

GALGOTIAS COLLEGE OF ENGINEERING AND TECHNOLOGY



THE EDGE

AN ANNUAL NEWSLETTER

DEPARTMENT OF APPLIED SCIENCES

The AS-NEWSLETTER is an annual newsletter of the Department of Applied Sciences, Galgotias College of Engineering and Technology, Greater Noida. It mirrors the activities/ events organized by the department and pinnacles the accomplishments of our students and faculties in research and other expanses during the academic session.

CHIEF EDITOR'S NOTE

Dear Readers,

It's indeed a great honor to be the Chief Editor of the Newsletter of Department of Applied Sciences, Galgotias College of Engineering and Technology and with immense pleasure we launch the first edition of "AS-Newsletter" for the session 2020-21.

In this issue, we recount the myriad activities and events in which the faculties, staff and students related to the Department were actively involved during the academic session of 2020 - 2021. Some of the areas covered in this issue will be the research and development and awards won by faculties and students, activities of committees and clubs of the department, recognition of our faculties and students by various organizations and the contribution of our department in the overall growth of our institution.

I am indebted to all the persons who contributed in the successful edition of this issue.

Last but not the least, I would like to thank our Honorable Chairman Shri Suneel Galgotia, Mr. Dhruv Galgotia, CEO, Dr. Brijesh Singh, Director-GCET and the Editor of this newsletter Dr. Ansar Anjum for everlasting support throughout the creation of this edition.

Professor (Dr) Rajesh Tripathi

EDITORIAL TEAM



Professor (Dr) RAJESH TRIPATHI CHIEF EDITOR



Dr PADAM SINGH TOMAR EDITOR

Dr ANSAR ANJUM EDITOR

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FROM THE HEAD OF DEPARTMENT

The department of Applied Science plays an important role in the core curriculum of the Institution. It oversees the teaching of the subjects Physics, Chemistry, Mathematics and Environmental Science to all courses of the Institution. The highly qualified faculty and staff members enthusiastically work together to prepare a new generation equipped with strong



quantitative and analytical skills to meet the competitive demands of the current job market. As the department is majorly associated with first year students therefore, special attention is given to familiarize them with environment of the institution and inculcate ethical learning practices in them. The department concentrates on the welfare of both the students and the faculty members. This is achieved by organizing seminars, special lectures, interactive activities and induction program for students and many Faculty Development Programs, Seminars and Conferences for faculty members. In addition to all the work, faculties also devote their time for research work in collaboration with the various research institutes.

VISION OF INSTITUTE

To be a leading educational institution recognized for excellence in engineering education and research producing globally competent and socially responsible technocrats.

MISSION OF INSTITUTE

- To provide state-of-art infrastructural facilities that support achieving academic excellence.
- To provide a work environment that is conducive for professional growth of faculty and staff.
- To collaborate with industry for achieving excellence in research, consultancy and entrepreneurship development.

VISION OF DEPARTMENT

To be a center of excellence in education in the field of physics, chemistry, mathematics and other related interdisciplinary sciences with ethical and social values.

MISSION OF DEPARTMENT

- To provide quality education by providing state of the art facility.
- To educate the students by giving them a blend of knowledge of applied and interdisciplinary sciences.
- To make students conscious of ethical and social values in pursuing their education and profession.

RESEARCH SECTION OF THE DEPARTMENT



Publications from the Department in Journals/ Conference Proceeding during 2020-21

- Bidyut Mallick, SARS-CoV-2 protein drug targets landscape: a potential pharmacological insight view for the new drug development, EXPERT REVIEW OF CLINICAL PHARMACOLOGY.
- 2. Bidyut Mallick, Evaluation of molecular interaction, physicochemical parameters and conserved pattern of SARS-CoV-2 Spike RBD and hACE2: in silico and molecular dynamics approach, European Review for Medical and Pharmacological Sciences, 2021.
- 3. Bidyut Mallick, Immunoinformatic approach to understand molecular interaction between multi-epitopic regions of SARS-CoV-2 spike-protein with TLR4/MD-2 complex, Infection, Genetics and Evolution.
- 4. Bidyut Mallick, PPARγ LBD and its ligand specificity reveal a selection of potential partial agonist: Molecular dynamics based T2D drug discovery initiative", Biocell.
- 5. Bidyut Mallick, Designing an effective therapeutic siRNA to silence RdRp gene of SARS-CoV-2" Infection, Genetics and Evolution.
- 6. Ansar Anjum, Indu Tyagi and Mohd. Kashif, COVID-19: Journey so far and Deep Insight Using Crowdsourced Data in India, MAPAN-Journal of Metrology Society of India.
- 7. Mohd. Kashif and Ansar Anjum, Synthesis, characterization, biological, and molecular docking assessment of bioactive 1,3-thiazolidin-4-ones fused with 1-(pyrimidin-2-yl)-1H-imidazol-4-yl) moieties, Journal of the Iranian Chemical Society.
- 8. Mohd. Kashif and Ansar Anjum, Chemical and electrochemical corrosion studies of ricinus communis oil-based poly(urethane-ricinoleamide) coatings, Journal of Physics: Conference Series.
- 9. Rajendra Prasad and Pratap Kumar, Active solar distillation technology: A wide overview, Desalination.
- Rajendra Prasad, Bulk viscous accelerating Universe in f(R, T) theory of gravity, Pramana –
 J. Phys.
- 11. Rajendra Prasad, Spectral Analysis of Nonlinearly Coupled Waves in the Solar Wind Plasmas, AIP Conference Proceeding.

