

Department of Mathematics
Govt. Digvijay Autonomous P.G College, Rajnandgaon
DEPARTMENTAL ANNUAL REPORT

Session 2024-25

• **Year of Establishment-**

U.G. - 1959

P.G. – 1970

Mathematics LAB - 2018

- **Thrust Area** - The teachers of the department are working in the field of Fixed Point Theory, Reliability Modeling and Approximation Methods.

• **Courses Offered -**

- B.Sc. (Mathematics, Physics, Chemistry)
- B.Sc. (Mathematics, Physics, Computer Science)
- B.Sc. (Mathematics, Physics, Industrial Chemistry)
- B.Sc. (Mathematics, Physics, Geology)
- M.Sc. (Mathematics)

• **No. of Students (in each course)- Session 2024-25**

B. Sc. I/ II Semester	-	223
B.Sc. III/ IV Semester	-	153
B.Sc. V/ VI Semester	-	176
M. Sc. Previous	-	64
M.Sc. Final	-	57

- **No. of sanctioned posts**
- | | | |
|---------------------|---|----|
| | - | 05 |
| Professor | - | 01 |
| Assistant Professor | - | 04 |

• **Name and Designation of Teachers**

- Dr. Shabnam Khan - Prof. & Head (till January 2025)
- Dr. K.K. Dewangan - Asst. Professor & Head (from February 2025)
- Dr. Hemant Kumar Sao - Asst. Professor
- Dr. Kavita Sakure - Asst. Professor
- Mr. Ravi Sonkar - Guest Lecturer
- Mr. Bhim Singh Patel - Guest Lecturer

Curricular Aspects

• **Curriculum Planning and implementation**

Every month, the Head of Department organizes the meeting with faculties where discussions regarding department and their implementations are done. We prepare month-wise teaching plan for which separate registers are maintained.

• **Implementation and Innovation**

• **Month Wise teaching plan**

- The syllabus is divided into units. Every teacher plans the syllabus for the whole session at the beginning of the session. Teaching diary is prepared by each teacher. It is checked by Dean of Faculty and signed by the principal every month. Thus implementation of teaching curriculum is ensured.
- In July, we analyzed the results of all the B.Sc. (Mathematics Group) classes and plan for improvement of results.

• **For improvement of result**

- After completion of each unit, class test were taken by subject teachers of each classes. Evaluated answer script shown to students and given feedback of students.
- After completion of syllabus a Model Test were taken by covering all syllabuses.
- A Model Question bank provided as per new pattern of examination.
- For UG students, a revision and doubt classes were arranged and notes were provided to them.
- Model answers were provided to them.

- In P.G., before practical exams we took classes where we discussed viva questions.

• **Innovative methods used for implementation of curriculum**

- Teaching is not only done by chalk-duster method but also ICT.
- We motivated students to attend Spoken English free coaching which is organized by the English department of the college.
- Paper presentation by P.G. students is made through power point.
- For teaching and learning practices students go to nearby school and taken classes at secondary and higher secondary level students.

• **Academic Flexibility**

As per UGC norms, academic flexibility is used when needed. We provide academic flexibility to choose different combination of subjects in the admission of 1st Year of U.G. level.

Under NEP 2020, Semester system has been opted in the college. In B.Sc. I Semester, we opted following papers as

- Elementary Calculus as DSC and GE

In B.Sc. II Semester, we opted following papers as

- Algebra as DSC and GE

In B.Sc. III Semester, we opted following papers as

- Algebra and Mathematical Methods as DSC
- Numerical Method as DSE
- Logic and Sets as SEC

In B.Sc. IV Semester, we opted following papers as

- Real Analysis as DSC
- Discrete Mathematics as DSE
- SCILAB as SEC

In B.Sc. V Semester, we opted following papers as

- Linear Algebra as DSC
- Mechanics as DSE I
- Riemann Integration and Series of Functions as DSE II
- Programming with Python as SEC

In B.Sc. VI Semester, we opted following papers as

- Metric Spaces and Complex Analysis as DSC
- Number Theory as DSE I
- Graph Theory as DSE II
- Internship

In P.G. level out of the long list prescribed in U.G.C. curriculum we have preferred to opt optional paper as per their importance in NET/SET and applications science, engineering and other field.

We have one optional paper **Advanced Discrete Mathematics** in M.Sc. I and II semester which includes recent topics on algebra (Boolean / finite state machine and graph theory). These are very important tools for solving specific problems of science, engineering research.

Three optional papers in M.Sc. III and IV semester.

