



## **SUPPORTING DOCUMENTS**

### **3.2.2**

**NUMBER OF WORKSHOPS/SEMINARS CONDUCTED ON RESEARCH  
METHODOLOGY, INTELLECTUAL PROPERTY RIGHTS (IPR) AND  
ENTREPRENEURSHIP DURING THE YEAR**




## Workshop on “Unlocking the Secrets of Vedic Mathematics”

**Objective:** The objective of this workshop was to enhance mathematical skills through various application of Vedic Mathematics. It aimed to focus on **Calculation Speed and Accuracy, Improving Problem solving skills and to** develop analytical skills and critical thinking among the participants. **This workshop also explored Practical Applications in** everyday situations. This workshop aimed to empower participants with valuable skills while honoring and promoting the rich heritage of the Indian knowledge system.

**Descriptions:** The 5 Day workshop on “Unlocking the secrets of Vedic Mathematics” was organized by Department of Mathematics St. Bede’s College Shimla. The Resource persons were Prof. Tania Bose, Dr. Renu Bala, Dr. Madhu Aneja from CUIET Chitkara University Punjab. The workshop aimed to introduce students to the fascinating world of Vedic Mathematics, a system that simplifies complex calculations and enhances mental math skills. Each day focused on a specific topic, allowing participants to deepen their understanding and practice techniques that can improve their mathematical abilities.

Topics such as multiplication of 5 digits numbers, Japanese multiplication, tables up to 100, Calculation of Determinants of Higher order, Advanced Techniques in Vedic Math etc were covered in the workshop. The principal of the college Sr. (Prof.) Molly Abraham thanked the resource persons for their insightful sessions.

**Outcome:** The participants are able to improve their calculation speed and accuracy using Vedic techniques. Also they are able to approach and solve complex mathematical problems using innovative Vedic methods. They also developed Analytical and Critical Thinking through interactive exercises and discussions. The participants will be able to apply Vedic Mathematics techniques to everyday situations, improving their overall mathematical literacy. It also Increased Confidence in mathematical abilities, leading to a more positive attitude towards math in academic and professional settings. Participants also gained a deeper understanding of the foundational principles of Vedic Mathematics and its historical significance.



Heritage Status

# St. Bede's College


NAAC Re-Accredited A Grade


## FIVE DAYS WORKSHOP ON


### "Unlocking the Secrets of Vedic Mathematics": Promoting Indian Knowledge System

## Organised by the Department of Mathematics

### Under the Aegis of IQAC



 **15 October, 2024- 19 October, 2024**

 **Seminar Room**

### Resource Persons:

**Dr. Tania Bose**  
(Prof. CUIET Chitkara University Punjab)

**Dr. Renu Bala**  
( Asst. Prof. CUIET Chitkara University Punjab)

**Dr. Madhu Aheja**  
(Asst. Prof. CUIET Chitkara University Punjab)

### *Brochure*

#### **Day 1: October 15, 2024**

Dr. Tania Bose was the Resource person for the first day of the workshop. She shared her insightful knowledge on Vedic mathematics. She talked about history of Vedic Mathematics, contribution of Indian scientist etc. On the first day students learnt two methods of Vedic Mathematics i.e. tables upto 100 and division by 9. It was an interactive session and all the students participated with full enthusiasm.



**Bhaskaracharya's contribution to Indian Mathematics**

- Calculus:** He is often credited with pioneering some concepts of differential calculus, centuries before Newton and Leibniz. He studied the concept of derivatives and instantaneous rates of change.
- Algebra:** He provided solutions to quadratic, cubic, and quartic indeterminate equations. His work on the Chakravala method for solving indeterminate quadratic equations was particularly noteworthy.
- Trigonometry:** Bhaskaracharya excelled in trigonometry, deriving formulae for trigonometric functions and their relationships.
- Astronomy:** He was a skilled astronomer, making accurate calculations of planetary positions and eclipses. His main work, *Siddhanta-Shiromani*, is divided into four parts:
  - Lilavati:* Arithmetic
  - Bhujagaṇita:* Algebra
  - Varigamita:* Mathematics of the planets
  - Goladhyaya:* Spheres

15 October, 2024

**16 Sutras continued...**

Sl. No.	Sutra	Meaning
10	Chaitanya-kalanishram	Differential calculus.
11	Yavadanupam	By the deficiency.
12	Vyasti Samanam	Specific and general.
13	Samanyantara Samanya	The summands by the last term.
14	Ekanyashata Purvena	The ultimate and twice the penultimate.
15	Samashmukhichaya	By one less than the previous term.
16	Gunitasamukhichaya	The product of the sum.

