



Veer Bahadur Singh Purvanchal University, Jaunpur



Department of Mathematics

Faculty of Engineering & Technology

(Updated on 22 May 2025)

ABOUT THE DEPARTMENT: Mathematics is deeply rooted in all the sciences and has a leading role in all engineering streams. The Department of Mathematics came into existence way back in 1997 with the inception of the Faculty of Engineering and Technology on the main campus of the University. The department has been striving to provide quality technical education with core support to all engineering departments and provides research degrees in mathematics. The department is a good center for teaching, learning, and research, as many articles by faculty members have been published in Science Citation Indexed (SCI) and peer-reviewed journals. The department keeps pace with the advances in technology by providing basic knowledge to the students enrolled in the diploma, B.Tech., M. Tech., B.Sc./M.Sc., B. Pharm., MCA, MBA, and Ph.D. programs. The department usually provides some extra classes to the weaker students. The department adopts some modern teaching techniques to explain the mathematical concepts geometrically rather than through mathematical formulas/equations. The department has a highly qualified teaching faculty from reputed institutes/colleges like IIT Roorkee and MNNIT Allahabad, Prayagraj, University of Allahabad, Prayagraj, and TDPG College, Jaunpur.

VISION OF THE DEPARTMENT

To provide a platform for interdisciplinary and outcome-based research, as well as to address the mathematical needs of the institute and the surrounding community.

MISSION OF THE DEPARTMENT

The mission of the department is as follows:

- To provide students (UG/PG) with an effective teaching application based on rigorous training/tutorials.
- To create an environment that enhances greenery on campus.
- Teachers' efforts are to develop mathematical ideas and apply them to solve complex engineering problems, as well as design mathematical models to meet the requirements.
- To encourage students and faculty members of the Department to be exposed to different research environments in India and abroad.

EDUCATIONAL OBJECTIVES OF THE DEPARTMENT

- Using technology as a significant aid in mathematics learning.
- To revisit the fundamental concepts and principles of the discipline and strengthen them.
- To develop an interdisciplinary approach between the department and other disciplines.
- To encourage collaborative learning through group activities, hands-on learning, and concretizing mathematical concepts.
- To motivate and to support research and development.

OUTCOMES OF THE DEPARTMENT

The Program Outcomes (POs) of the Department are as follows:


- To enable students to read and comprehend mathematical and/or statistical literature.
- Students will be able to identify and use mathematical, simulation and computational methods to solve comprehensive and real-life problems.
- Students will be able to read and write logical arguments to prove advanced mathematical results.
- Effective Communication: Students will be able to effectively communicate mathematical concepts, problems, and their solutions in written and oral form.

COURSES TO WHICH DEPARTMENT ASSIST: Bachelor of Technology (All Six Branches), B. Pharm, Diploma, B.Sc./M.Sc., MCA, MBA, and M. Tech.

DEGREE TO WHICH DEPARTMENT PROVIDES: Ph.D. in Mathematics.

FACULTY PROFILES:

Prof. Raj Kumar 	Highest Qualification	Ph.D. (Nov. 2014) (Motilal Nehru N I T Allahabad, Prayagraj)
	Designation	Professor & Head
	Date of Joining with designation	19 th Sept. 2022 (Professor through CAS) 18 th May 2018 (Associate Professor through direct recruitment) and 15 th March 2004 (Assistant Professor through direct recruitment)
	Teaching Experience	More than 21 years
	Research Interests	Similarity transformations method, Differential equations, Fluid Dynamics, and Bio-models
	No. of Publications	36
	Contact Information	E-Mail: rsoniraj2@gmail.com Mob. No.: 9451160911
	Link for CV	
	ORCID ID	0000-0002-9650-5606
	Vidwan ID	3484222
	AD Scientific ID	https://www.adscientificindex.com/scientist.php?id=3484222

