

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

Session 2023-24

• **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 2023-24**

B. Sc. I - 271

B.Sc. II - 170

B.Sc. III - 225

M. Sc. Previous - 69

M.Sc. Final - 47

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

- **Name and Designation of Teachers**

- Dr. Shabnam Khan - Prof. & Head
- Dr. K.K. Dewangan - Asst. Professor
- Dr. Hemant Kumar Sao - Asst. Professor
- Dr. Kavita Sakure - Asst. Professor
- Mr. Ravi Sonkar - 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

- Calculus as DSC
- Probability and Statistics I as SEC

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

- Differential Equation as DSC
- Probability and Statistics II as SEC

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. III year, there is optional choice in paper III .We have opted Numerical Analysis with Computer Programming looking for its vast application in the various field such as computer science, engineering etc and in research work related to different field. In order to update the existing curriculum, three optional papers in B.Sc. III are introduced. These papers have wide application in day to day life.

- Discrete Mathematics
- Programming in C and Numerical Analysis
- Principles of Computer Science

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 M.Phil. /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 01.06.2023, Board of Studies meeting was held for approving the syllabi of P.G. and B.Sc. I, II, III and IV Semester for academic session 2023-24.

List of BOS Nominee and members

Dr. Rajesh Pandey	- V.C. Nominee
Dr. C.L. Dewangan	- Principal Nominee
Dr. Neelam Sharma	- 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.
- Organize Value Added Course on “Scientific Writing Using LATEX”.

- **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	271
2.	B. Sc. III Semester	170	170
3.	B. Sc. Part III	225	225
4.	M. Sc. Previous	180	69
5.	M. Sc. Final	47	47

- **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 to the student of Class 10, 11 and 12 of Gujarati National Higher Secondary School, Rajnandgaon. Head of the Department, Dr. Shabnam Khan 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. D.R. Navelkar told that Government Digvijay College is the oldest college in Rajnandgaon district and he himself has been a student of this college.

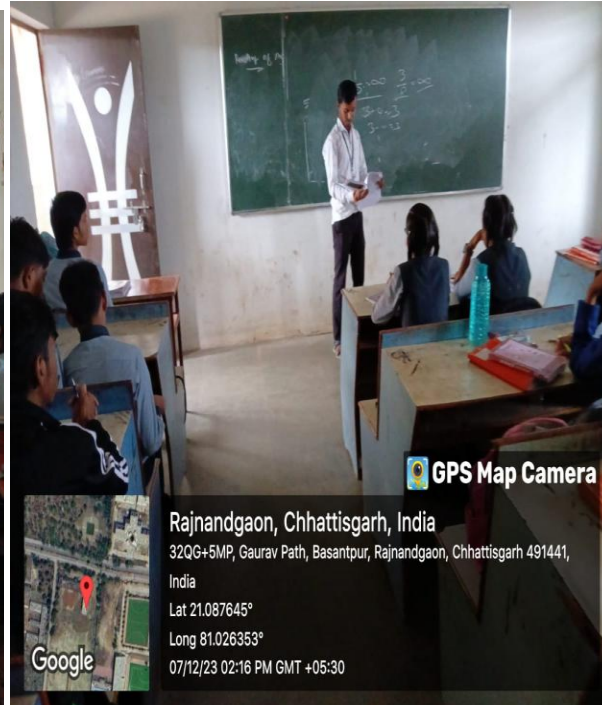


About NEP 2020 Dr. K.K. Dewangan told in detail through PPT that semester studies in the college are continuous, grades are given through credit point system and explained the benefits

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.



- **Inauguration of Computer Lab**

The Computer Lab is inaugurated by Dr. Rajesh Pandey, Addition Director, Higher Education Department, Durg Division on 18.05.2024 for mathematics students.



नवभारत Rajnandgaon - 21 May 2024 - 21rajn3
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 epaper.navabharat.news



कालेज के गणित विभाग में कंप्यूटर लैब का शुभारम्भ
 राजनंदगाँव। शास. दिग्विजय महाविद्यालय, राजनंदगाँव के प्राचार्य डॉ. अंजना ठाकुर के निर्देशन में एवं गणित विभाग के विभागाध्यक्ष डॉ. शबनम खान के मार्गदर्शन में गणित विभाग के कंप्यूटर लैब का शुभारम्भ हुआ। जिसमें डॉ. राजेश पाण्डेय, अतिरिक्त संचालक, उच्च शिक्षा विभाग, दुर्ग संभाग द्वारा किया गया। उक्त कार्यक्रम में डॉ. पुष्पा कौशिक, प्राध्यापक, शास. जे. योगनन्दम छत्तीसगढ़ महाविद्यालय, रायपुर राजकुमार जैन, व्यवसायी, उपस्थित हुये। प्राचार्य डॉ. अंजना ठाकुर ने अपने उद्बोधन में कहा कि यह नया कंप्यूटर लैब न केवल तकनीकी शिक्षा के क्षेत्र में एक महत्वपूर्ण कदम है, जहाँ छात्रों की रचनात्मकता और नवाचार को प्रोत्साहित किया जा सकता है।



- **Interdisciplinary Lecture**

The department organizes the interdisciplinary lectures by subject experts to improve their knowledge in various topics.

Expert	Designation	Date	Topic
Prof. Raju Khunttey	Assistant Professor, Department of Computer Science, Govt. Digvijay Auto. P.G. College, RJN	30.10.2022	Programming in C and Artificial Intelligence



Prof. Raju Khunttey delivering lecture on “Programming in C and Artificial Intelligence”.