RESEARCH SECTION OF THE DEPARTMENT

Publications from the Department in Journals/ Conference Proceeding during 2020-21

12 Rajendra Prasad, "Lyra's cosmology of homogeneous and isotropic universe in Brans-Dicke theory" Int. J. Geometric Methods in Modern Physics.

- 13. Rajendra Prasad, An exact solution of the observable universe in Bianchi V space-time" International Journal of Modern Physics A 36(6)
- 14. Rajendra Prasad and Pratap Kumar, "Energy matrices and enviroeconomical perspective of solar decontamination system" Materials Today: Proceedings Published (Elsevier).
- 15. Rajendra Prasad, Potable Water Production by Single Slope Active Solar Distillation Unit—A Review. Springer Nature Singapore Pte Ltd. 2021. R. Al Khaddar et al. (eds.), Advances in Energy and Environment, Lecture Notes in Civil Engineering 142.
- 16. Rajendra Prasad, Bianchi type I Universe: an extension of ∧CDM model" International Journal of Geometric Methods in Modern Physics, vol. 18(5), 2150069.
- 17. Dushyant Kumar, A fuzzy multi-criteria decision support for antivirus selection, AIP Conference Proceedings.
- 18. Virender Singh, Generalization of Multi-Variable Modified Hermite Matrix Polynomials and Its applications, Honam Mathematical Journal.
- 19. Virender Singh, Two variable modified Hermite matrix polynomials properties and its applications, AIP Conference Proceedings.
- 20. Gaurav Singh, A mini review on single slope solar desalination unit augmented with different types of collectors, Materials Today: Proceedings.
- 21. Gaurav Singh, Comparative investigation of double slope solar still by incorporating different types of collectors: A mini review, Materials Today: Proceedings.
- 22. Gaurav Singh, A review of inclusion of nanofluids on the attainment of different types of solar collectors, Materials Today: Proceedings.
- 23. Pankaj Pathania, Fano resonance-based blood plasma monitoring and sensing using plasmonic nano matryoshka. Plasmonics.
- 24. Rajeev Kumar Mishra and Rajesh Tripathi, Expression for the electrical efficiency of photovoltaic modules in different photovoltaic thermal (PVT) configurations. Materials Today: Proceedings.

RESEARCH SECTION OF THE DEPARTMENT

Publications from the Department in Journals/ Conference Proceeding during 2020-21

- 25. Rajeev Kumar Mishra, Rajesh Tripathi, Rajendra Prasad, Development of Characteristic Equation for Evacuated Tubular Collector Under Constant Collection Temperature Mode of Operation.
- 26. Rajeev Kumar Mishra, Effect of Packing Factor on the Electrical Performance of Semitransparent Photovoltaic Thermal (SPVT) System: An Experimental Approach Advances in Engineering Materials, Lecture Notes in Mechanical Engineering.
- 27. Pratap Kumar, Bipin Kumar Srivastava and Rajendra Prasad, Comparative Observation of Energy Matrix and Environ-economy for Solar Still Systems. Materials Today: Proceedings (Elsevier Science)
- 28. Smriti Dwivedi and Monika Malik, Synthesis and fungicidal activity of 4,4'-bis[N-(2"-aryl-5"-methyl/unsubstituted-4"-thiazolidinon-3"-yl) acetamidoxy] bibenzyl" Research Journal of Chemistry and Environment.
- 29. Bipin Kumar Srivastava and Pratap Kumar, Study of analytical observations on energy matrix for solar stills, Materials Today Proceedings.
- 30. Vinay Gautam, I-Valued multiset automata and I-valued multiset languages, New Mathematics and natural computation, 17 (1), 175-189.
- 31. Vinay Gautam, Subsystems and fuzzy relation equations of fuzzy automata based on generalized residual lattice, New Mathematics and natural computation.

