

SCHOOL OF SCIENCE O.P. JINDAL UNIVERSITY, RAIGARH

QUARTERLY REPORT

October - December 2024

*Knowledge
forLife*

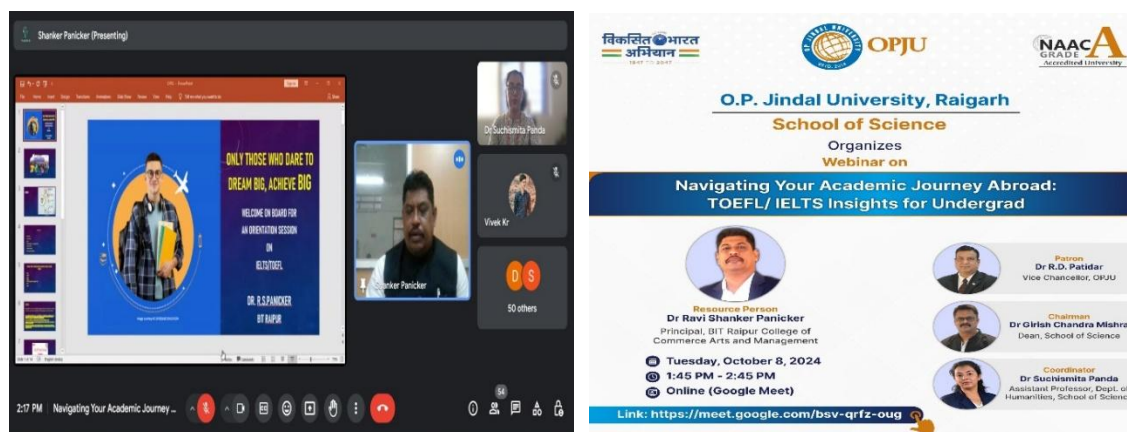


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Guest lecture/ Expert Talk Organized

- The School of Science organized a webinar on “Navigating your Academic Journey Abroad: TOEFL/ IELTS Insights for Undergrads” on 8th October 2024. The resource person for the webinar was Dr. Ravi Shankar Panicker, Principle, BIT Raipur college of Commerce Arts and Management.



- The School of Science organized an expert session on “Understanding the Need for and Importance of Learning Indian Knowledge System” on 9th October 2024. The resource person for the webinar was Dr. Jayshree Aanand Gajjam, Assistant Professor, IIT Kharagpur.

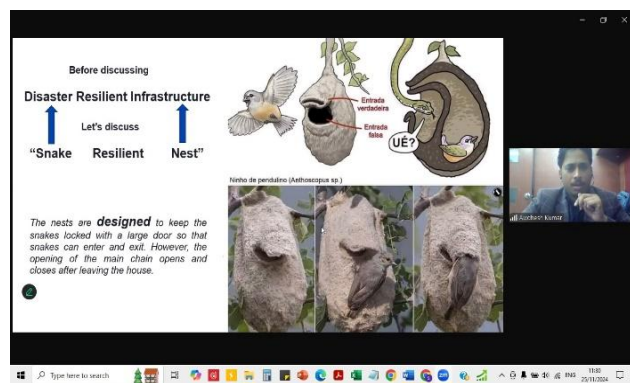


- A special lecture session on “Scholarship and Internship Opportunities for Undergraduate Science Students” was organized for the students of 3rd and 5th semester students of SoS on 14th Nov. 2024. Dr. Taniya Sengupta Rathore delivered the session, and it was coordinated by Dr. Arindam Patra.
- The Department of Mathematics, School of Science organised a Value-Added Course on “Quantitative Aptitude” from 6th - 22nd November 2024. Around hundred students from the various departments of School of Science actively participated in this thirty-hour course. There were total ten sessions held on various relevant topics for the benefit of the participants. Details of the sessions and the resources are mentioned below.