- **Operations Research:** - Operation Research has got wide scope. It is used in many organizations including business, industries, management, finance, production, defense etc. Thus OR has got great scope in various fields.
- **Programming in C (with ANSI feature)** theory and practical has been included in the syllabus in M.Sc. III and IV semester looking for its wide applications in Mathematical analysis.
- **Fuzzy Sets and its applications** has been opted. This paper has a great extent and is career oriented. It is useful in research purpose.

These subjects are flexible in reference to mobility. They may join any job in research centers. They can pursue Ph.D. in applied Mathematics.

• Curriculum Enrichment

- For innovative teaching and learning ICT based teaching methods are adopted.
- **Credit Based Grade system (CBGS)** was implemented for **PG classes**.

• Feedback System_–

- Open House feedback system has been adopted and as per feedback we sort-out the students, parents views and problems try to overcome them.
- We have taken feedback from stakeholder and as per their requirement and demand we modify our curriculum.

• Documentation- Curriculum (Board of Studies)

On 18.05.2024, 30.09.2024 and 05.03.2025, Board of Studies meeting was held for approving the syllabi of P.G. and B.Sc. I, II, III, IV, V and VI Semester for academic session 2024-25.

List of BOS Nominee and members

Dr. Rajesh Pandey	- V.C. Nominee
Dr. C.L. Dewangan	- Principal Nominee
Dr. Pushpa Kaushik	- Principal Nominee
Shri Rajkumar Jain	- Nominated member from Industry

Dr. Shabnam Khan	- Head of Department
Dr. K.K. Dewangan	- Member
Dr. Hemant Kumar Sao	- Member
Dr. Kavita Sakure	- Member

The syllabus of B.Sc. III year approved according to Hemchand Yadav University, Durg.

• **Enrichment Programme**

- Organize special lecture by subject experts and teachers.
- Organize classes for NET /SET /JRF(CSIR) Examination.
- Organize career and job oriented classes.

• **Teaching Learning and Evaluation**

• **Student Enrolment Profile**

The Enrolment Profile is preserved in the departmental records.

S. No.	Name of Course	Applications Received	No. of Enrolled students
1.	B. Sc. I Semester	766	223
2.	B. Sc. III Semester	153	153
3	B.Sc. V Semester	176	176
3.	B. Sc. Part III	25	25
4.	M. Sc. Previous	180	64
5.	M. Sc. Final	57	57

• **Admission**

Admission is done on Merit basis keeping in view the Reservation policy. Preference is given to the students who have achievements in sports, cultural, NCC, NSS, Scout/Guide and other fields.

- In P.G. and U.G. classes internal test is compulsory.
- For continuous evaluation at the end of each unit we take unit test.
- Project is compulsory for P.G. Students in the topic decided by the department.

- **Catering to student's Diversity**

- Special attentions are given to the weaker students of B.Sc. by organizing remedial classes.
- Special classes are arranged for NET/SET preparations and for competitive exams.
- Special guidance is given to advanced learners.

- **Teaching Learning methods**

- Traditional methods of teaching as well as multimedia teaching methods are used.
- MS PowerPoint, Graphics and Flash Slide Show Software are used for teaching and learning.
- The department has a very rich library with more than 1100 text books as well as reference books.
- The department is equipped with internet facility, computers, scanner, printer, photocopier etc.
- Various journals are in the main library. P.G. students are encouraged to deliver weakly seminars through power point presentation.
- Apart from class room teaching question-answer session and tutorial classes are also held for U.G. and P.G. students. Faculty members are available beyond class hours for students.
- Guest lectures are also organized for students by subject experts to improve their knowledge in various topics.

- **Agrani Digvijay: NEP 2020**

The department of Mathematics provided information regarding NEP 2020 on 17.01.2025 to the student of Class 10, 11 and 12 of Govt. Baldev Prasad Mishra Higher Secondary School, Rajnandgaon. Head of the Department, Dr. K.K. Dewangan told about NEP 2020 that under the National Education Policy, all types of education is being given to every student. Principal of Gujarati National Higher Secondary School, Rajnandgaon, Mr. Kailash Sharma told that Government Digvijay College is the oldest college in Rajnandgaon district and he himself has been a student of this college.



About NEP 2020 Dr. Hemant Kumar Sao told in detail through PPT that semester studies in the college are continuous, grades are given through credit point system and explained the benefits of NEP 2020. Under this program, students will be given the basic basis of National Education Policy, format, objectives, age determination, major problems of higher education in India and efforts to overcome them, skill based education, characteristics of unskilled education, DSC, AECC, GE courses and provided information about Value Added Course, new provisions and methods of National Education Policy 2020 from the college point of view, etc. Along with this, career guidance was also provided to the students.