- **Guest Lectures**

Subject Expert	Designation	Date	Topic
Dr. D.R. Sahu	Professor, Department of Mathematics, Govt. Nemichand Jain College, Dallirajhara	14.12.2023	Career Guidance for Mathematics Students
Prof. Vinay Masiyare	Assistant Professor, Department of Mathematics, Govt. College, Thelkadih	30.11.2023	Complex Analysis
Ms. Shail Sharma	Assistant Professor, Department of Mathematics, Govt. College, Bemetara	30.05.2024	Career Guidance and Fuzzy Logic



Dr. D.R. Sahu delivering online lecture on “Career Guidance for Mathematics Students”

रायपुर • शनिवार • 16.12.2023
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गणित विभाग में अतिथि व्याख्यान का आयोजन

दिग्विजय में कार्यशाला
नवभारत रिपोर्टर. राजनांदगांव।

शास. दिग्विजय महाविद्यालय के प्राचार्य डॉ. के. एल. टांडेकर के निर्देशन में एवं गणित विभाग के विभागाध्यक्ष डॉ. रघुनम खान के मार्गदर्शन में गणित विभाग द्वारा कैरियर गाइडेंस पर अतिथि व्याख्यान का आयोजन किया गया जिसमें मुख्य वक्ता के रूप में डॉ. डी. आर. साहू, प्राध्यापक, गणित विभाग, शास. नैमीचंद जैन, महाविद्यालय, दल्ली राजहरा उपस्थित हुये. कार्यक्रम की शुरुआत करते हुए डॉ. के. के. देवांगन ने डॉ. डी. आर. साहू से विद्यार्थियों का परिचय करवाया तथा इसके पश्चात् ने डॉ. रघुनम खान 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. डी. आर. साहू ने गणित के स्नातकोत्तर विद्यार्थियों को “कैरियर गाइडेंस एवं पर्सनालिटी डेवलपमेंट” पर अपना व्याख्यान दिया तथा अपने व्याख्यान में डॉ. डी. आर. साहू ने विद्यार्थियों को पी. एस. सी., एम. एस. सी., बैंकिंग, पोस्ट ऑफिस एवं विभिन्न परीक्षाओं की तैयारी किस प्रकार की जाये इसकी जानकारी प्रदान की. साथ ही विद्यार्थियों की जिज्ञासयों की शोत किया. मंच सञ्चालन डॉ. के. के. देवांगन और आभार ज्ञापन डॉ. कविता साकुरे द्वारा किया गया. इस व्याख्यान रवि साहू, एम.एस.सी. पूर्व एवं अंतिम गणित के समस्त विद्यार्थी उपस्थित थे.



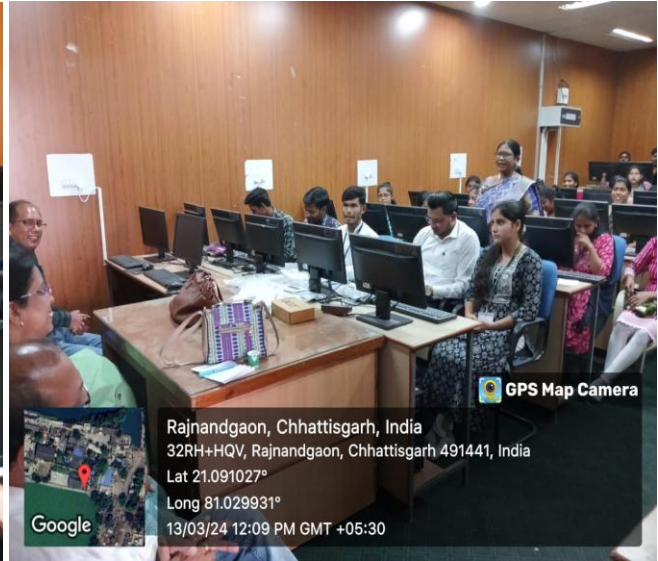
Dr. Vinay Masiyare delivering lecture on “Complex Analysis”



Dr. Shail Sharma delivering lecture on “Career Guidance and Fuzzy Logic”

• Parent-Teacher Association

Every session we arrange the Parents-Teacher meeting. In this meeting we invite guardians of the students and they give feed backs. After this we analyze them and try to make improvement. The department has been arranged the Alumni meeting on 13.03.2024.



गणित विभाग में शिक्षक अभिभावक बैठक

राजनांदगांव (नांदगांव टाइम्स)। शास. दिग्विजय महाविद्यालय के प्राचार्य डॉ. के. एल. टांडेकर के निर्देशन में एवं गणित विभाग के विभागाध्यक्ष डॉ. शबनम खान के मार्गदर्शन में गणित विभाग में एम.एस.सी. द्वितीय एवं चतुर्थ सेमेस्टर के विद्यार्थियों के अभिभावकों हेतु शिक्षक अभिभावक बैठक का आयोजन किया गया। कार्यक्रम की शुरुआत करते हुए प्राध्यापक डॉ. हेमंत कुमार साव ने महाविद्यालय में उपलब्ध सुविधाओं अभिभावकों को अवगत करवाया 7 विभागाध्यक्ष डॉ. शबनम खान ने गणित विभाग के शैक्षणिक कैलेंडर, महाविद्यालय के गतिविधियों और सुविधाओं के बारे में अभिभावकों को अवगत कराते हुए कहा कि वे विद्यार्थियों के लक्ष्य हासिल करने में उनका सहयोग प्रदान करे 7 साथ ही विभाग द्वारा किये जाने वाले शिक्षक अभिभावक बैठक के आयोजन को सराहनीय प्रयास बताया तथा साथ ही कहा कि यू. जी. सी. और मानव संसाधन विकास मंत्रालय, दिल्ली एवं उच्च शिक्षा विभाग, छत्तीसगढ़ शासन के प्राप्त निर्देशों के आधार पर विद्यार्थियों के सर्वांगीण



विकास हेतु समय समय पर शिक्षक अभिभावक बैठक आयोजित की जाती है 7 प्राध्यापक डॉ. के.के.देवांगन ने मैथ-लैब एवं रिसर्च से पालकों को अवगत कराया7 डॉ. हेमंत साव ने परीक्षा प्रणाली से अभिभावकों को अवगत कराया7 सहायक प्राध्यापक डॉ. कविता साकुरे ने विभाग में होने वाली गतिविधियों से पालकों को अवगत कराया। बैठक में उपस्थित अभिभावकों ने उनके पाल्यों के शैक्षणिक विकास हेतु विभाग के द्वारा किये जाने वाले प्रयासों हेतु सभी प्राध्यापकों डॉ. शबनम खान, डॉ. के. के. देवांगन, डॉ. हेमंत साव, डॉ. कविता साकुरे और अतिथि व्याख्याता श्री रवि सोनकर से अपनी खुशी जाहिर की। बैठक में उपस्थित अभिभावकों श्री देवकुमार साहू, श्री भागवत प्रसाद साहू, श्री हरी चौधरी, श्री राहुल मंडल और श्रीमती कुसुम लता कुंडले ने उनके पाल्यों के शैक्षणिक विकास हेतु विभाग के द्वारा किये जाने वाले प्रयासों की सराहना की 7 उक्त बैठक में श्री रवि सोनकर, एम.एस.सी. द्वितीय एवं चतुर्थ सेमेस्टर के विद्यार्थी उपस्थित थे।

• Seven Days Workshop on NET/SET Preparation

Seven-day workshop for NET/SET preparation is being organized by the Mathematics Department from 17.02.24 to 23.02.24

GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE, RAJNANDGAON (C.G.)