	Web of Science	AGJ-2280-2022
Dr. Sushil Shukla 	Highest Qualification	Ph.D. (Aug 2007) (University of Allahabad, Prayagraj)
	Designation	Assistant Professor
	Date of Joining	4 th Nov. 2019 (Assistant Professor Direct recruitment)
	Teaching Experience	More than 5 Years in VBSPU but total 18 years
	Areas of Interest	Differential geometry, and Operations Research
	No. of Publications	34
	Contact Information	E-Mail: sushilcws@gmail.com Mob. No.: 6387987133
	Link for CV	
	Scopus ID	https://www.scopus.com/authid/detail.uri?authorId=57214436590
	ORCID ID	0000-0003-4941-9921
	Google Scholar ID	https://scholar.google.com/citations?hl=en&user=Bqe7j1cAAAAJ
Dr. U.R. Prajapati 	Highest Qualification	Ph. D. (V. B. S. Purvanchal University, Jaunpur)
	Designation	Assistant Professor (on Contract)
	Date of Joining	16 th Oct. 2000
	Teaching Experience	25 Years (In VBS PU)
	Research Interests	Special Functions
	No. of Publications	7
	Contact Information	E-Mail: udayrajprajapati2011@gmail.com Mob. No.: 9415898801
	Link for CV	
Dr. Nimisha Yadav 	Highest Qualification	Ph. D. (VBS Purvanchal Univ., Jaunpur)
	Designation	Assistant Professor (on Contract)
	Date of Joining	13 th August 2018
	Teaching Experience	12 Years (6 years in VBSPU, Contract teaching)
	Areas of Interest	Differential equations, Fluid dynamics
	No. of Publications	9
	Contact Information	E-Mail: guria.nimisha@gmail.com Mob. No.: 8299524266
	Link for CV	
	ORCID ID	0009-0004-4311-6457
	Google Scholar ID	https://scholar.google.com/citations?hl=en&user=B8MbgQcAAAAJ

Ph. D. candidates

Name with Category	Year of registration	Research Supervisor	Mode of Admission	Status/Year
Mr. Avneesh Kumar (UR)	2019	Prof. Raj Kumar	PUCRET	Awarded (Sept. 2022)
Mr. Ravi Shankar Verma (OBC)	2019	Prof. Raj Kumar	PUCRET	Awarded (Nov. 2023)

Mr. Kripa Shankar Pandey (UR)	2019	Prof. Raj Kumar	NET (JRF) Part-time	
Mr. Shiv Kumar Yadav (OBC)	2021	Prof. Raj Kumar	NET (JRF)	
Mr. Ayush Ojha (UR)	2021	Dr. Sushil Shukla	PUCRET	
Mr. Shubham Kumar (SC)	2023	Dr. Sushil Shukla	PUCRET	
Mrs. Nidhi Asthana (UR)	2023	Prof. Raj Kumar	PUCRET	

RESEARCH PROJECTS

S. No.	Name of the principal Investigator	Grant No/Name of the Research Project	Name of funding agency	Amount/ Fund provided	Year of sanction	Duration of the project	Status (Completed/ Ongoing)
1	Dr Sushil Shukla	78/2022/1984/70-4-2022-003-70-4099/7/022 Dated 24th August 2022/Centre of Excellence in Mathematics	Department of Higher Education, Government of Uttar Pradesh	2.9 lacs	2022	3 Years	Ongoing
2	Dr Sushil Shukla	89/2022/1585/□□□□□-4-2022/001-4-32-2022 Dated 10 Nov. 2022/ Research and development	Department of Higher Education, Government of Uttar Pradesh	1.65 lacs	2022	3 Year	Completed
	Prof. Raj Kumar	133/ Po Uo /IQAC/2022 Dated: 23/03/2022/Minor Research Project	VBS PU, Jaunpur	1 lac	2022	1 Year	Completed
	Dr Sushil Shukla	133/ Po Uo /IQAC/2022 Dated: 23/03/2022/Minor Research Project	VBS PU, Jaunpur	1 lac	2022	1 Year	Completed

MEMBERSHIP OF EDITORIAL BOARDS AS REVIEWER IN SCI JOURNALS:

Prof. Raj Kumar

1. Symmetry, MDPI Open Access Publishing Romania SRL, Cluj, Romania
2. Proceedings of the National Academy of Sciences, India Section A: Physical Sciences (Springer Publisher)
3. The Asian Journal of Mathematics (A Journal by the International Press)
4. Computers & Mathematics with Applications (Elsevier Publisher)
5. Physica A: Statistical Mechanics and its Applications (Elsevier Publisher)
6. Waves in Random and Complex Media (formerly Waves in Random Media)
7. Physica Scripta
8. Nonlinear Dynamics (springer)

NUMBER OF PAPERS PRESENTED IN CONFERENCES:

Name	National	International
Prof. Raj Kumar	22	15
Dr. Sushil Shukla	15	34
Dr. Uday Raj Prajapati	2	0
Dr. Nimisha Yadav	2	1

MEMBER OF SELECTION BOARDS/ COMMISSION**Prof. Raj Kumar**

Uttar Pradesh Maadhyamik Shiksha Sewa Chayan Board, Prayagraj &
Uttarakhand Public Service Commission

NUMBER OF INVITED TALKS:

Name	Number
Prof. Raj Kumar	11
Dr. Sushil Shukla	2

AWARDS, RECOGNITION, FELLOWSHIPS AT STATE, NATIONAL, INTERNATIONAL LEVEL FROM GOVERNMENT/ GOVT. RECOGNIZED BODIES:

Name of teachers	Year of Award	Name of the award, fellowship, received from Government or Government recognized bodies	Name of the Awarding Agency
Prof. Raj Kumar	2020	Outstanding Reviewer Award 2016	Computers & Mathematics with Applications (Elsevier)

Prof. Raj Kumar	2020	Second Prize on Best poster presentation in International Conference on Recent Trends in Electrical, Electronics and Computer Science Engineering-2020 during 10-11 Jan. 2020.	TEQIP-III
Prof. Raj Kumar	2020	NEP-2020: Semester-5 Course Title: Analytic Ability and Digital Awareness	State Government for designing syllabus of NEP-2020
Prof. Raj Kumar	2022	पर्यावरण प्रहरी सम्मान-2022	भारत विकास परिषद शाखा, जौनपुर द्वारा

NUMBER OF WORKSHOPS/SEMINARS CONDUCTED ON RESEARCH METHODOLOGY, INTELLECTUAL PROPERTY RIGHTS (IPR), ENTREPRENEURSHIP, SKILL DEVELOPMENT ETC.

Prof. Raj Kumar:

1. **Organizing Secretary, Webinar** on “वर्तमान परिप्रेक्ष्य में गाँधी चिंतन की प्रासंगिकता”, on 25th Aug, 2020 organized by VBSPU, Jaunpur.
2. **Convener, International Webinar** on Impact of Covid-19 on *Indian Economy: Challenges and Opportunities*, On June 09, 2020 organized by Department of Mathematics and Financial Studies
3. **Member** of Organizing Committee of a **national webinar** on *Intellectual Property Rights: Protection of Intellectual Property and Way Forward* during 22-23 May, 2020 and organized by Intellectual Property Rights Cell, VBS Purvanchal University Jaunpur.
4. **Convener, International Conference** on *Recent Trends in Electrical, Electronics and Computer Science Engineering-2020* during **10-11 Jan. 2020** organized by UNSIET
5. **Co-chair, an international conference** “*International Conference on Ultrasonics and Materials Science for Advanced Technology*” (ICUMSAT- 2019) during **16-18 November 2019** and jointly organized by Prof. Rajendra Singh Institute of Engineering of Physical Study and Research, VBS PU Jaunpur and Ultrasonics Society of India, New Delhi, India.
6. **Co-Convener** of **inaugural ceremony** of “कौशल विकास एवं प्रशिक्षण केंद्र” on 16/9/2019.
7. **Co-Convener** of **one day national seminar** on “**विश्वविद्यालयीय शिक्षा की स्वायत्तता**” on **14 August 2019**.

8. **Convener of National seminar** entitled “*Samsamyik Pridrasya men Ekatm Manavvad*” on 22th September, 2018 on the occasion of inaugural day of Pt. Deen Dayal Shodh Peeth and organized by V.B.S. Purvanchal Univ. Jaunpur.
9. **Convener of a National seminar** entitled “*Ekatm Manav darshan Ka Yugbodh* (एकात्म मानव दर्शन का युगबोध)” on 25th September, 2019 in the campus of V.B.S. Purvanchal Univ. Jaunpur.
10. **Convener of a National workshop** entitled “*Growth of Science & Technology in the Campus of Purvanchal University (GSTCPU-2017)*” during 8-10th September, 2017.
11. **Convener of Workshop** entitled “*Communication Skills*” organized by V.B.S. Purvanchal University, Jaunpur during 17-18th September 2016 for all students of campus.
12. **Convener of Lecture series** entitled “**Numerical Techniques and Programming in MATLAB**” during 22-28th July, 2016 for UG students.
13. **Convener and Co Convener of ‘National Science Day (NSD-2017-2020)’** organized on the occasion of **National Science day** 28 Feb. 2017, 2018, 2019, 2020
14. **Co Convener of “National Youth Day”** celebration on 12th January, 2019 on the occasion of 146th Jubilee of Swami Vivekanand in the campus of V.B.S. Purvanchal Univ. Jaunpur.
15. **Co-Convener of “मतदाता जागरूकता अभियान”** in the V.B.S. Purvanchal University, Jaunpur campus on 18th Feb., 2017
16. **Convener of Workshop “Numerical Computation Using MATLAB”** during 26-30 November, 2015 for all CSE/IT students of campus.
17. **Convener of Workshop on “Better Engineer”** during 10-13 November, 2010.