Sr. No.	Name	Institution Name	Date
1	Dr. Sanjeev Anand Sahu Associate Professor Department of Mathematics & Computing	IIT (ISM), Dhanbad	Day 1 (6/11/2024)
2	Dr. Gopal K. Rathore Associate Professor (Finance) School of Management	O.P. Jindal University, Raigarh	Day 2 (7/11/2024)
3	Dr. Ravindra Singh Saluja Associate Professor Department of Mechanical Engineering School of Engineering	O.P. Jindal University, Raigarh	Day 3 (8/11/2024)
4	Dr. Deepak Patel Assistant Professor Department of Metallurgical Engineering School of Engineering	O.P. Jindal University, Raigarh	Day 4 (11/11/2024)
5	Dr. Saroj Kumar Sr. Assistant Professor Department of Mechanical Engineering School of Engineering	O.P. Jindal University, Raigarh	Day 5 (12/11/2024)
6	Dr. Tusar Parida Associate Professor Basic Sciences and Humanities	Silicon University, Bhubaneswar, Odisha	Day 6 (14/11/2024)
7	Dr. Trinath Talapaneni Sr. Assistant Professor Department of Metallurgical Engineering School of Engineering	O.P. Jindal University, Raigarh	Day 7 (19/11/2024)
8	Dr. Jaya Prakash Rath Associate Professor Head of UG Program School of Management	O.P. Jindal University, Raigarh	Day 8 (20/11/2024)
9	Dr. Debasis Mohanty Sr. Assistant Professor School of Management	O.P. Jindal University, Raigarh	Day 9 (21/11/2024)
10	Dr. Deepak Patel Assistant Professor Department of Metallurgical Engineering School of Engineering	O.P. Jindal University, Raigarh	Day 10 (22/11/2024)



- The School of Science in association with the School of Management Organised a Guest lecture session on “Principle of Disaster Resilient Infrastructure Design and Construction” on 25th November 2024. Er. Awdhesh Kumar, Head of Department of Civil Engineering, Invertis University was the Resource person.



- The Department of Biotechnology, School of Science organized a guest lecture on “Environmental Issues & Solutions” on 16th December 2024. The speaker was Dr Renu Kujur, Assistant Professor, Department of Zoology, Govt. College Gharghoda, Raigarh (CG).



- The Department of Mathematics, School of Science organised a guest lecture on “Career Prospects in Mathematics” on 16th December 2024. The speaker was Prof. Madan Kumar

Patel, Assistant Professor, Department of Mathematics, K.G. Arts and Science College, Raigarh (CG).

- The Department of Chemistry, School of Science organised a guest lecture on “Key Components of a Seminar Report and Presentation” on 20th December 2024. The speaker was Dr Saroj Kumar, Assistant Professor, Department of Chemistry, Govt. College, Pussore, Raigarh (CG).
- The Department of Biotechnology, School of Science organized a guest lecture on “Career Path of the Bioentrepreneur” on 24th December 2024. Mr. Bhagwat Puri, Supervisor R&D Biotech, VNR Seeds Pvt. Ltd. Raipur, (CG) was the resource person.
- The Department of Biotechnology, School of Science organized a guest lecture on “Herbal Plants & Human Health” on 27th December 2024. The speaker was Dr Sushma Patel, Assistant Professor, Department of Botany, K.G. Arts and Science College, Raigarh (CG).

**Department of Biotechnology
School of Science**
O.P. Jindal University, Raigarh C.G.
Organizes

Guest Lecture on
"Career Path of the Bioentrepreneur"

Resource Person:
Mr. Bhagwat Puri
Supervisor, R&D Biotech,
VNR SEEDS PVT. LTD., RAIPUR
CHATTISGARH

Coordinators:
Dr. Taniya Sengupta Rathore
Assoc. Professor, Dept. of Biotechnology, SoS, OPJU
Mr. Hemant Kumar
Lab Instructor, Dept. of Biotechnology, SoS, OPJU

24 December 2024

**Department of Biotechnology
School of Science**
O.P. Jindal University, Raigarh C.G.
Organizes

Guest Lecture on
"Herbal plants & Human Health"

Resource Person:
Dr. Sushma Patel
Assistant Professor
Dept. of Botany Kirodimal Govt.
Arts & Science College,
Raigarh

Coordinators:
Dr. Taniya Sengupta Rathore
Assoc. Professor, Dept. of Biotechnology, SoS, OPJU
Mr. Hemant Kumar
Lab Instructor, Dept. of Biotechnology, SoS, OPJU

27 December 2024

Research Activities

Book Chapter Publication

- Dr. R. S. Singh published the book chapter "Carbon Nanotubes Based Nanostructured Materials for Lithium-Ion Battery Applications: Recent Advances and Future Perspectives." Nanostructured Materials for Energy Storage 1 (2024): 191-223 (Wiley). <https://doi.org/10.1002/9783527838851.ch6>
- Dr. R. S. Singh published the book chapter "Electrospun Carbon Nanofibers Based Materials for Flexible Supercapacitors: A Comprehensive Review." Nanostructured Materials for Energy Storage 3 (2024): 1189-1218 (Wiley). <https://doi.org/10.1002/9783527838851.ch32>
- Dr. Swati Verma from department of Mathematics, school of Science published a book chapter titled "Digital Forensics: Using Blockchain in Cryptocurrency Investigations" (2024), 84-96 (Bentham Science). <https://benthambooks.com/book/9789815256833>
- Dr. Dipti Shukla from department of Physics, school of Science published a book chapter titled "Leading AI Applications in the Sustainable Energy Sector" in Routledge Taylor & Francis Group book “AI and Blockchain in Smart Grids Fundamentals, Methods, and Applications” (ISBN: 9781032812960)

