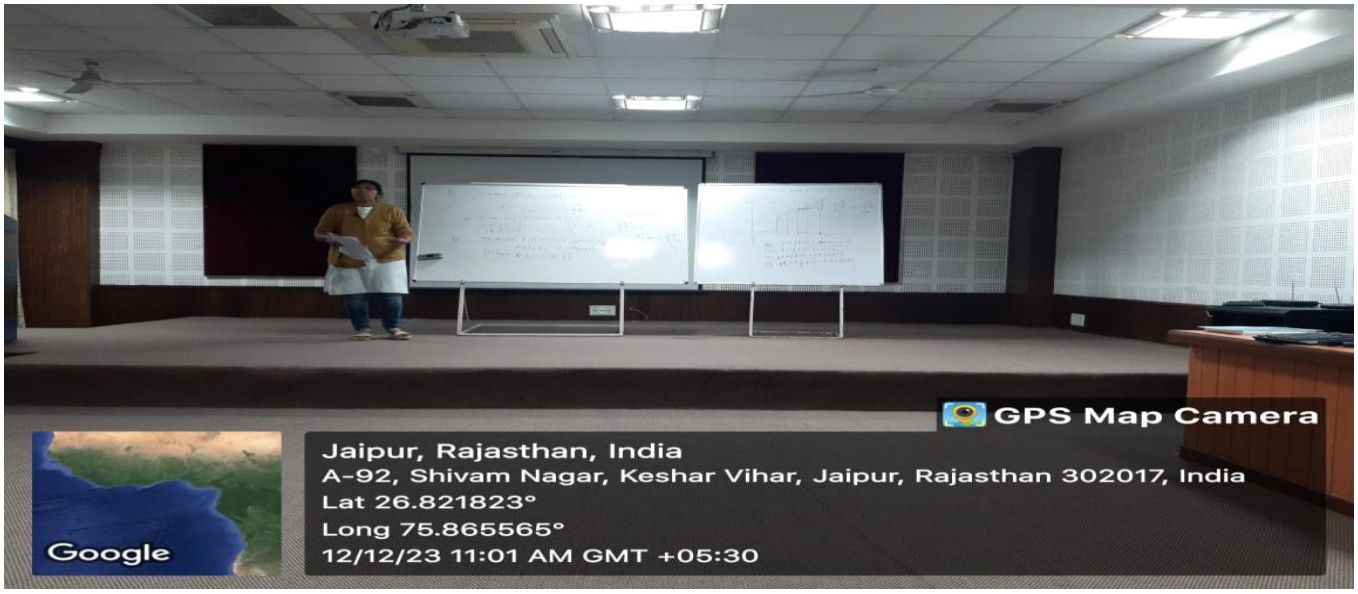
Long 75.865565°
12/12/23 11:01 AM GMT +05:30
Google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Jaipur, Rajasthan, India
A-92, Shivam Nagar, Keshar Vihar, Jaipur, Rajasthan 302017, India
Lat 26.821823°
Long 75.865565°
12/12/23 11:01 AM GMT +05:30
Google

12. Prize Distribution to Quiz Toppers


Swami Keshvanand Institute of Technology,
Management and Gramothan, Jaipur
Certificate of Participation

13. Media Coverage

एसकेआईटी मे तीन दिवसीय विधार्थी कार्यशाला का आयोजन किया गया

P3 Police Public Politics

जयपुर। स्वामी केशवानंद इंस्टीट्यूट आफ टेक्नोलॉजी, मैनेजमेंट एवम ग्रामोथान, जयपुर के गणित विभाग द्वारा एप्लीकेशंस ऑफ इंजीनियरिंग मैथमेटिक्स विषय पर एक तीन दिवसीय विधार्थी कार्यशाला का आयोजन किया गया । इस कार्यशाला का मुख्य उद्देश्य छात्रों में गणित एवम इसके विभिन्न इंजीनियरिंग प्रॉब्लम्स में उपयोग पर जागरूकता बढ़ाना और नए आयामों पर प्रकाश डालना है। पहले दिन राजस्थान विश्वविद्यालय से डॉ शालिनी जैन ने फुरियर एनालिसिस और इसके उपयोगों पर प्रकाश डाला। दूसरे दिन के वक्ता एलएनएमआईआईटी के डॉ विकास गुप्ता ने छात्रों को डिफरेंशियल कैलकुलस एवम इसके विभिन्न एप्लीकेशंस से अवगत कराया । एलएनएमआईआईटी से डॉ प्रतिभा गर्ग ने तीसरे दिन के लेक्चर में इंटीग्रल कैलकुलस के उपयोगों के कई नए और सरल एप्लकेशंस की तकनीक बताई।कार्यक्रम के संयोजक डॉ नवल किशोर जांगिड़ व चंद्रप्रकाश जैन रहे और सुरभि शर्मा ने कार्यक्रम का संचालन किया।