Dr. Sushil Shukla

1. **Member** of Organizing Committee of **International Conference on Recent Trends in Electrical, Electronics and Computer Science Engineering-2020** during **10-11 Jan. 2020** organized by UNSIET.
2. **Organizing Secretary of National Conference on Differential Geometry and it's Applications (DGACON-2018)** during 3-5 Aug. 2018 organized by NGBU, Allahabad.
3. **Co Convener of “Symposium on National Mathematics Day”** celebration on 22 December 2020, on the occasion of 133th Birth anniversary of Great Indian Mathematician Srinivas Ramanujan in the campus of V.B.S. Purvanchal Univ. Jaunpur.
4. **Member of Organizing Committee of 7th International Conference of IAPS** organized by Department of Mathematics, University of Allahabad, during Dec. 21-23, 2004.

NO. OF COURSES/SUMMER INSTITUTE/TRAINING PROGRAMME/FDP ATTENDED:

Prof. Raj Kumar:	22
Dr. Sushil Shukla:	25
Dr. Uday Raj Prajapati:	02
Dr. Nimisha Yadav:	05

MEMBERSHIP OF PROFESSIONAL BODIES/SOCIETIES:

Prof. Raj Kumar:

- Life Member Ship of Indian Mathematical Society
- Annual membership of World Physics Association (WPA) From Nov. 2015 to Dec. 2016

Dr. Sushil Shukla:

- International Academy of Physical Sciences (Member. No. N0962)
- Indian Mathematical Society
- International Association of Engineers (Member No. 102242)
- Indian Science Congress Association (Member No. A2919)

PORTFOLIO OF FACULTY MEMBERS:

Prof. Raj Kumar (All positions held in V.B.S.P.U.)

1. Honorary librarian from July 2024 till date
2. **Proctor** from 16 Jan 2024 till date
3. **Green Campus Coordinator**, from Nov 2023 till date
4. **Member**, Executive Council from May 2021-May 2022
5. **Incharge**, Media Cell, VBS PU Campus from Jan 2020-Oct 2021
6. **Member**, IPR Cell from March 2019 to April 2022
7. **Nodal officer**, Kaushal Vikas & Prashikshan Kendra at campus from Sep. 2019 to Nov. 2024 years
8. **Chief Warden** from 14 Dec 2023 to 15 Jan 2024, and Oct 2017 to Oct 2021.
9. **Member of Academic Council** for the last nine years
10. **Head, Department of Mathematics** during last 13 yrs (2004-2011, 2014-till date)
11. **Coordinator**, Purvanchal University Combined admission test (PUCAT)-2019,2016, member PUCAT 2017-18
12. **Assistant Dean of Students Welfare** for two Yrs (2014-2016)
13. **Programme Officer**: Unit-III of NSS for 2 Yrs (2014-2016)
14. **Convener, Board of Studies**, Department of Mathematics during last 13 yrs (2004-2011, 2014-till date)
15. **Coordinator, Technical cell** (Result preparation cell for the whole campus courses),
16. **Coordinator, B. Tech. OBC Scholarship Cell**, for 5 yrs (2005-2010)
17. **Organising Secretary, Sports meet of campus** from 2017 to July 2020.
18. **Assistant Proctor from last 13 years**
19. **Member of internal screening committee** for regular teacher's post applications.
20. **Dy. Coordinator**, UGC Sponsored **Remedial Coaching** for SC/ST/OBC students, etc. for 2 yrs.
21. **Dy. Coordinator**, Academic Activities of B. Tech First year from 2014 till date.
22. **Coordinator, Internet maintenance committee**
23. **Member of E-tendering committee, Infrastructure committee, Auction of disposable materials committee**, and some others

PARTICIPATION OF STUDENTS AND FACULTY IN EXTENSION ACTIVITIES.