RESEARCH SECTION OF THE DEPARTMENT

Conferences attended/ presented by faculties from the Department during 2020-21

Name of Faculty	Category of Conference	Details of Conference
Dr Rajendra Prasad	International	Conference on Future Learning Aspects of Mechanical Engineering organized by Department of Mechanical Engineering, Amity University, Noida, August 5-7(2020).
Dr Rajendra Prasad	International	Conference on Smart Materials: Application to Devices, organized by Kamla Nehru Mahavidyalaya, Nagpur
Dr Rajeev Kumar Mishra	International	The second international conference on Future Ilearning aspects of mechanical engineering (FLAME-2020), Organized by Amity University, Uttar Pradesh During August 5 - 7, 2020.
Dr Monika Malik	National	National Conference RTST-2020,Organised by Manav Rachna International Institute of Research andf Studies,Faridabad,Haryana on 21st November 2020
Dr Smriti Dwivedi	International	International Conference MICTAS -2020, organised by MIET Kumaon Halldwani,Uttrakhand on 5-6July 2020
Dr Smriti Dwivedi	National	National Conference RTST-2020, Organised by Manav Rachna International Institute of Research andf Studies,Faridabad,Haryana on 21st November 2020
Dr Smriti Dwivedi	International	International conference RAFAS 2021,Organised by School of Chemical Engineering and Physical Sciences,Lovely Professional University,Phagwara,Punjab,25- 26 June 2020-21

RESEARCH SECTION OF THE DEPARTMENT

Conferences attended/ presented by faculties from the Department during 2020-21

Name of Faculty	Category of Conference	Details of Conference
Dr Ansar Anjum	International	First International Conference on Advances in Physical Sciences and Materials, organized by SNS College of Technology Coimbatore, Tamil Nadu India. 2021
		Online Conference on recent trends in science & Technology by Manav Rachna Univ. 2020
Dr Anuradha Saha	National	Coursera Conference on Building world together. 2021
Dr Mohd. Kashif	International	First International Conference on Advances in Physical Sciences and Materials (ICAPSM), organized by SNS College of Technology Coimbatore, Tamil Nadu India. 2021
Dr Savita Verma	International	International conference on Sustainable Development: Modeling and Optimization by Operational Research Society of India. 2021

RESEARCH SECTION OF THE DEPARTMENT

FDP/ Workshop/ Seminars/ attended by faculties from the Department during 2020-21

Name of Faculty	Category (FDP/ Seminar/ Workshop)	Details of Conference
	FDP	Faculty Development Programme on "Research in Energy Technologies" organized by Department of Mechanical Engineering, Bharati Vidyapeeth (deemed to be university), college of engineering, Pune, July 6-11(2020).
	Training	Short Term Training Program "Multi-Scale Computational Fluid Dynamics: fundamentals and Applications" organized by the Department of Mechanical Engineering, Dr. B. R. Ambedkar National Institute of Technology Jalandhar, Punjab, India, September 21-25(2020).
	FDP	Faculty Development Programme on "Nascent Methodologies, Challenges and Realms of Research" organized by Department of Electronics and Communication Engineering, Delhi Technological University, Delhi, India, October 03-07(2020).
Dr Rajendra prasad	Seminar	Seminar on National Education Policy 2020: A Gateway to Academic Excellence, organized by Galgotias University, Greater Noida, February, 17-18(2021).
	Seminar	Two day National Seminar on "Environmental Protection and Indian Culture" Sponsored by Department of Higher Education Govt. of Uttar Pradesh, Lucknow and organized by Department of Physics & Geography, Dr B R A Govt. Degree College, Maharajganj, U P, 25-26, March (2021).
	Workshop	Two day workshop on Outcome-Based Education (OBE) and National Assessment and Accreditation Council (NAAC), organized by Maharashtra Institute of Technology, Aurangabad, 14-15 March (2021)
	Training	One week Online Short-Term Training Program on "Advances in Mechanical Engineering for Sustainability" Organized by Department of Mechanical Engineering, Engineering College Bikaner from 27 - 31 May, 2021.
Dr Rajesh Tripathi	Webinar	Webinar on "National Education policy 2020: Role of Teachers- Knowledge, Responsibility and Challenges" on 27th June 2021, webinar on "Plastic Management & Recycling on 30th June 2021

CURRICULAR SECTION OF THE DEPARTMENT





The Green Environment Club of the Department organized a national webinar on *"Plastic Management & Recycling*" on June 30, 2021 graced by Mrs Madhubala Sharma, Mr Shubham Tripathi, Bisleri International Pvt. Ltd. and Mr Nitin Srivastava of Shayna Eco unified India Pvt. Ltd.