Research Paper Publication

- Dr. R. S. Singh, Sr. Associate Professor of Physics, School of Science, published a research paper entitled “Solution-processable PEDOT: PSS/WS₂ nanocomposite electrodes for high-performance supercapacitors”, *Journal of Energy Storage*, Volume 103, Part B, 2024, 114348 (<https://doi.org/10.1016/j.est.2024.114348> (Impact Factor = 8.9))
- Ram Sevak Singh, Ram Dayal Patidar, Kalim Deshmukh, Anurag Gautam & Ashok Kumar, “Influence of CuO Layer on the Performance of Thin-Film Copper Indium Gallium Selenide Solar Cells: A Numerical Analysis”. *J. Electron. Mater.* 54, 609–619 (2025).
- Kavita Patel & Isha Verma “The Oil Extraction from Watermelon (*Citrullus Lanatus*) Seeds and Study Their Nutritional Values” *International Research Journal of Modernization in Engineering Technology and Science*, 6, 11 (2024)
- Kumari, Sneha, Pandey, Shivam & Aeshala, Leela & Kumar, Anuj & Singh, Sushant. (2024). Examining the Synergism of Cerium Oxide Nanoparticle – Andrographolide Conjugate and Studying its Potential Role Towards Antioxidative Therapeutics. Nanofabrication.
- Debasmita Samal and Manas Ranjan Mishra “EOQ and EPQ Models for Profit Maximization in the Analysis of Agro-Based Product Inventory Management” *International Educational Journal of Science and Engineering* Vol. 7, No. 11 (2024).
- Swati Verma, Khushboo Thakur and Priya Verma “Encrypting Message Using the Knapsack Cryptosystem Based on ElGamal”, *International Journal of Scientific Research in Science and Technology*, 11(6), 666-671 (2024).

Book Publication

- Dr Dipti Shukla, Associate Professor, Department of Physics, School of Science, OPJU published a book titled “Physics: Basics & Advanced Concepts”, Cirsp publication, September 2024 (ISBN- 13:978-81-979445-4-3)
- Dr Dipti Shukla, Associate Professor, Department of Physics, School of Science, OPJU published a book titled “Communication Electronics -II Principle and Applications” , Monika Bhandari Books, January 2024 (ISBN- 13:978-81-979755-0-9)
- Dr Dipti Shukla, Associate Professor, Department of Physics, School of Science published a book titled “Fundamental of Electronic Devices and Circuits” in Monica Bhandari publications. (ISBN-13: 978-9348271150)

Awards & Recognitions

- Dr. Arindam Patra, Assistant Professor and Dr. Suchismita Panda Assistant Professor, Department of Humanities, School of Science participated in the International Faculty Development Programme on “Navigating the Future: Innovations and Strategies in Teaching and Research”, organized by the Department of English, Kristu Jayanti College, Autonomous, Bengaluru, Karnataka, India from 26th September to 5th October, 2024.



- Dr. Arindam Patra from the department of Humanities, School of Science presented a Paper entitled “Exploring the Truth of Divinity with (in) out in Select Poems of Swami Vivekananda” Two-Day National Conference on the theme “Indian Ethos in English Writings” organized by the Department of English, School of Languages, Central University of Kashmir on 24th and 25th October 2024.
- Dr. Suchismita Panda from the department of Humanities, School of Science presented a Paper entitled “An Exploration of Feminism in Manisankar Mukherjee’s Thackery Mansion” Two-Day National Conference on the theme “Indian Ethos in English Writings” organized by the Department of English, School of Languages, Central University of Kashmir on 24th and 25th October 2024.
- Dr. Kavita Patel, Associate Professor from the Department of Chemistry, School of Science attended a one-day FDP on “Management and Leadership Skill for Modern Educator” organized by Upto Skills on 9th November 2024.
- Dr. Shubhashri Kumari, Assistant Professor, Department of Physics, School of Science presented a paper titled “A review on the role of image processing algorithms in dynamic speckle imaging analysis and their applications” in 2nd International Conference on Recent Trends in Applied Physics & Material Science organized by Bikaner Technical University, Bikaner during 15- 16 November 2024.
- Dr Swati Verma, Associate Professor, Department of Mathematics, School of Science attended a one-day FDP on “Machine Learning Application Enhancing Skills for Data-Driven Success” organized by Upto Skills on 21st December 2024