Guest lecturer Mr. Ravi Sonkar of Mathematics Department and 20 students of Post Graduate Mathematics also participated in this program. He taught mathematics in different ways to remove the fear of mathematics from the students.





At the end of this program, feedback form was filled by the students of the school. A large number of students of 10th, 11th and 12th of the school participated in this program.

• Guest Lectures

Subject Expert	Designation	Date	Topic
Dr. V.K. Pathak	Principal, Govt. College, Dhamtari	21.11.2024	Algebraic Topology and its Applications
Dr. Megha Khandelwal	Assistant Professor (Contract), Department of Mathematics, Central University of Karnataka, Karnataka	25.02.2025	Operations Research and its Applications
Prof. Vinay Masiyare	Assistant Professor, Department of Mathematics, Govt. College, Thelkadih	22.03.2025	Complex Analysis



Dr. V.K.Pathak delivering online lecture on “Algebraic Topology and its Applications”

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दिग्विजय महाविद्यालय में अतिथि व्याख्यान

राजनानंदगांव। शास. दिग्विजय महाविद्यालय के प्राचार्य डॉ. के. एल. दामले के निर्देशन में एवं गणित विभाग के विभागाध्यक्ष डॉ. शबनम खान के मार्गदर्शन में गणित विभाग द्वारा “अल्गेब्रिक टोपोलॉजी एंड एप्लीकेशन्स” पर अतिथि व्याख्यान का आयोजन किया गया जिसमें मुख्य वक्ता के रूप में डॉ. विनोद कुमार पाठक, प्राचार्य, शास. महाविद्यालय, धमतरी उपस्थित हुये। कार्यक्रम की शुरुआत करते हुए डॉ. हेमंत कुमार साव ने डॉ. विनोद कुमार पाठक से विद्यार्थियों का परिचय करवाया तथा इसके पश्चात् ने डॉ. के. के. देवांगन ने अपने उद्बोधन में कहा कि विद्यार्थियों के ज्ञानार्जन तथा समुचित विकास हेतु समय-समय पर इस प्रकार के कार्यक्रमों का आयोजन किया जाता है। व्याख्यान की शुरुआत करते हुए डॉ. विनोद कुमार पाठक ने गणित के स्नातकोत्तर विद्यार्थियों को “अल्गेब्रिक टोपोलॉजी एंड एप्लीकेशन्स” पर अपना व्याख्यान दिया।





Dr. Megha Khandelwal delivering online lecture on “Operations Research and its Applications”

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न्यूज डायरी




दिग्विजय महाविद्यालय के गणित विभाग में अतिथि व्याख्यान

राजनांदगांव। श्मस. दिग्विजय महाविद्यालय के प्राचार्य डॉ. सुचित्रा गुप्ता के निर्देशन में एवं गणित विभाग के विभागाध्यक्ष डॉ. के. के. देवांगन के मार्गदर्शन में गणित विभाग द्वारा “ऑपरेशन रिसर्च एंड इट्स एप्लीकेशन्स” पर अतिथि व्याख्यान का आयोजन किया गया जिसमें मुख्य वक्ता के रूप में डॉ. मेघा खंडेलवाल, सहायक प्राध्यापक, सेंट्रल यूनिवर्सिटी ऑफ कर्नाटक, कर्नाटक उपस्थित हुये।

कार्यक्रम की शुरुआत करते हुए डॉ. कविता साकुरे ने डॉ. मेघा खंडेलवाल से विद्यार्थियों का परिचय करवाया तथा इसके पश्चात् उन्होंने बताया कि विद्यार्थियों के ज्ञानार्जन तथा समुचित विकास हेतु समय-समय पर इस प्रकार के कार्यक्रमों का आयोजन किया जाता है। व्याख्यान की शुरुआत करते हुए डॉ. मेघा खंडेलवाल ने गणित के स्नातकोत्तर विद्यार्थियों को “ऑपरेशन रिसर्च एंड इट्स एप्लीकेशन्स” पर अपना व्याख्यान दिया। उन्होंने ऑपरेशन रिसर्च के सिद्धांतों और उनके वास्तविक जीवन में उपयोगी एप्लीकेशन्स के बारे में विस्तार से चर्चा की। इसके साथ ही, डॉ. खंडेलवाल ने विद्यार्थियों को इस क्षेत्र में आने वाले नए अवसरों और संभावनाओं के बारे में भी बताया। व्याख्यान में विद्यार्थियों ने सक्रिय रूप से भाग लिया और कई महत्वपूर्ण सवाल भी पूछे। इस तरह के ज्ञानवर्धक सत्र विद्यार्थियों के शैक्षिक विकास में मददगार साबित होते हैं। इस व्याख्यान अतिथि व्याख्याता रवि साहू व भीमसिंह पटेल, एम.एस.सी. पूर्व एवं अंतिम गणित के समस्त विद्यार्थी उपस्थित थे।