Seven Days Workshop (Blended Mode)

On

NET-JRF/SET PREPARATION FOR MATHEMATICAL SCIENCE

Organized By

Department of Mathematics

Govt. Digvijay Autonomous P.G. College, Rajnandgaon

Speakers

- Prof (Asstt.) Ashok Kumar Adil
Govt. N. P.G. College, of Science, Raipur (C.G.)
- Shri Lochan Pradhan
Pragati College, Raipur
- Ms. Yogita Chandrakar
ICFAI University, Raipur (C.G.)
- Ms. Geeta Biban, NET-JRF
Maharshi Dayanand University, Rohtak
- MS. Iti Sao, NET-JRF
Hemchand Yadav University, Durg
- Mr. Devendra Kumar Sahu, NET
Hemchand Yadav University, Durg

HOD

Dr. Shabnam Khan
Department of Mathematics
Govt. Digvijay Autonomous P.G. College,
Rajnandgaon (C.G.)

Principal

Dr. K.L. Tandekar
Principal
Govt. Digvijay Autonomous P.G. College,
Rajnandgaon (C.G.)

Organizing Team

Dr. K.K. Dewangan
Dr. Hemant Kumar Sao
Dr. Kavita Sakure

GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE, RAJNANDGAON (C.G.)



NET-JRF/SET PREPARATION FOR MATHEMATICAL SCIENCE

PROGRAM SCHEDULE

Department of Mathematics

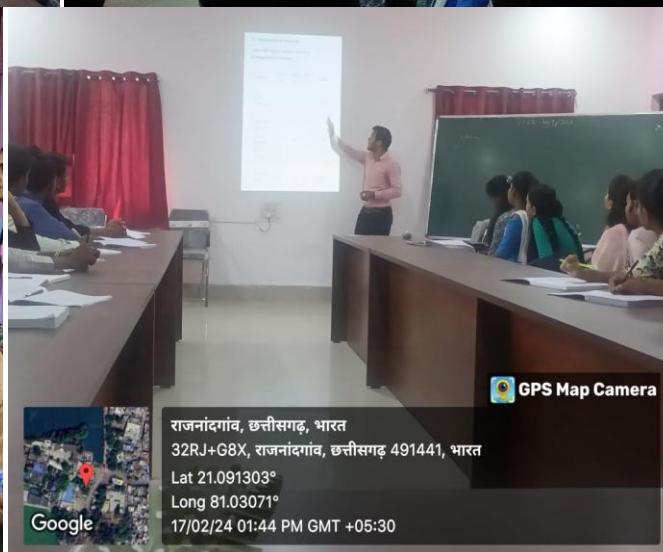
Day	Date	Inaugural Session 12.00 -12.15 pm
Day -1	17-02-24	<ul style="list-style-type: none"> • Lecture 1- Prof (Asstt.) Ashok Kumar Adil (offline) Govt. N. P.G. College, of Science, Raipur (C.G.) • Lecture 2- Shri Lochan Pradhan (offline) Pragati College, Raipur • Lecture 3- Ms. Yogita Chandrakar (offline) ICFAI University, Raipur (C.G.)
Day -2	18-02-24	<ul style="list-style-type: none"> • Lecture 1 Ms. Geeta Biban, NET-JRF (Online Mode) Maharshi Dayanand University, Rohtak
Day -3	19-02-24	<ul style="list-style-type: none"> • Lecture 1 Mr. Devendra Kumar Sahu, NET (offline) Hemchand Yadav University, Durg • Lecture 2- Ms. Yogita Chandrakar (Online Mode) ICFAI University, Raipur (C.G.)
Day -4	20-02-24	<ul style="list-style-type: none"> • Lecture 1 Mr. Devendra Kumar Sahu, NET (offline) Hemchand Yadav University, Durg • Lecture 2- Shri Lochan Pradhan (Online Mode) Pragati College, Raipur
Day -5	21-02-24	<ul style="list-style-type: none"> • Lecture 1 MS. Iti Sao, NET-JRF (offline) Hemchand Yadav University, Durg • Lecture 2- Prof (Asstt.) Ashok Kumar Adil (Online Mode) Govt. N. P.G. College, of Science, Raipur (C.G.)
Day -6	22-02-24	<ul style="list-style-type: none"> • Lecture 1 Ms. Geeta Biban, NET-JRF (Online Mode) Maharshi Dayanand University, Rohtak • Lecture 2- Ms. Yogita Chandrakar (Online Mode) ICFAI University, Raipur (C.G.)
Day -7	23-02-24	<ul style="list-style-type: none"> • Lecture 1 MS. Iti Sao, NET-JRF (offline) Hemchand Yadav University, Durg • Valedictory session 4.00-5.00 PM