पदार्थों का कक्षा ... उद्देश्य विद्यार्थियों का ... मैच कोलंबो के
विद्यार्थियों ने स्व **सीमा सन्देश** श्रीगंगानगर. बुधवार, 13 दिसम्बर 2023 डियम में होंगे।

तीन दिवसीय विद्यार्थी कार्यशाला संपन्न

जयपुर(सीमा सन्देश)। स्वामी केशवानंद इंस्टीट्यूट आफ टेक्नोलॉजी, मैनेजमेंट एवम ग्रामोथान के गणित विभाग द्वारा एप्लीकेशंस ऑफ इंजीनियरिंग मैथमेटिक्स विषय पर एक तीन दिवसीय विद्यार्थी कार्यशाला का आयोजन किया गया । कार्यशाला का मुख्य उद्देश्य छात्रों में गणित व इसके विभिन्न इंजीनियरिंग प्रॉब्लम्स में उपयोग पर जागरूकता बढ़ाना और नए आयामों पर प्रकाश डालना है। पहले दिन राजस्थान विश्वविद्यालय से डॉ. शालिनी जैन ने फुरियर एनालिसिस और इसके उपयोगों पर प्रकाश डाला। दूसरे दिन के वक्ता एलएनएमआईआईटी के डॉ. विकास गुप्ता ने छात्रों को डिफरेंशियल कैलकुलस एवम इसके विभिन्न एप्लीकेशंस से अवगत कराया । एलएनएम आईआईटी से डॉ. प्रतिभा गर्ग ने तीसरे दिन के लेक्चर में इंटीग्रल कैलकुलस के उपयोगों के कई नए और सरल एप्लकेशंस की तकनीक बताई। संयोजक डॉ. नवल किशोर जांगिड़ व चंद्रप्रकाश जैन रहे। सुरभि शर्मा ने कार्यक्रम का संचालन किया।

14.Technical Report

A Three- Day Student Workshop on "Applications of Engineering Mathematics" is organized by Department of Mathematics, Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur on December 09-12, 2023.

About 125 students have attended the workshop and got benefited from the experience of eminent speakers.

On the first day of the workshop we were fortunate to have

Dr. Shalini Jain Associate Professor, Department of Mathematics, University of Rajasthan.

A gracious floral welcome was done by Dr. Sangeeta Gupta, Deputy Incharge I year, by presenting a sapling. She started her talk with objective of teaching Mathematics in Engineering. She emphasized on proper instructions, understanding and implementation of subject. She continued her talk with types of Fourier Series, existence of Fourier Series, Harmonic Analysis and its Applications with examples and their graphs. Many students and faculties participated in this workshop. In the end, Dr. Shalini Jain was presented a memento and Certificate by Prof. Rohit Mukherjee Incharge I year and the session was concluded with a group photograph of all the students and faculties.

On the Second day we had Dr. Vikas Gupta, Associate Professor in Department of Mathematics at LNMIIT, Jaipur. A gracious floral welcome was done by Prof. Amber Srivastava by presenting a sapling. He delivered the talk on Differential calculus and its Applications. Dr. Amber Shrivastava, HOD Math, welcomed him. He started his talk with objective of teaching Mathematics in Engineering. Dr. Vikar Guptahighlighted on proper instructions, understanding and implementation of subject. His talk includes basics of limits with their geometrical implementation, continuity of function, Differentiablity, roots finding procedure, Fundamental theorem on Differential calculus and existence conditions of second order ODEs with their applications in engineering. In the end, Dr. Vikas Gupta was presented a memento and certificate by Dr. Nawal Kishor jangid, Associate Professor, Department of

Mathematics and the session was concluded with a group photograph of all the students and faculties.

On the third day, we had Dr. Pratibha Garg, Associate Professor in Department of Mathematics at LNMIIT, Jaipur. A gracious floral welcome was done by Dr. Jyoti Arora by presenting a sapling. She delivered her talk on Integral Calculus and its Applications. Dr. Garg started her talk with basics of Integral Calculus. She continued her talk with the various methods of Integral calculus and their Applications in Engineering. In the end, Dr. Pratibha Garg was presented a memento and certificate by Mr. Chandra Prakash Jain, Assistant Professor, Department of Mathematics and the session was concluded with a group photograph of all the students and faculties.

Many students and faculty participated in this workshop. All the sessions were moderated by Ms. Surbhi Sharma, Assistant Professor, Department of Mathematics The workshop was convened by Dr. Nawal KishorJangid, Associate Professor, Department of Mathematics and Mr. Chandra Prakash Jain, Assistant Professor, Department of Mathematics.

On everyday of the workshop quiz was also conducted for the delivered topic. In the last day of the workshop the certificates were distributed to the participants and the quiz toppers.

All the sessions were quite educational. The participants must have benefited from the discussions and would have substantial takeaways.

---Thank You-----