16 October, 2024

**Shimla, Himachal Pradesh, India**  
 35VP+MMQ, Navbhar, Chotta Shimla, Shimla, Himachal Pradesh 171002, India  
 Lat 31.094194°  
 Long 77.186291°  
 15/10/24 09:33 AM GMT +05:30

**33 Times Table**

33 x	Result
1	33
2	66
3	99
4	132
5	165
6	198
7	231
8	264
9	297
10	330
11	363
12	396
13	429
14	462
15	495
16	528
17	561
18	594
19	627
20	660
21	693
22	726
23	759
24	792
25	825
26	858
27	891
28	924
29	957
30	990
31	1023
32	1056
33	1089

15 October, 2024

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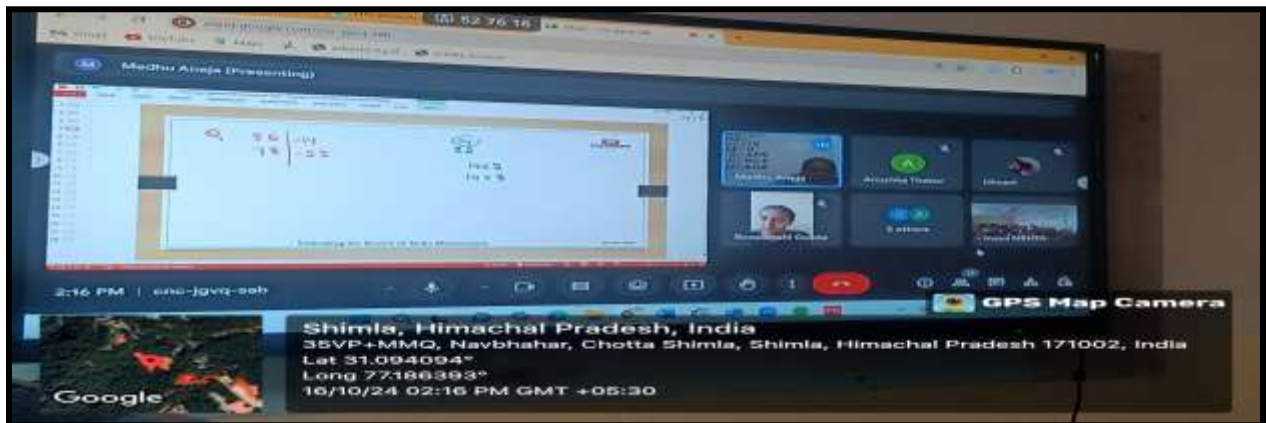
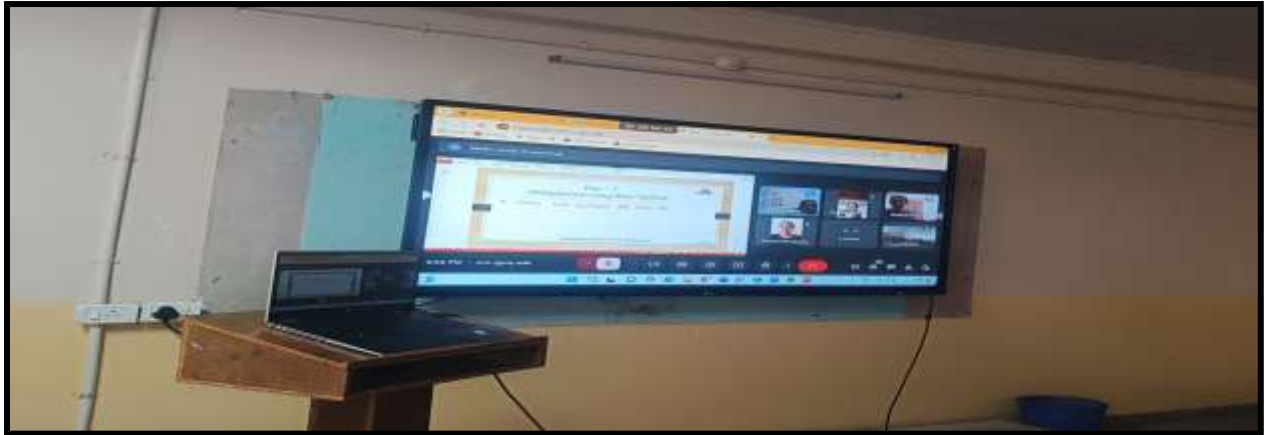
Workshop on “Unlocking the Secrets of Vedic Mathematics” (October 15-19,2024)