• National Mathematics Day 2024:

The department of Mathematics celebrated the National Mathematics Day 2024 on 30.01.2024 in the memory of great mathematician Srinivas Ramnujan. On this occasion, the guest lecture of Dr. Omkarlal Shrivastava, Assistant Professor, Department of Mathematics, Govt. Kamla Devi Rathie Girls College, Rajnandgaon is organized. He delivered his lecture on “Srinivasa Ramanujan”.



गणित के क्षेत्र में रामानुजन के अद्वितीय योगदान- श्रीवास्तव
 राजनांदगांव। शास. दिग्विजय महाविद्यालय के प्राचार्य डॉ. सुचित्रा गुप्ता के निर्देशन में एवं गणित विभाग के विभागाध्यक्ष डॉ. के. के. देवांगन के मार्गदर्शन में गणित विभाग द्वारा राष्ट्रीय गणित दिवस 202 का आयोजन किया गया जिसमें मुख्य वक्ता के रूप में डॉ. ओमकार लाल श्रीवास्तव, प्राध्यापक, शास. कमला देवी राठी कन्या स्नातकोत्तर महाविद्यालय, राजनांदगांव से उपस्थित हुये। कार्यक्रम की शुरुआत करते हुए डॉ. हेमंत कुमार साव ने कार्यक्रम के मुख्या वक्ता डॉ. ओमकार लाल श्रीवास्तव से सभी को परिचित करवाया। विभागाध्यक्ष डॉ. के. के. देवांगन ने कार्यक्रम की रूपरेखा की जानकारी दी। महाविद्यालय के प्राचार्य डॉ. सुचित्रा गुप्ता जी ने अपने उद्बोधन में कहा कि महान गणितज्ञ श्रीनिवास रामानुजन की जयंती पर राष्ट्रीय गणित दिवस मनाया जाता है। इसके पश्चात् डॉ. ओमकार लाल श्रीवास्तव जी ने विद्यार्थियों को पी. पी. टी. के माध्यम से बताया कि रामानुजन ने गणित के क्षेत्र में अद्वितीय योगदान दिया, विशेष रूप से संख्या सिद्धांत, अनंत श्रृंखला और गणितीय विश्लेषण में। उनके कार्यों ने आधुनिक गणित को नई दिशा दी। उन्होंने 3900 से अधिक गणितीय परिणाम और प्रमेय दिए, जिनमें से कई आज भी शोध का विषय हैं। रामानुजन का काम दिव्य प्रेरणा और गहरी अंतर्दृष्टि का उद्घारण है। रामानुजन ने विशेष रूप से मोचक थोटा फंक्शन और पार्टीशन थ्योरी में महत्वपूर्ण खोजें कीं।

- **Celebration of Teacher's Day:**

The student of the department has arranged the program on Teacher's day on 05.09.2024 on the occasion of birth anniversary of Sarvepalli Radhakrishnan.



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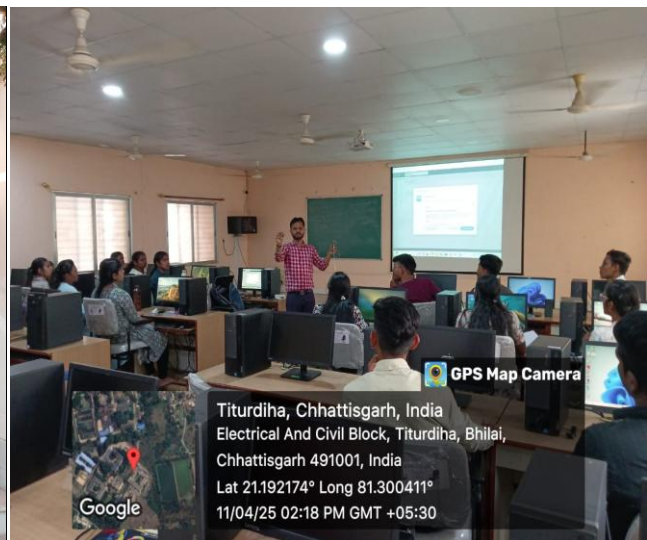
पोषक विद्यालय संपर्क अभियान का आयोजन