Organizing Team

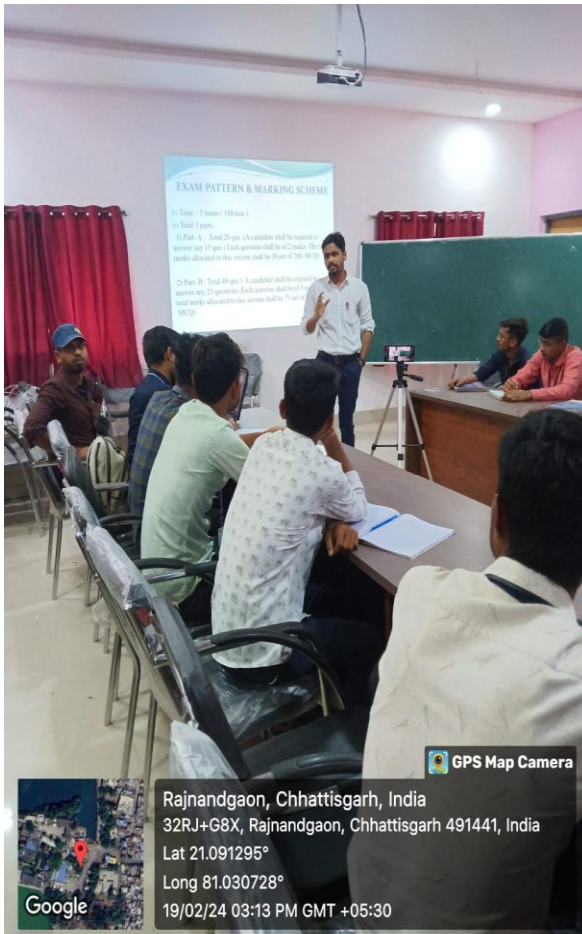
Dr. K.K. Dewangan
Dr. Hemant Kumar Sao
Dr. Kavita Sakure



Inaugural Session of Seven Days Workshop on NET/SET Preparation



Lectures delivered by speakers



Lectures delivered by speakers



Valedictory Session of Seven Days Workshop on NET/SET Preparation



Feedback by students



Valedictory Session of Seven Days Workshop on NET/SET Preparation

- **Alumni Meeting**

The department has been arranged the Alumni meeting on 26.09.2023.



- **Value Added Course on “Scientific Document Preparation using LATEX”**

The Department has been organized Value Added Course of 30 hours on “**Scientific Document Preparation Using LATEX**” from 01.09.2023 to 22.09.2023.

**GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE,
RAJNANDGAON (C.G.)**

Event Date
 September 01, 2023
 to
 September 15, 2023

Event Time
 15:00 to 17:00 IST.
 Through Google Meet

Value Added Course
On
Scientific Writing Using -LaTeX

Organized By
Department of Mathematics
Govt. Digvijay Autonomous P.G. College, Rajnandgaon

Sponsored By
Autonomous Cell
Govt. Digvijay Autonomous P.G. College, Rajnandgaon

Patron
Dr. K.L. Tandekar
 Principal
 Govt. Digvijay Autonomous P.G. College,
 Rajnandgaon (C.G.)

Course Coordinator
1. Dr. Hemant Kumar Sao
 Contact No. - 7748024264
 Department of Mathematics

Convener
Dr. (Smt.) Shabnam Khan
 HOD
 Department of Mathematics

2. Dr. Kavita Sakure
 Contact No. - 8817329005
 Department of Mathematics

Co-Convener
Dr. K.K. Dewangan
 Asst. Professor
 Department of Mathematics

Join us on -
 Google Meet & YouTube
 Live link

Registration Link:
https://docs.google.com/forms/d/e/1FAIpQLSfSlak8RFECPkPHAS1O4ke8MHPK-44m7DZuUjXhYRAh3f2Q/viewform?usp=sf_link

Objective

The documentation skills are inevitable in the field of science and technology. There are some standard norms by which scientific documents are being prepared. These norms can be easily met with documentation software LaTeX. It is rather a program written in plain text and can be formatted to the requirement. The program is compiled to get the output, usually in pdf format. Creating a table of contents, giving a proper citation, placing figures and tables at the right places, etc. are troublesome in many of the popular documentation tools. These things can be easily performed in LaTeX with the help of a command. Therefore, this course "Scientific Writing using LaTeX" will be a valuable addition in student's career.

Eminent Speaker's

Prof. Balwant Singh Thakur
 Professor
 SoS in Mathematics
 Pt. Ravi Shankar Shukla University Raipur

Dr. Chaitali Choudhary
 Assistant Professor
 Computer Science & Engineering
 BIT, Durg

Dr. S.K. Miri
 Assistant Professor
 Department of Computer Science
 St. Thomas college, Ruabandha, Bhilai

Dr. Anindita Chakraborti
 Associate Professor
 Department of Applied Mathematics,
 BIT, Durg

Mr. Rajesh Patel
 Assistant Professor
 Department of Applied Mathematics
 BIT, Durg

Note for the Participants

- Registration is mandatory and it's free.
- Registered participants will receive Zoom meet link through email/ What's App group
- All the relevant information will be sent through What's App group
- There will be 5 quizzes, participants' presentation and Final test in this course.
- Participants have to actively participate in presentation and score 40% in each quiz and final test for qualifying this course.
- Participants will be eligible for certificate if they fulfill all above criteria.

The experts for this value added course are

- (1) Dr. Balwant Singh Thakur, Professor, SoS in Mathematics, Pt. Ravishankar Shukla University, Raipur.
- (2) Dr. Anindita Chakraborti, Professor, Department of Mathematics, Bhilai Institute of Technology, Durg.
- (3) Dr. S.K. Miri, Assistant Professor, Department of Computer Science, St. Thomas College, Bhilai
- (4) Dr. Rajesh Patel, Assistant Professor, Department of Mathematics, Bhilai Institute of Technology, Durg.
- (5) Dr. Chaitali Choudhary, Assistant Professor, Department of Computer Science, Bhilai Institute of Technology, Durg