Outreach Activity

A Webinar Delivered on “Indian Knowledge System and Indic Philosophy”

- Dr. Arindam Patra from the department of Humanities, School of Science delivered a Webinar Session as a Resource Person on “Indian Knowledge System and Indic Philosophy” organized by Nucleus of Learning and Development (NLD) on 24th October 2024

NUCLEUS OF LEARNING AND DEVELOPMENT

Nucleus of Learning and Development brings webinar in IKS: Indian Knowledge Systems series on

Indian Knowledge System and Indic Philosophy

This Event Will Be Held On:

Thursday
24 October, 2024 11:00am to 12:00 noon

PLEASE NOTE

- Certificate of participation provided.
- Interaction with the Resource Person during session.
- Part of session shall be shared on youtube.

WhatsApp +91-9316324341

Resource Person
Dr Arindam Patra
Assistant Professor (English)
Dept. of Humanities,
O.P. Jindal University, Raigarh, C.G.

An Exposure Visit for 10+2 students of Jawahar Navodaya School, Bhupdeopur

- School of Science organized an exposure visit for 10+2 students of Jawahar Navodaya School Bhupdeopur on 21st November 2024.



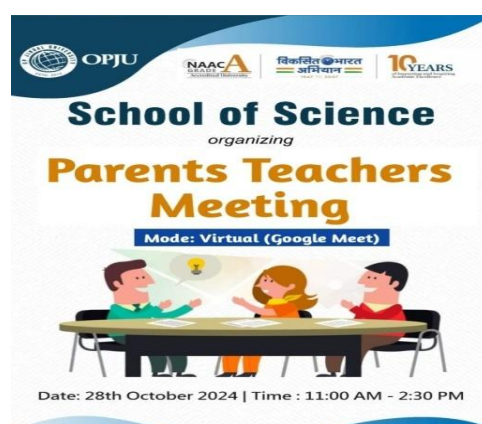
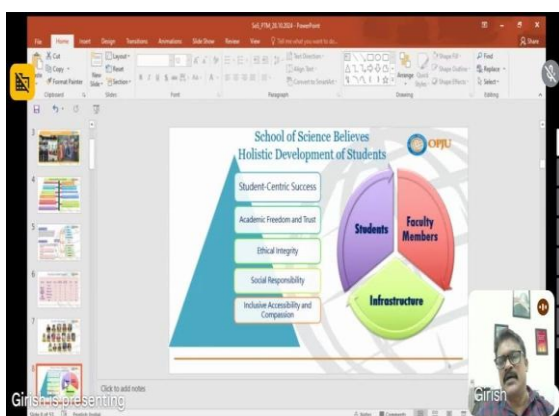
Guest Lectures Conducted at Govt. College, Gharghoda, Raigarh (C.G.)

- Dr Ankur Rastogi, Sr. Associate Professor and Dr Deepak Patel, Sr. Assistant Professor, Department of Chemistry, School of Science delivered guest lectures on topics “Spectroscopy” and “Coordination Chemistry” at Govt. College Gharghoda, Raigarh C.G. on 30th November 2024

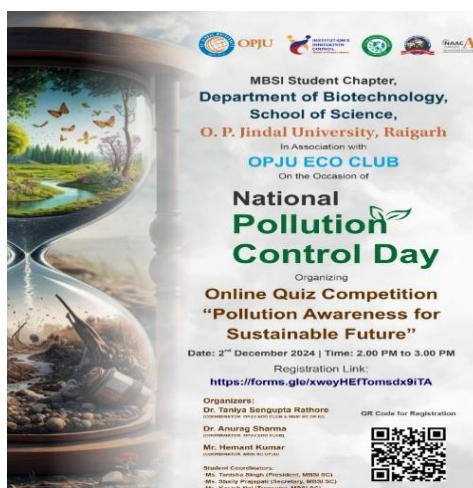


Co-Curricular Activities

- The School of Science organized a virtual Parent-Teacher Meeting (PTM) on 28th October 2024 in three sessions for 1st, 2nd, and 3rd-year students.



- MBSI Student Chapter, Department of Biotechnology, School of Science, O.P. Jindal University in association with OPJU Eco Club, on 2nd December 2024 organized online Quiz Competition on “Pollution awareness for Sustainable Future”.