राजनंदगांव। शासकीय दिग्विजय महाविद्यालय के गणित विभाग द्वारा प्राचार्य डॉ. के. एल. दामले के मार्गदर्शन एवं विभागाध्यक्ष डॉ. के. के. देवांगन एवं सहायक प्राध्यापक डॉ. हेमंत कुमार साव के नेतृत्व में शासकीय बलदेव प्रसाद मिश्र उच्चतर माध्यमिक विद्यालय, राजनंदगांव में कक्षा 10 वीं, 11 वीं एवं कक्षा 12 वीं के विद्यार्थियों को राष्ट्रीय शिक्षा नीति 2020 की पॉपीटी के माध्यम से विस्तृत जानकारी प्रदान की। विभागाध्यक्ष डॉ. के. के. देवांगन ने नेप 2020 के बारे में बताया कि राष्ट्रीय शिक्षा नीति के अंतर्गत सभी प्रकार की शिक्षा हर विद्यार्थी को दी जा रही है। शासकीय बलदेव प्रसाद मिश्र उच्चतर माध्यमिक विद्यालय, राजनंदगांव के प्राचार्य कैलाश शर्मा ने बताया कि शासकीय दिग्विजय महाविद्यालय, राजनंदगांव जिले का सबसे पुराना महाविद्यालय है, वह स्वयं इस महाविद्यालय के विद्यार्थी रहे हैं।



Internship:

The students of B.Sc. VI Semester participated in Internship of 30 hours during 01.04.2025 to 12.04.2025 organized by Bhilai Institute of Technology, Durg.



Mathematics Association:

On 05.09.2024, the Mathematics Association has been constituted on the basis of Merit by Dr. Shabnam Khan, HoD of Department of Mathematics in the presence of Dr. Anjana Thakur, Principal of Govt. Digvijay Autonomous P.G. College, Rajnandgaon. The following students are selected (on the merit basis) as

- | | |
|----------------------|---------------------------------------------|
| 1. President – | Bhupendra Kumar (M.Sc. Third Semester) |
| 2. Vice President – | Ku. Kumkum Jha Kumar (M.Sc. First Semester) |
| 3. Secretary – | Ku. Pragya Dewangan (M.Sc. Third Semester) |
| 4. Joint Secretary – | Ku. Bhavika Sahu (M.Sc. First Semester) |



• **Qualification and Achievement :**

S. No.	Teacher's Name	Faculty Type	Qualification	Seminar/ Workshop/ Conference/ FDP/ Webinar Attended	Paper Presented	Invited Talk/ Delivered Lecture	Published Paper	Total
1	Dr. Shabnam Khan	Professor & Head	M.Sc. (Mathematics) Ph.D. (Mathematics)	01	00	01	00	02
2	Dr. Kailash Kumar Dewangan	Assistant Professor	M.Sc. (Mathematics) Ph.D. (Mathematics)	02	01	01	01	05
3	Dr. Hemant Kumar Sao	Assistant Professor	M.Sc. (Mathematics) Ph.D. (Mathematics)	04	00	00	01	05
4	Dr. Kavita Sakure	Assistant Professor	M. Sc. (Mathematics) M. Phil. (Mathematics) Ph.D. (Mathematics)	03	02	01	03	09
5	Mr. Ravi Sonkar	Guest Lecturer	M.Sc. (Mathematics) M. Phil. (Mathematics)	01	01	00	00	02
6	Dr. Bheem Singh Patel	Guest Lecturer	M.Sc. (Mathematics) Ph.D. (Mathematics)	01	00	00	01	02

• **Activities and Achievement of Faculty**

• **Dr. Shabnam Khan**

- **Different Committees Member**

- (1) Dean of Science Faculty of Hemchand Yadav University, Durg
- (2) Member of Central Board of Study
- (3) Member of Board of Study of Govt. V.Y.T. Autonomous P.G. College, Durg
- (4) Member of Janbhagidari Samiti, Govt. Digvijay Autonomous College, Rajnandgaon

• **Dr. K.K.Dewangan**

- **Different Committees Member**

- (1) Nodal officer of All India Survey on Higher Education
- (2) Coordinator of ABC/IDP/NIRF committee of Govt. Digvijay Auto. P.G. College, Rajnandgaon

- **Faculty Development Programme**

- (1) Participated in Seven Days Faculty Development Programme on “Indian Knowledge System” during 24-30 April 2024 organized jointly by Human Resource Development Cell and Internal Quality Assurance Cell of Govt. Digvijay Autonomous P.G. College, Rajnandgaon.