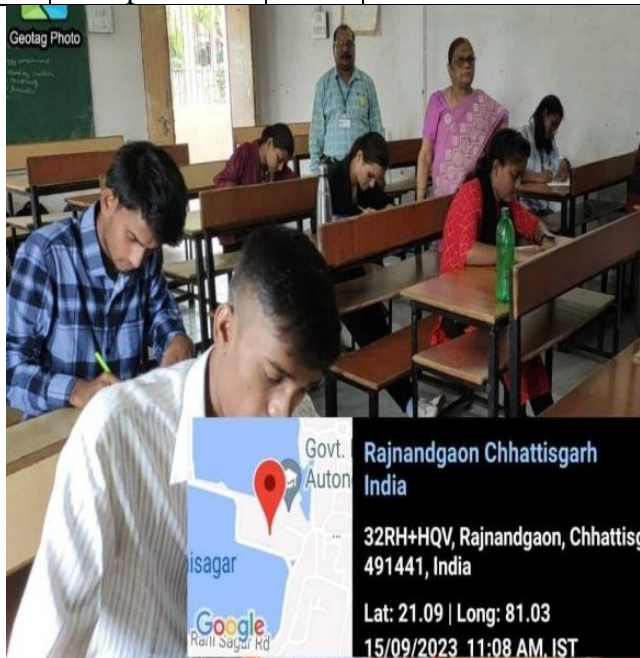
Celebration of Birth Anniversary of Visvesverya Sir:

The department has been celebrated Birth Anniversary of Visvesverya Sir on 15.09.2022. On this occasion, the department of Mathematics organizes various competitions such as Poster and Essay Competitions. These activities are conducted under MOU with Swami Swapooranand Mahavidyalaya, Hudco, Bhilai.

The winners of these competitions are as follows:

S. No.	Competition	Rank	Name of Winner	Class	College
1	Poster Competition	1	Ku. Deepa Sahu	B.Sc. III	Govt. Digvijay Autonomous P.G. College, Rajnandgaon
2	Poster Competition	1	Ku. Archi Bhagat	B.C.A. I Semester	Swami Swapooranand Mahavidyalaya, Hudco, Bhilai.
3	Poster	2	Ku. Pragati Sahu	B.Sc. III Semester	Govt. Digvijay Autonomous

	Competition				P.G. College, Rajnandgaon
4	Poster Competition	2	Ku. Sneha Jain	B.C.A. I Semester	Swami Swapooranand Mahavidyalaya, Hudco, Bhilai.
5	Poster Competition	3	Virendra Yadav	B.Sc. III Semester	Govt. Digvijay Autonomous P.G. College, Rajnandgaon
6	Poster Competition	3	Ku. Kamini Deshmukh	M.Sc. III Semester	Swami Swapooranand Mahavidyalaya, Hudco, Bhilai.
7	Essay Competition	1	Vinay Yadav	M.Sc. III Semester	Govt. Digvijay Autonomous P.G. College, Rajnandgaon
8	Essay Competition	1	Ku. Kamini Deshmukh	M.Sc. III Semester	Swami Swapooranand Mahavidyalaya, Hudco, Bhilai.
9	Essay Competition	2	Ku. Twinkle Sahu	B.Sc. III	Govt. Digvijay Autonomous P.G. College, Rajnandgaon
10	Essay Competition	2	Ku. Jyoti Jain	M.Sc. III Semester	Swami Swapooranand Mahavidyalaya, Hudco, Bhilai.
11	Essay Competition	3	Devendra Kumar Verma	M.Sc. III Semester	Govt. Digvijay Autonomous P.G. College, Rajnandgaon
12	Essay Competition	3	Ku. Garima Nishad	M.Sc. III Semester	Swami Swapooranand Mahavidyalaya, Hudco, Bhilai.





Govt. Digvijay Autonomous P.G. College , Rajanandgaon (C.G.)
&

Swami Shri Swaroopanand Saraswati Mahavidyalya, Hudco, Bhilai.


Jointly Organized

Celebrating Engineers Day on the Occasion of Birth Anniversary
of Mokshagundam Visvesvaraya

15th September, 2023

CERTIFICATE OF APPRECIATION

This certificate is awarded to Kumari Deepa Sahu for securing 1st place in **Poster/Essay Competition** During Celebrating Engineers Day on the theme of **Visvesvaraya Sir's Contributions in the Field of Engineering** organized by the Department of mathematics Govt. Digvijay Auto. PG. College, Rajnandgaon in Collaboration with Swami Shri Swaroopanand Saraswati Mahavidyalya, Hudco, Bhilai.


Dr. Shabnam Khan
HOD, Mathematics


Dr. K.L. Tandekar
Principal

- **National Mathematics Day 2023:**

The department of Mathematics celebrated the National Mathematics Day 2023 on 30.01.2024 in the memory of great mathematician Srinivas Ramnujan.

On this occasion, the guest lecture of Dr. B.P.Tripathi, Assistant Professor, Department of Mathematics, Govt. Nagarjuna College of Science, Raipur is organized. He delivered his lecture on "General Survey to CSIR NET" and he told the question which are asked in NET/SET examination mainly focused on Real Analysis.



Dr. B.P.Tripathi delivering his lecture on “General Survey on NET/SET examination”



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

The student of the department has arranged the program on Teacher's day on 05.09.2023 on the occasion of birth anniversary of Sarvepalli Radhakrishnan.



Mathematics Association:

On 05.09.2023, 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. K.L. Tandekar, Principal of Govt. Digvijay Autonomous P.G. College, Rajnandgaon. The following students are selected as

- | | |
|----------------------|---|
| 1. President – | Rahul Kumar (M.Sc. Third Semester) |
| 2. Vice President – | Bhupendra Kumar (M.Sc. First Semester) |
| 3. Secretary – | Ku. Bhavna Verma (M.Sc. Third Semester) |
| 4. Joint Secretary – | Himanshu Sahu (M.Sc. First Semester) |



Plantation:

The department of Mathematics has done on 18.07.2023 in the garden of Srijan Samvad.



Math-LAB Visit:

- (a) The students of Wesleyan Hindi Medium School, Rajnandgaon visited MATH-LAB on 23.09.2023.



- (b) The students of Govt. Dr B.S.B.A. College, Dongargaon visited MATH-LAB on 11.10.2023.



- (c) The students of Govt. P.G. College, Balod visited MATH-LAB on 12.10.2023.



- (d) The students of Govt. Kamla Devi Rathi Girls PG College, Rajnandgaon visited MATH-LAB on 13.10.2023.



Group Discussion:

- (a) The **Group discussion** organized by Dr. K.K. Dewangan, Assistant Professor of Mathematics Department for M.Sc.. First Semester on 09.09.2023.





(b) The **Group discussion** organized by Dr. Shabnam Khan, HoD and Professor of Mathematics Department for M.Sc. Third Semester on 28.10.2023.