A profound awareness was given about the pollution caused due to disposal of huge amount of plastic and its management. The efforts of Bisleri on plastic management were also mentioned and the awareness of "Bottles for change" app that can be downloaded on mobile phones and through which volunteers from Bisleri collect the waste plastics from the offices or homes for recycling.

The webinar was conducted under the guidance of Professor (Dr) Brijesh Singh, Director GCET and was convened and organized by Dr Rajesh Tripathi (Head, Dept. of Applied Sciences) and Dr Bipin Kr. Srivastava. The coordinators of webinar were Dr Monika Malik and Dr Anuradha Saha.

CURRICULAR SECTION OF THE DEPARTMENT





A webinar on "National Education Policy 2020 (NEP 2020) was organized on June 27, 2021. The eminent speaker of the webinar was Professor (Dr) Abhay Kumar, Vice-Chancellor of Pratap University.

During the webinar, participants were made aware of the salient features of NEP. The webinar highlighted the role of teachers as a great facilitator and also focused on Academic Bank of Credits (ABC) proposed in NEP that offers flexibility among students in upcoming National education Policy 2020.

The faculty members of various colleges and universities and students of GCET participated in the webinar.

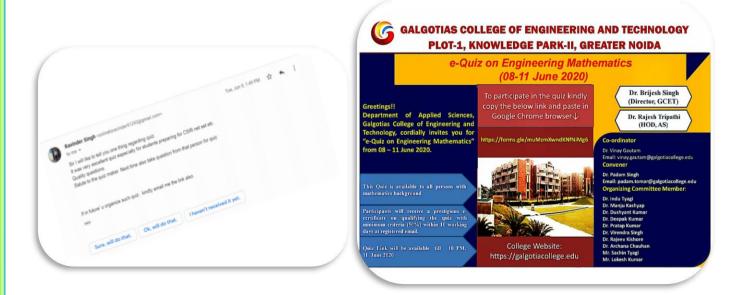
The webinar was convened by Dr Rajesh Tripathi (Head, Dept. of Applied Sciences) and organized Dr Bipin Kumar Srivastava. The coordinators of webinar were Dr Monika Malik and Dr Anuradha Saha.



A National Webinar on "Tourism in Space: A Mathematical Overview" was organized on September 03, 2020. The eminent speakers were Professor M. Xavier James Raj, Vikram Sarabhai Space Centre, ISRO and Dr Ram Kishor, Central University of Rajasthan, Ajmer, Rajasthan (INDIA).

The webinar covered different mathematical and technical aspects of the dynamics of spacecraft/satellite in space, basics of classical problems of the celestial mechanics and also worked in motivation of faculties and young researchers to explore their ideas on realistic models so as to make them capable of exploring their ideas on realistic models that may address the dynamics of a satellite in space via results of mechanics, methods of mathematics and tools of computer science.

The webinar was convened and organized by Dr Rajesh Tripathi (Head, Dept. of Applied Sciences) and Dr Vinay Gautam. The coordinator of webinar was Dr Padam Singh Tomar.



An e-quiz was organized on "Engineering Mathematics" from June 08-11, 2020. The Quiz Contained 25 questions from the area of Engineering Mathematics.

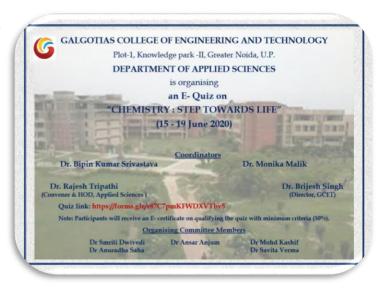
The quiz helped the students to make a qualitative as well as quantitative assessment of their knowledge so as to give them an idea of how well they are grasping the material and at the same The quiz helped the students to make a qualitative as well as quantitative assessment of their knowledge so as to give them an idea of how well they are grasping the material and at the same time helping them allocate their study time effectively by focusing on the information that still needs more practice. It proved to be of huge help for students preparing for their Examination/competitive examination.

About 1500 candidates from various colleges and universities of different states of India enrolled and responded to the questions, out of which only 957 candidates got minimum (50%) marks.

The activity was convened by Dr Padam Singh Tomar. The coordinator of webinar was Dr Vinay Gautam.