- **Paper Presented**

- (1) System and Therapy of Type-2 Diabetes Mellitus: In Respect of Present, Past, and Future in organized by Govt. Digvijay Autonomous P.G. College, Rajnandgaon in International Seminar on “Sustainable Development and Climate Change 2025 (ISSDC-2025)” during 4-6 March 2025 organized by Govt. Digvijay Autonomous P.G. College, Rajnandgaon

• **Dr. Hemant Kumar Sao**

- **Different Committees Member**

- (1) Deputy controller of Autonomous Examination Cell, Govt. Digvijay Auto. P.G. College, Rajnandgaon

- **Research Guide:**

- (1) Two research scholars are doing their research work.

- **Paper Published**

- (1) Hemant Kumar Saw, Rakesh Tiwari and Shruti Shukla, Profit analysis of a two-unit similar cold standby system with endurance time and preventive maintenance, International Journal of Statistics and Applied Mathematics 2024; 9(4): 16-21, May 2024, ISSN: 2456-1452
- (2) H L Manker, Hemant Kumar Saw and Iti Sao, Reliability analysis of a system using semi Markov process, International Journal of Statistics and Applied Mathematics (Web of Science) 2024; 9(4): 145-151 July 2024 ISSN: 2456-1452.

- **Faculty Development Programme**

- (1) Participated in Seven Days Faculty Development Programme on “Indian Knowledge System” during 24-30 April 2024 organized jointly by Human Resource Development Cell and Internal Quality Assurance Cell of Govt. Digvijay Autonomous P.G. College, Rajnandgaon.

- **Dr. Kavita Sakure**

- **Different Committees Member**

- (1) Assistant Controller of Autonomous Examination Cell of Govt. Digvijay Auto. P.G. College, Rajnandgaon
- (2) Member of NAAC Attribute 2 (Faculty Resources) Committee of Govt. Digvijay Auto. P.G. College, Rajnandgaon.
- (3) Member of PM-USHA Equipment Committee of Govt. Digvijay Auto. P.G. College, Rajnandgaon

- **Seminar/Workshop/Conference/Webinar attended**

- (1) Participated in Third International Workshop on “Advanced Topics in Mathematics (IWATM-2024)” from 16.12.2024 to 20.12.2024 organized by Centre for Applied Mathematics, International Institute of Information Technology, Naya Raipur.

- **Faculty Development Programme**

- (1) Participated in Faculty Development Programme on “Unveiling Emerging Research Trends in Mathematics” from 20.08.2024 to 21.08.2024 organized by Department of Mathematics, SRM Madurai College of Engineering and Technology, Sivagangai.
- (2) Participated in One Week Online International Faculty Development Programme on “Numerical Computations and Dynamical Systems (NCDS-2024)” from 22.07.2024 to 26.07.2024 organized by Department of Mathematics, Anurag University, Hyderabad, India.
- (3) Participated in Seven Days Faculty Development Programme on “Indian Knowledge System” during 24-30 April 2024 organized jointly by Human Resource Development Cell and Internal Quality Assurance Cell of Govt. Digvijay Autonomous P.G. College, Rajnandgaon.

- **Paper Presented**

- (2) Convergence Theorems for Multivalued Generalized α - Nonexpansive Mappings in Hyperbolic Spaces : SPK Iterative Approach in International Conference on Nonlinear Analysis and Computational Techniques (ICNACT-2024) during 8-10 August 2024 organized by School of Advanced Science and Languages (SASL), VIT Bhopal University, India in collaboration with Institute of Physics and Mathematics, Technological University of Mixteca, Oaxaca, Mexico.
- (3) Bayesian and Frequentist Approaches in Biostatistics: Foundation and Practices in organized by Govt. Digvijay Autonomous P.G. College, Rajnandgaon in International Seminar on “Sustainable Development and Climate Change 2025 (ISSDC-2025)” during 4-6 March 2025 organized by Govt. Digvijay Autonomous P.G. College, Rajnandgaon

- **Short Term Course**

- (1) Participated in Short Term Course on LATEX Programming (LATEX 2024) from 01.04.2024 to 05.04.2024 organized by Department of Mathematics, National Institute of Technology, Jamshedpur, Jharkhand

- **Paper Published**

- (1) Samir Dashputre and Kavita Sakure, Monotone Generalized (α, β) - Nonexpansive Mappings in Ordered Hyperbolic Metric Spaces, Journal of Advanced Mathematical Studies Vol.17 (2) (2024), 250-263.
- (2) Samir Dashputre and Kavita Sakure, Convergence of Monotone Generalized α -nonexpansive Mappings in Ordered Hyperbolic Metric Spaces, Sahand Communications in Mathematical Analysis Vol. 22 (1) (2025), 39-57.
- (3) Samir Dashputre and Kavita Sakure, Multivalued Generalized α - Nonexpansive Mappings in Hyperbolic Spaces : SPK Iterative Approach, Journal of Advanced Mathematical Studies Vol.18 (1) (2025), 96-108.