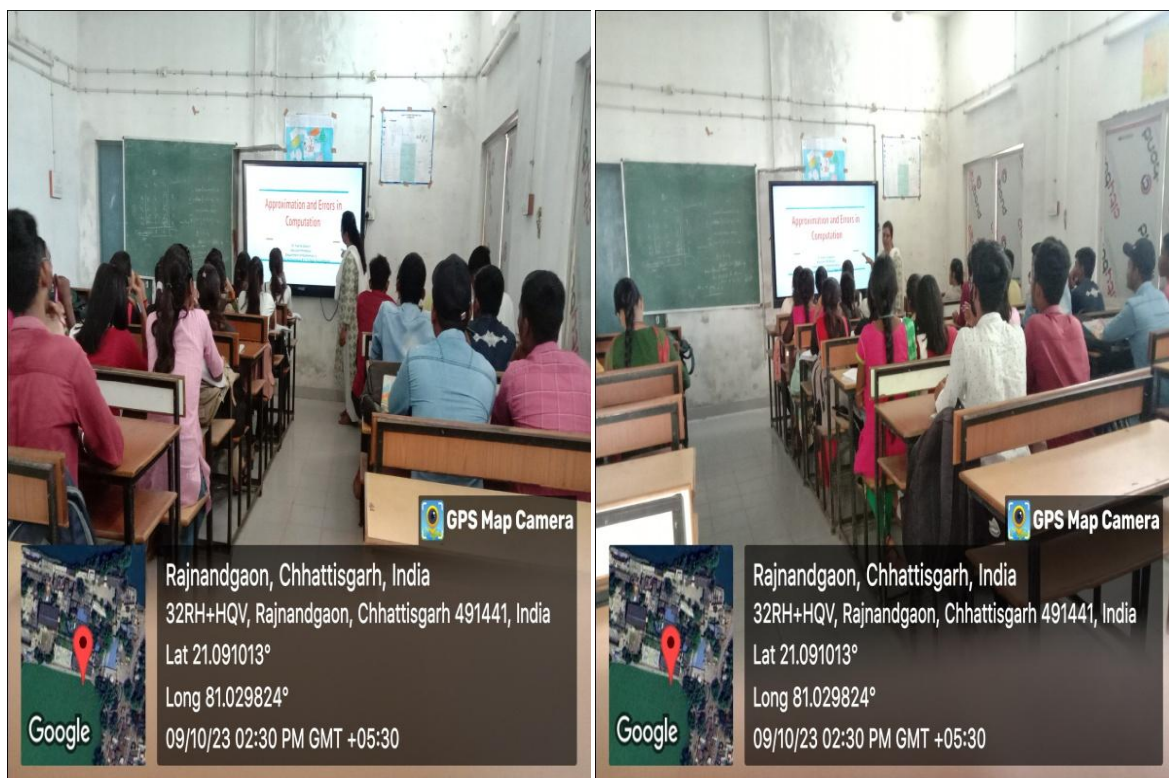
Lectures delivered using ICT tools:

- (a) Dr. Shabnam Khan, HoD and Professor of Mathematics Department has delivered lecture using ICT tool.



- (b) Dr. Kavita Sakure, Assistant Professor of Mathematics Department has delivered lecture using ICT tool.





• **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)	02	01	02	00	05
2	Dr. Kailash Kumar Dewangan	Assistant Professor	M.Sc. (Mathematics) Ph.D. (Mathematics)	02	00	03	00	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)	08	01	02	01	12

5	Mr. Ravi Sonkar	Guest Lecturer	M.Sc. (Mathematics) M. Phil. (Mathematics)	07	00	00	00	07
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• 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

• Seminar/Workshop/Conference attended

- (1) Participated in the National Webinar on “Dimensions of Skill-Based Learning and Employability-NEP 2020” on 24 August 2023 sponsored by Department of Higher Education, Madhya Pradesh and organized by Govt. College, Junnardeo, Chhindwara, Madhya Pradesh.
- (2) Participated in On Week National Workshop on “Trendy Trends and Technologies” from 24 November to 1 October 2023 organized by Department of Computer Science and Computer Application of Govt. Digvijay College, Rajnandgaon

• Program Organized

- (1) Convener in Value Added Certificate Course “Scientific Writing using LATEX” during 01 September to 22 September 2023 organized by Department of Mathematics Govt. Digvijay College, Rajnandgaon

• Invite Lecture

- (1) Delivered guest lecture on **Integration Theory and Functional Analysis** on 05.12.2023 in Govt. W.W. Patankar Girls College, Durg under MOU.
- (2) Delivered guest lecture on **Normed Linear Sapce** on 11.12.2023 in Govt. Nehru P.G. College, Dongargarh under MOU.

• Paper Presented

- (1) “Indian Knowledge System and National Education Policy 2020” in the 3 Days National Conference on Multidisciplinary Research in Indian Knowledge System and National Education Policy 2020 held on 30-31 October 2023 organized by Govt. Digvijay Autonomous PG College, Rajnandgaon and Social Science and Management Welfare Association.

- **Faculty Development Programme**

- (1) Participated in One Week Faculty Development Programme on “Introductory Training for Government Servants” during 01-08 August 2023 organized jointly by Human Resource Development Cell and Internal Quality Assurance Cell of Govt. Digvijay Autonomous P.G. College, Rajnandgaon.

- **Minor Research Project**

1. Principle Investigator of Minor Research Project entitled “Approximation of Fixed Points in Hyperbolic Spaces” of Autonomous examination Cell, Govt. Digvijay Autonomous P.G. College, Rajnandgaon (Ongoing)

- **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

- **Seminar/Workshop/Conference attended**

1. Participated in Workshop on Mentoring of HE’s Towards Accreditation (NAAC/ NBA) from 22 December to 23 December 2023 organized by Corporate Training and Consultancy Division, Kalinga University, Naya Raipur, Chhattisgarh

- **Program Organized**

1. Co-Convener in Value Added Certificate Course “Scientific Writing using LATEX” during 01 September to 22 September 2023 organized by Department of Mathematics Govt. Digvijay College, Rajnandgaon

- **Faculty Development Programme**

- (1) Participated in One Week Faculty Development Programme on “Introductory Training for Government Servants” during 01-08 August 2023 organized jointly by Human Resource Development Cell and Internal Quality Assurance Cell of Govt. Digvijay Autonomous P.G. College, Rajnandgaon.