## Day 2: October 16, 2024

The speaker for this session was Dr. Madhu Aneja. It was the thrilling topic where she taught students about multiplication by base method. This method is helpful in solving complex multiplication easily.



*Workshop on “Unlocking the Secrets of Vedic Mathematics” (October 15-19, 2024)*



### Day 3: October 17, 2024

Dr Renu Bala was the resource person on the third day of the workshop. She taught about line addition of one digit, two digits, three digits and multiplication of number with a series of 9 and multiplication by 11.

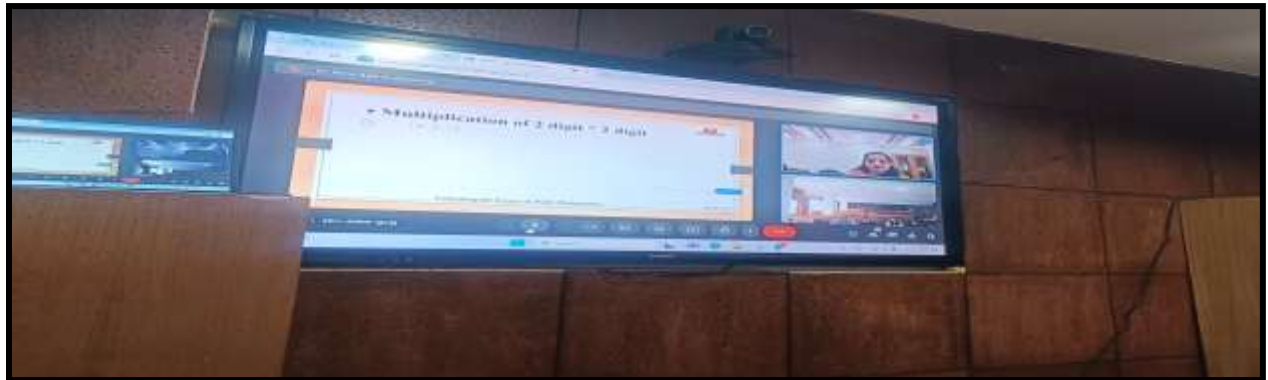


*Workshop on “Unlocking the Secrets of Vedic Mathematics” (October 15-19, 2024)*



#### Day 4: October 18, 2024

Dr Renu Bala was the resource person on the fourth day of the workshop .She taught about multiplication of 2by 2digits,3 by 3digits , 4by 4digits and 5 by 5 digits and Japanese method of 1,2 and 3 digits. She also taught about squaring of numbers ending with 5.



*Workshop on “Unlocking the Secrets of Vedic Mathematics” (October 15-19, 2024)*





**Day 5: October 19, 2024**

Dr. Tania Bose gave her insightful lecture on squaring of number lying between 40 and 50, 50 and 60. She also discussed how to solve determinants of higher order and calendar questions.



*Workshop on “Unlocking the Secrets of Vedic Mathematics” (October 15-19, 2024)*





## सेंट बीड्स कॉलेज में वैदिक गणित पर लगाई कार्यशाला

शिमला। सेंट बीड्स गर्ल्स कॉलेज शिमला के गणित विभाग ने वैदिक गणित के रहस्य विषय पर पांच दिवसीय कार्यशाला का आयोजन किया। इसमें सीयूआईईटी चितकारा यूनिवर्सिटी पंजाब के प्रो. तानिया बोस, डॉ. रेनू बाला, डॉ. मधु अनेजा स्रोत व्यक्ति के रूप में शामिल हुए। कार्यशाला में छात्राओं को वैदिक गणित की आकर्षक दुनिया से परिचित करवाया गया।