- **Interdisciplinary Lecture**

- (1) Delivered lecture on “Numerical Solutions of ordinary Differential Equations” on 17.02.2025 organized by Department of Physics, Govt. Digvijay Autonomous P.G. College, Rajnandgaon.

- **Refresher Course**

- (1) Participated in Refresher Course in “Mathematics and its Applications” during 06.11.2024 to 19.11.2024 organized by UGC-Malaviya Mission Teacher Training Centre, University of Allahabad, Prayagraj, Uttar Pradesh

- **Resource Person**

- (1) Judge for the State Level “Bal Vaigyanik Exhibition 2024” from 12.12.2024 to 13.12.2024 sponsored by CBSE and organized by PM SHRI Kendriya Vidyalaya, Durg

- (2) Jury Member for Competitive Evaluation on the occasion of National Science Day Celebration 2025 under the theme “Empowering Indian Youth for Global Leadership in Science and Innovation for Viksit Bharat” organized by Govt. Shivnath Science college, Rajnandgaon Catalyzed and sponsored by Chhattisgarh Council of Science and Technology and national Council for Science and Technology Communication, DST, Government of India

• **Mr. Ravi Sonkar**

• **Different Committees Member**

- (1) Member of Physical Verification Committee for Book of Central Library of Govt. Digvijay Autonomous P.G. College, Rajnandgaon
- (2) Member of NAAC Criteria 5 of Govt. Digvijay Autonomous P.G. College, Rajnandgaon

• **Faculty Development Programme**

- (1) Participated in Seven Days Faculty Development Programme on “Indian Knowledge System” during 24-30 April 2024 organized jointly by Human Resource Development Cell and Internal Quality Assurance Cell of Govt. Digvijay Autonomous P.G. College, Rajnandgaon.

• **Paper Presented**

- (1) System and Therapy of Type-2 Diabetes Mellitus: In Respect of Present, Past, and Future in organized by Govt. Digvijay Autonomous P.G. College, Rajnandgaon in International Seminar on “Sustainable Development and Climate Change 2025 (ISSDC-2025)” during 4-6 March 2025 organized by Govt. Digvijay Autonomous P.G. College, Rajnandgaon.

• **Dr. Bheem Singh Patel**

• **Different Committees Member**

- (1) Member of Physical Verification Committee for Book of Central Library of Govt. Digvijay Autonomous P.G. College, Rajnandgaon
- (2) Member of Anti Drug Committee of Govt. Digvijay Autonomous P.G. College, Rajnandgaon

• **Paper Published**

- (1) Anurag Verma, B.P.Tripathi, Bheem Singh Patel, Convergence Theorems for a Finite Family of Operators satisfying MZ-Type Condition in CAT(0) spaces, Journal of Electrical Systems 20-11s (2024): 3135-3141.

• **Faculty Development Programme**

- (1) Participated in Seven Days Faculty Development Programme on “Indian Knowledge System” during 24-30 April 2024 organized jointly by Human Resource Development Cell and Internal Quality Assurance Cell of Govt. Digvijay Autonomous P.G. College, Rajnandgaon.

• Evaluation Process and Reforms

Admission is given as per government rules on merit basis in both U.G and P.G level. It includes reservation to students are mostly from rural areas belonging to low and middle income group. The medium of study is English. But at U.G. level Hindi is frequently used. The subject is equally popular for both genders. Students from SC, SC, ST and OBC also opted for this subject with great interest.

- In P.G. and U.G. classes internal test is compulsory.
- For continuous evaluation at the end of each unit we take unit test.
- Project is compulsory for P.G students in the topic decided by the department

• Student's Performance and Learning Outcome

Steps taken to improve the Students' Performance-

- Senior teachers engage classes for B.Sc. I students and there is provision of special classes for the supplementary students.
- Tutorial and Remedial classes have been arranged for weaker students.
- Efforts were made for poor and brilliant students in which poor students were given personal counseling about study. Brilliant students were encouraged to use of English for broadening their communication skills.

• Research, Consultancy and Extension

- **Promotion of Research** - The department is contributing a lot in research of different field of Mathematics especially in the Fixed Point Theory and Reliability Modeling. We also promote the students for research and extension activities and assist them to do project in mathematical science. The department provides internet facility to all students and faculties for their research work. The faculties and student are encouraged to participate actively and present paper, talk in different workshop, seminar, conferences (colloquiums), etc.
- **Research Facilities**- The Departmental Library consists of 900 books the most of which are good reference books that help students and teachers to pursue the research work. Moreover the Internet facility is in the department that gives them access to the material, which is not available in books.
- **Consultancy**- The department gives their consultancy to other departments like Computer Science etc.