- **Invite Lecture**

- (1) Delivered guest lecture on **Mathematics in Competitive Examination** on 12.12.2023 in Govt. B.S.B.A. College, Dongargaon under MOU.
- (2) Delivered guest lecture on **Normed Linear Space** on 11.12.2023 in Govt. Nehru P.G. College, Dongargarh under MOU.

- **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.

- **Program Organized**

- (1) Course coordinator of Value Added Certificate Course “Scientific Writing using LATEX” during 1 September 2023 to 22 September 2023 organized by Department of Mathematics, Govt. Digvijay Auto. P.G. College, Rajnandgaon

- **Paper Published**

- (1) Hemant Kumar Sao, Iti Sao and Prachi Singh, Reliability Modeling and Analysis of an Industrial System with one Main Unit with Two Subunits, International Journal of Science and Research, 12(12) (2023), 1745-1749.

- **Faculty Development Programme**

- (1) Participated in One Week Faculty Development Programme on “Introductory Training for Government Servants” during 01-08 August 2023 organized jointly by Human Resource Development Cell and Internal Quality Assurance Cell of Govt. Digvijay Autonomous P.G. College, Rajnandgaon.
- (2) Participated in Online One Week Faculty Development Programme on “National Education Policy-2020” during 03-09 October 2023 organized by Teaching and Learning Centre, Ramanujan College, University of Delhi under the Aegis of Ministry of Education, Pandit Madan Mohan Malviya National Mission on Teachers and Teaching in collaboration with Cosmopolitan’s Valia Chhaganlal Laljibhai College of Commerce and Lilavantiben Chhaganlal College of Arts

- **Seminar/Workshop/Conference attended**

- (1) Participated in UGC sponsored “Online Workshop on NEP 2020: Curriculum and Credit Framework for Undergraduate Programmes” on 30 November 2023 organized by UGC- Human Resource Development Centre, Gujarat University, Ahmedabad.

- **Refresher Course**

- (1) Participated in Refresher Course on Mathematical and Computational Techniques for Real World Problems (Interdisciplinary) from 04 December to 16 December 2023 organized by Human Resource Development Centre of Guru Ghasidas Vishwavidyalaya, Bilaspur

• **Dr. Kavita Sakure**

• **Different Committees Member**

- (1) Assistant Controller of Autonomous Examination Cell of Govt. Digvijay Auto. P.G. College, Rajnandgaon
- (2) Member of Internal Quality Assurance Cell of Govt. Digvijay Auto. P.G. College, Rajnandgaon.

• **Seminar/Workshop/Conference/Webinar attended**

- (1) Participated in First One Week Workshop on Research Oriented Technical Writing (ROTW-2023) from 04 July to 08 July 2023 organized by Department of Electrical Engineering, National Institute of Technology, Jamshedpur, Jharkhand
- (2) Participated in Three Days Online Workshop on “LaTeX and R” from 20 October to 22 October 2023 organized by Department of Mathematics under the aegis of IQAC, Atma Ram Sanatan Dharma College, University of Delhi.
- (3) Participated in Five Days International Workshop on Recent Advances in Differential Equations and Application (IWRADAE) from 27 October to 31 October 2023 organized by Department of Mathematics, School of Advances Science, Vellore Institute of Technology, Andhra Pradesh
- (4) Participated in Workshop on Mentoring of HE’s Towards Accreditation (NAAC/NBA) from 22 December to 23 December 2023 organized by Corporate Training and Consultancy Division, Kalinga University, Naya Raipur, Chhattisgarh
- (5) Participated in Seven Days National Workshop on “Research Methodology: Fundamental and Practices” from 24 July to 30 July 2023 organized by Research Promotion Committee and Internal Quality Assurance Cell of Govt. Digvijay Auto. P.G. College, Rajnandgaon, Chhattisgarh
- (6) Participated in One Week National Workshop on “Trendy Trends and Technologies” from 24 November to 1 October 2023 organized by Department of Computer Science and Computer Application of Govt. Digvijay College, Rajnandgaon

• **Faculty Development Programme**

- (1) Participated in Faculty Development Programme on “Recent Trends in Nutrition, Mental Health and Sports” during 12-19 October 2023 organized by Department of Home Science in Association with Internal Quality Assurance Cell, Govt. Kamladevi Rathi Girls P.G. College, Rajnandgaon, Chhattisgarh.
- (2) Participated in One Week Faculty Development Programme on “Introductory Training for Government Servants” during 01-08 August 2023 organized jointly by Human

- **Program Organized**

- (1) Course coordinator of Value Added Certificate Course “Scientific Writing using LATEX” during 1 September 2023 to 22 September 2023 organized by Department of Mathematics, Govt. Digvijay Auto. P.G. College, Rajnandgaon

- **Paper Presented**

- (1) Fixed point theorems for generalized nonexpansive mappings via SPK iterative algorithms in International Conference on Recent Trends in Mathematics, Statistics and Engineering (ICRTMSE 2023) during 22-23 December 2023 organize by School of Technology, Management and Engineering, SVKM’s NMIMS (Deemed to be University), Indore, Madhya Pradesh, India

- **Invited Talk**

- (1) Delivered guest lecture on **Separation Axioms: Concepts and Applications** on 11.12.2023 in Kalyan P.G. College, Bhilai Nagar, Durg under MOU.