- Two Mock Personal Interview and Interactive sessions were organized for the students of B.Sc. (Hons.) Physics, Chemistry, Mathematics, Biotechnology and DSA 3rd semester to foster an experiential learning as a part of the curriculum for the subject ‘Personality Development’, with the help and assistance of the Team CDC on 21 & 22 Nov. 2024.



- The School of Science has started organizing the special sessions on “English Language Proficiency and Communication Skills” for the purpose of improving the general English proficiency of the students across the departments of SoS. It is coordinated by Dr Arindam Patra and Dr Suchismita Panda.

Club Activity

- The School of Science in association with Technical Club (Tech X) organized a Quiz competition on “Ancient Mathematics” on 16th October 2024.
- The School of Science in association with Adventure Club (Prakram), organized a club activity “The Wacky Brain War” based on the theme of Knowledge game with fun activities, to promote and inculcate the ability of creative thinking, communication and presentation skills on 24th October 2024



- The Internal Complaints Committee (ICC) in association with the Social Empowerment Club organized a special lecture session on “Women’s Safety” on 12th November 2024. Dr Deepti Sharma, Associate Professor, School of Management was the Resource person.

- Cultural Club - Utsah, SoS organized an activity “Vividha” on 26th November 2024 (Theme– Folk Dancing and Folk Singing).

OPJU NAAC Grade A विकसित भारत अभियान

O. P. Jindal University, Raigarh
School of science
is going to organize cultural club activity on

विविधा

लोकनृत्य एवं लोकगायन

Date : 26th November 2024
Time : 11:00 AM to 1:00 PM
Venue : MP Hall
Last date of registration: 25th November 2024

Rules:

1. Participants must reach the venue before 10 minutes.
2. All the participants must register compulsory.
3. Only folk dance and folk song are allowed (any state).
4. Discipline should be maintained throughout the activity.
5. The winners and participants will be presented with trophies and certificates.

For Registration Visit the Link:
<https://shorturl.at/DK1tr>
or Scan this QR

Organized by : OPJU Cultural Club Utsah

- Photography Club -VIBGYOR, SoS organized an exhibition on 27th November 2024 of the photographs received for the contest.
- The Innovation and Entrepreneurship Club, School of Science, OP Jindal University organized *Profit Quest* on 21st - 22nd November 2024.



Student's Achievements

Oral Presentation by Students in the International Conference

- MSc 1st semester students- Mr. Amit Chatterjee & Ms. Kiran Rathore participated in Oral Presentation on “Mg complex of 8-hydroxyquinoline Organic phosphor for OLEDs: Synthesis, Characterization, Photoluminescence Studies & Thermodynamic stability” in 2nd International Multidisciplinary Conference organized by Shri Shankaracharya Professional University, Bilai, CG on 28- 29 November 2024.

Achievements in NPTEL Examination by SoS Students in the National Level

- 18 students of MSc 3rd Semester Chemistry successfully qualified NPTEL course "Quantum Chemistry of atoms and molecules" out of which 16 cleared with elite marks and Ms Preeti Nirmalkar was all India Topper.



NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
PREETI NIRMALKAR
for successfully completing the course

Quantum Chemistry of Atoms and Molecules

with a consolidated score of **82** %

Online Assignments	23.31/25	Proctored Exam	59/75
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Total number of candidates certified in this course: 41

Jul-Oct 2024
(12 week course)

Prof. Sridhar Iyer
Head CDEEP & NPTEL Coordinator
IIT Bombay

Indian Institute of Technology Bombay

Roll No: NPTEL24CY48S458300145

To verify the certificate

No. of credits recommended: 3 or 4



NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
DEVASHISH KUMAR MEHAR
for successfully completing the course

Solid State Physics

with a consolidated score of **81** %

Online Assignments	20.63/25	Proctored Exam	60/75
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Total number of candidates certified in this course: 95

Jul-Oct 2024
(12 week course)

Prof. Haimanti Banerji
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

Roll No: NPTEL24PH43S958300047

To verify the certificate

No. of credits recommended: 3 or 4

- 2 students of MSc 3rd semester Physics successfully qualified NPTEL course "Advanced Quantum Mechanics"
- 3 students of BSc (H) Physics successfully qualified NPTEL course "Solid State Physics", out of which 1 qualified with Elite marks and 1 remain all India topper.



- 3 students of MSc Mathematics successfully qualified NPTEL course "Mathematical Methods and its Applications".
- 4 students of BSc (H) Mathematics successfully qualified NPTEL course "A Basic Course in Number Theory"