- I. **Institutional Values:** Department actively participates in, “एक छात्र एक पेड़ अभियान” through plantation and caring of plants in VBS PU Campus to upgrade its greenery.

Social Responsibilities:

- II. Setting up a Skill Development & Training Center at the University, we are providing high quality skill training to the youth in Jaunpur and Eastern UP in the trades that are in high demand by industry. Prof. Raj Kumar (Head of Deptt.) performed as nodal officer at the center during 2019 to 2025..
- III. Campus students provides fully free teaching to financially poor students from nearby villages of the campus since **Feb. 2014**. They have initiated a free coaching Institute **PRERNA** running in a neighboring village of VBS PU Campus. **Coaching enriched awareness in nearby villages. More than 1800 students benefited from the coaching.** Prof. Raj Kumar (Head of Deptt.) works as a coordinator of the coaching.

TEACHERS INVOLVED IN POLICY FRAMING OF THE UNIVERSITY: Prof. Raj Kumar worked as convener of the committee to modify/correct the draft of university statutes 2010 (third edition).

Sensitization of students and employees of the Institution to the constitutional obligations: values, rights, duties and responsibilities of citizens.

During lecture classes, students are instilled with moral values, ethics, and a sense of responsibility to the constitution as citizens of the country.

Institution celebrates / organizes national and international commemorative days, events and festivals

The department put their own efforts into celebrating national science day (on the occasion of National Science day 28 Feb. 2017, 2018, 2029, 2020), Engineers Day and Mathematics Day in collaboration with other departments in commemorating these historical days.

Science Day Celebration

Science Day is celebrated in the Country commemorating the day of discovery the “RAMAN EFFECT” on Feb. 28, 1928. All through the years we have celebrated Science Day spanning over two days each year. With the TEQIP grant available in hand, Science Day is celebrated in the big way in the University. The event is celebrated with number of activities for the Students. Rangoli Competition, Science Quiz, Poster & amp; Extempore Competition on National Science Day and Science Exhibition on the same theme in which all of the Students participated.

The best performance in each activity is suitably awarded. Every year we bring a Souvenir. In addition experts talk on relevant subject is organised for the benefit and inspiration of students and teachers.

In 2018, Prof. Laxmi Narayan Hazra an emeritus Professor of Applied Optics; Photonics, University of Culcutta; Prof. V A Tabhaney, University of Pune and Dr. P K Mishra, former GM, ONGC, Dehradun gave experts talk in their Specialisation. In 2018 Science Day was celebrating in advance on 26 to 27 Feb. 2018.

In year 2019, all those events were again organised by Students and Souvenir was brought. Expert's talks were delivered by Shri K N Pandey, DRDO Kanpur, Dr. V A Tabhaney and Dr. Kailash from Hamirpur.

In year 2020, a Celebration was again organised in which together with the activity for the Students, Experts talk were given by Prof. Hari Prakash and Prof. Ranjana Prakash both from the University of Allhabad, Allahabad.

Engineer's Day Celebration

Engineer's Day is celebrated on Spt. 15 every year in the Country to commemorating the birth of Bharat Ratna Sir Mokshagundam Visvesvaraya. We celebrate this day every year in the University for the Inspiration to build our engineers. All the events for Students are centred upon the theme of the Engineer's day that year.

In 2018 Engineer's Day was celebrated in which Students participated very enthusiastically.

Prof. Shekhar Verma from IIIT Allahabad and Prof. Rajeev Tripathi, Director MNNIT Allahabad delivered their lectures which were very enthusiastically attended by students and faculty in Sanghosti Bhavan.

In year 2019, our eminent guests were Shri R K Upadhyay Former CMD BSNL India, Prof. Arvind Kulkarni from Dharwad and Shri Girish Narayan Pandey, former Principle Chief Commissioner Income-Tax. Hon'ble Vice Chancellor Prof. Raja Ram Yadav also graced the occasion.

Future of the department

- I. Overall development of our campus
- II. Department has planned to apply UP/AICTE/DST/SERB funded major research project to create a research environment in engineering.
- III. To start a dual degree Ph. D. program in Mathematics.