- **Minor Research Project**

- (1) Co-investigator of Minor Research Project entitled “Approximation of Fixed Points in Hyperbolic Spaces” of Autonomous examination Cell, Govt. Digvijay Autonomous P.G. College, Rajnandgaon (Completed)

- **Paper Published**

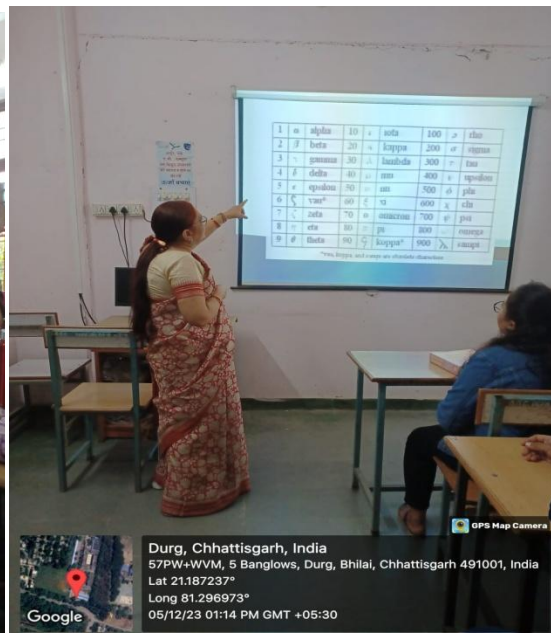
- (1) Samir Dashputre, Padmavati, Kavita Sakure, Convergence results for Picard Normal S-iterative algorithm with applications, Palestine Journal of Mathematics, 12 (Special Issue IV) (2023), 73-85. (**Scopus indexed Journal**)

- **Interdisciplinary Lecture**

- (1) Delivered Lecture on “Analytic Function” in Department of Physics, Govt. Digvijay Auto. P.G. College, Rajnandgaon on 18.10.2023

Faculty Members as Resource Persons:

- (a) Dr. Shabnam Khan delivered guest lecture on **Integration Theory and Functional Analysis** on 05.12.2023 in Govt. W.W. Patankar Girls College, Durg under MOU.



- (b) Dr. Shabnam Khan delivered guest lecture on **Normed Linear Sapce** on 11.12.2023 in Govt. Nehru P.G. College, Dongargarh under MOU.



- (c) Dr. K.K. Dewangan delivered guest lecture on **Mathematics in Competitive Examination** on 12.12.2023 in Govt. B.S.B.A. College, Dongargaon under MOU.



- (d) Dr. Kavita Sakure delivered guest lecture on **Separation Axioms: Concepts and Applications** on 11.12.2023 in Kalyan P.G. College, Bhilai Nagar, Durg under MOU.



• 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

Result Analysis Session 2022-23 B.Sc. (Mathematics)

S. No.	Class	Passing Percentage			Total Pass %
		Paper I	Paper II	Paper III	
1	B.Sc. I Sem.	44.86% (DSC)			44.86%
2	B.Sc. II Sem.	89.32% (DSC)			89.32%
3	B.Sc. Part II	97.07%	97.07%	97.07%	97.07%
4	B.Sc. Part III	99.40%	99.40%	99.40%	99.40%

M.Sc. (Mathematics)

S. No.	Class	Passing Percentage					Total Pass %
		Paper I	Paper II	Paper III	Paper IV	Paper V	
1`	M.Sc. I Sem.	100%	93.61%	100%	100%	95.74%	93.61%
2	M.Sc. II Sem.	95.74%	87.23%	93.61%	95.74%	93.61%	87.23%
3	M.Sc. III Sem.	100%	91.83%	100%	97.87%	100%	91.83%
4	M.Sc. IV Sem.	87.71%	83.67%	95.91%	93.87%	95.91%	83.67%

Overall Result

S. No.	Class	U.G/P.G Total No. Students Appeared	Total Passed	Pass %
1.	B.Sc. I Semester	243	109	94.77%
2.	B.Sc. II Semester	178	159	89.32%
3.	B.Sc. Part II	171	166	97.07%
4.	B.Sc. Part III	168	167	99.40%
5.	M.Sc. I Semester	47	44	93.61%
6.	M.Sc. II Semester	47	41	87.23%
7.	M.Sc. III Semester	49	45	91.83%
8.	M.Sc. IV Semester	49	41	83.67%

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

- **Ku. Prakshi Nayak** (Batch 2018-19) is appointed as Lecturer (Mathematics) in 2023.
- **Ku. Hansmani** (Batch 2018-19) is appointed as Lecturer (Mathematics) in 2023.
- **Rubam Dewangan** (Batch 2018-19) is appointed as Lecturer (Mathematics) in 2023.
- **Chandan Sahu** (Batch 2019-20) qualified MPSET in 2024 and CSIR NET June 2023.
- **Devendra Kumar Dewangan**, M.Sc. Third Semester is selected to represent Hemchand Yadav Vishwavidyalaya, Durg, Chhattisgarh Team in East Zone Inter University Chess (Men) Team 2023-24 to be held at University of Science and Technology, Meghalaya from 08.01.2024 to 11.01.2024.



- **Ravi Dewangan**, M.Sc. First Semester is selected to represent Hemchand Yadav Vishwavidyalaya, Durg, Chhattisgarh Team in East Zone Inter University Chess (Men) Team 2023-24 to be held at University of Science and Technology, Meghalaya from 08.01.2024 to 11.01.2024.
- **Ku. Pragati Sahu** secured third position in Quiz Competition (Cash Prize Rs 300/-) held on 15.01.2024 organized by Govt. Kamla Devi Rathi Girls College, Rajnandgaon in National Workshop on Emerging Trends in Mathematics sponsored by Chhattisgarh Council of Science and Technology, Raipur.
- Ku. Deepa Sahu, B.Sc. Part III secured first position, Ku. Pragati Sahu B.Sc. III Semester secured second position, Virendra Yadav, B.Sc. Part III secured third position in poster competition organized by Department of Mathematics on the occasion of Birth Anniversary of Visvesverya Sir.
- Vinay Yadav, M.Sc. Third semester secured first position, Ku. Twinkle Sahu, B.Sc. Part III and Sanjay Meshram, B.Sc. III and Devendra Kumar Dewangan, M.Sc. Third semester secured third position in essay competition organized by Department of Mathematics on the occasion of Birth Anniversary of Visvesverya Sir.

• 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 organized Value Added Course on “Scientific Writing using LATEX” of 30 hrs.
 - The department of Mathematics established Computer Lab for Mathematics Students.
 - The Department of Mathematics celebrated Birth Anniversary of Visvesverya Sir on 15.09.2023. 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.





- 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.