कार्यशाला में हर दिन एक विशिष्ट विषय को लेकर चर्चा की गई। इससे प्रतिभागियों का वैदिक गणित को लेकर ज्ञान बढ़ाने का प्रयास किया गया। इससे छात्राओं की गणितीय क्षमताओं में सुधार आएगा। कार्यशाला में 5 अंकों की संख्याओं का गुणन, जापानी गुणन, 100 तक की सारणी, उच्च क्रम के निर्धारकों की गणना, वैदिक गणित में उन्नत तकनीक आदि जैसे विषयों पर चर्चा की गई। ब्यूरो



# Department of Mathematics

St. Bede's College Shimla

## Attendance sheet

Activity : Workshop on "Unlocking the secrets of Vedic mathematics"

Organised by: Department of Mathematics

Date: 15.10.2024 – 19.10.2024

S.NO	NAME	15.10.2024	16.10.2024	17.10.2024	18.10.2024	19.10.2024
1	Aastha Verma	Aastha	Aastha	Aastha	Aastha	Aastha
2	Pooja Sharma	Pooja	Pooja	Pooja	Pooja	Pooja
3	Rakshita Kamal	Rakshita	Rakshita	Rakshita	Rakshita	Rakshita
4	Jessica Sharma	Jessica	Jessica	Jessica	Jessica	Jessica
5	Simran Thakur	Simran	Simran	Simran	Simran	Simran
6	Anushka Chauhan	Anushka	Anushka	Anushka	Anushka	Anushka
7	Aanya Jaret	Aanya	Aanya	Aanya	Aanya	Aanya
8	Divyanshi Sharma	Divyanshi	Divyanshi	Divyanshi	Divyanshi	Divyanshi
9	Arushi Chandel	Arushi	Arushi	Arushi	Arushi	Arushi
10	Anushika Verma	Anushika	Anushika	Anushika	Anushika	Anushika
11	Aditi Sharma	Aditi	Aditi	Aditi	Aditi	Aditi
12	Aditi Singh	Aditi	Aditi	Aditi	Aditi	Aditi
13	Ananya Khoond	Ananya	Ananya	Ananya	Ananya	Ananya
14	Manpreet Kaur	Manpreet	Manpreet	Manpreet	Manpreet	Manpreet
15	Payal Mehta	Payal	Payal	Payal	Payal	Payal
16	Reshma Minj	Reshma	Reshma	Reshma	Reshma	Reshma
17	Sunidhi Sharma	Sunidhi	Sunidhi	Sunidhi	Sunidhi	Sunidhi
18	Shreya Sharma	Shreya	Shreya	Shreya	Shreya	Shreya
19	Vasundhara Sharma	Vasundhara	Vasundhara	Vasundhara	Vasundhara	Vasundhara
20	Aishani Kanwar	Aishani	Aishani	Aishani	Aishani	Aishani
21	Anushka Thakur	Anushka	Anushka	Anushka	Anushka	Anushka
22	Sanya	Sanya	Sanya	Sanya	Sanya	Sanya
23	Nancy Thakur	Nancy	Nancy	Nancy	Nancy	Nancy
24	Himani	Himani	Himani	Himani	Himani	Himani
25	Sheetal Sharma	Sheetal	Sheetal	Sheetal	Sheetal	Sheetal
26	Roopanshi Gupta	Roopanshi	Roopanshi	Roopanshi	Roopanshi	Roopanshi
27	Kritika Rathore	Kritika	Kritika	Kritika	Kritika	Kritika
28	Niharika Kashyap	Niharika	Niharika	Niharika	Niharika	Niharika
29	Divyakshi	Divyakshi	Divyakshi	Divyakshi	Divyakshi	Divyakshi
30	Sujal Sharma	Sujal	Sujal	Sujal	Sujal	Sujal
31	Varunika	Varunika	Varunika	Varunika	Varunika	Varunika
32	Payal Thakur	Payal	Payal	Payal	Payal	Payal
33	Vedika Thakur	Vedika	Vedika	Vedika	Vedika	Vedika
34	Jassmeet Kaur	Jassmeet	Jassmeet	Jassmeet	Jassmeet	Jassmeet

*(Signature)*

21/10/24

Principal  
St. Bede's College  
Shimla

Attendance Sheet