• Student Support and Progression

• Student Mentoring and Support -

- We motivate the students to visit the Placement Cell frequently to get information regarding job opportunities.
- The faculty members of the department help the students get prepared for various competitive examinations.

• Progression-

- From B.Sc. III 60 % students were taken admission M.Sc. I Semester.

• Student's Participation and Activities

- **Bhupendra Kumar** (M.Sc. III Semester) qualified GATE 2025.
- **Sonam** (Ex student M.Sc. Mathematics) qualified CSIR NET December 2024.
- **Chandan Sahu** (Ex student M.Sc. Mathematics) qualified CGSET in 2024.
- **Ku. Prakshi Nayak** (Ex student M.Sc. Mathematics) qualified CGSET in 2024.
- **Sonam** (Ex student M.Sc. Mathematics) qualified CGSET in 2024.
- **Dipesh** (Ex student M.Sc. Mathematics) qualified CGSET in 2024.
- **Khelan** (Ex student M.Sc. Mathematics) qualified CGSET in 2024.
- **Indrajeet** (Ex student M.Sc. Mathematics) qualified CGSET in 2024.
- **Kamesh Dewangan** (Ex student M.Sc. Mathematics) qualified CGSET in 2024.
- **Jeevan** (Ex student M.Sc. Mathematics) qualified CGSET in 2024.
- **Deepak Joshi** (Ex student M.Sc. Mathematics) qualified CGSET in 2024.
- **Ku. Kumkum Jha** (Ex student M.Sc. Mathematics) selected as SBI Junior Associate.
- **Bhupendra Kumar**, M.Sc. III Semester got Gold Medal for securing First Position in M.Sc. Mathematics (Previous).
- **Ku. Kumkum Jha**, M.Sc. I Semester got Gold Medal for securing First Position in B.Sc.
- **Bhupendra Kumar**, M.Sc. III Semester got Gold Medal for securing First Position in Post Graduation.

• Governance, Leadership and Management

- **Departmental Leadership** – Dr. Shabnam Khan is Head of the department. Dr. K.K. Dewangan is Co-ordinator of ABC/IDP/NIRF. Dr. Hemant Kumar Sao appointed as Deputy Controller of autonomous examination cell and Dr. Kavita Sakure appointed as Assistant Controller of autonomous examination cell. Also Faculties of the department are involved in various committees like Admission, Discipline, Purchasing, Examination Conduction, etc.

- **Student's Leadership** – The department nominates the meritorious students according to their marks as president, vice president, secretary, joint- secretary of mathematical council (Ganit-Parishad). To improve the leadership quality and personality development, we constitute a working committee comprising of every student. All responsibility lives with the students to organize every program of the department.
- **Faculty Empowerment Strategies-** The staffs of the department are always available for helping the faculties and students of other department regarding any subject issues.
- **Best Practices –**
 - The MATH-LAB has been visited by students of various schools and colleges.
 - The department of Mathematics established Computer Lab for Mathematics Students.
 - The Department of Mathematics celebrated Birth Anniversary of Visvesverya Sir on 15.09.2024. The different competitions are organized for students such as invited Essay and Poster where students participated actively.
 - The social work such blood donation has been done by PG students.





20662




Certificate of Appreciation

This Certificate is present to

.....Mr. Neeraj Sahu..... With Blood Group O⁺ positive

Donated On 1st March 25 For Voluntary Blood Donation

Thank you for your contribution towards a Nobel Cause.

BILASA BLOOD CENTRE

☐ Raipur
 ☐ Bilaspur
 ☐ Korba
 ☒ Rajnandgaon
 ☐ Bhilai


Blood Centre
 Officer



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Certificate of Appreciation

This Certificate is present to

.....Mr. Dikeshwar Kumar..... With Blood Group B⁺ positive

Donated On 1st March 25 For Voluntary Blood Donation

Thank you for your contribution towards a Nobel Cause.

BILASA BLOOD CENTRE

☐ Raipur
 ☐ Bilaspur
 ☐ Korba
 ☒ Rajnandgaon
 ☐ Bhilai


Blood Centre
 Officer

- Under **AGRANI DIGVIJAY : NEP 2020**, 20 students of M.Sc. Mathematics taught mathematics in different ways to remove the fear of mathematics from the students.