An e-QUIZ was conducted on "Chemistry: step towards life" by the Department of Applied Sciences, GCET during 15-19 June 2020. The quiz helped the students to assess their knowledge in the field of chemistry and keep them aware of the latest developments around. It proved to be of huge help for students preparing for their Examination/ competitive examination.

The event was organized under convenership of Dr. Rajesh Tripathi. The coordinator of quiz was Dr Bipin Kumar Srivastava and Dr Monika Malik. A link was given to participate in this knowledgeable event and E-certificate was issued to the winners on their email. There were 900 participants registered for the quiz.





A webinar on "Synthetic Chemists and our Society" was organized on June 11, 2020. Speaker of the webinar was Dr. Vinod Kumar Tripathi, Banaras Hindu University.

It mainly focused on different organic compounds and its relationship with human behavior. The key findings of webinar were that Synthetic chemist have great role for making our life easy, healthy and pleasant and Carbohydrate-containing molecules have been recognized as an attractive Scaffold in Drug Discovery and Development and diverse simple to complex glycoconjugates including glycodendrimers of wide application using chemistry.

The convener of the event was Dr. Rajesh Tripathi (Head, Dept. of Applied sciences) and coordinated by Dr. Smriti Dwivedi



A webinar was conducted on "Exploring happiness- A holistic perspective" on July 13, 2020. The eminent speaker for the webinar was professor Pankaj Munjal. The speaker focused on universal human values and its importance in exploring happiness and how a Holistic approach can bring a great change in the personality of students. He also discussed the difference between competence & excellence. How harmony within the individual is related to harmony in nature.

The webinar was convened and organized by Dr Rajesh Tripathi (Head, Dept. of Applied Sciences) and Dr Bipin Kumar Srivastava respectively. The coordinators of webinar were Dr Monika Malik and Dr Anuradha Saha.

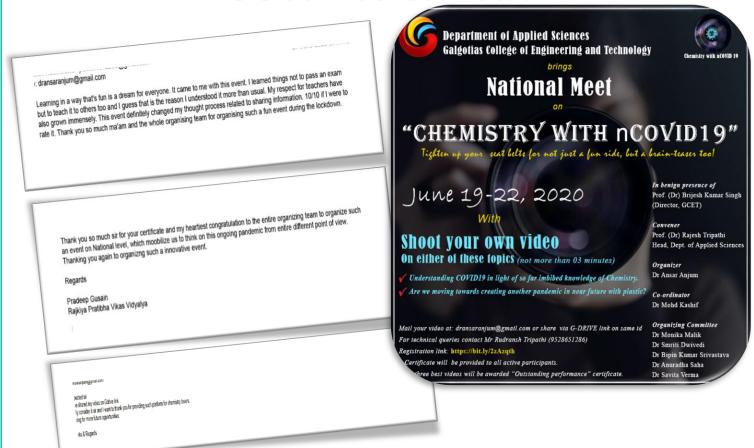
A Webinar was organized on "Introduction to Patents & Self-automated Patent drafting" on May 09, 2020. The eminent speaker was Mr. Rajarshi Dasgupta from registered patents and trademarks attorney, consultant-intellectual property.

The webinar focused mainly on the introduction to patents and providing information of how to Patent your idea, assignment projects and publications-first protect your idea and then do the technology. An awareness on the Pateomatic-A self-automated tool was also provided that enables to draft ones' patent applications themselves and thereby the patent specification is sent to ones' inbox immediately.

The webinar was successful in not only getting the defined objectives but also in motivating the participants to go for patenting of their work.



COVID-19 SPECIAL



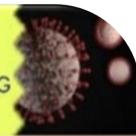
A National Meet on "Chemistry with COVID-19" was organized during June 19-22, 2020. The event was on a new online platform for the first time in the history of Galgotias College of Engineering and Technology in which the participants had to prepare/shoot their own video (of not more than 03 minutes) on either of these topics and explain their experience towards Understanding this pandemic in the light of their so far imbibed knowledge of chemistry. Or Are we moving towards creating another pandemic in near future by extensive use of plastic today?

The participants enthusiastically contributed through their self-prepared video and explained the chemistry with pandemic, its precautions, remediation and the associated upcoming disaster due to extensive use of polythene in their own effective and interesting way. The students came forward in the front-line through this event to learn and contribute their share to the society in their own way that shall reach the masses. The videos of first three outstanding performers with the best videos selected through the panel of judges were posted on YouTube channel of the institution.

The event was held under convene ship of Dr Rajesh Tripathi and Dr Ansar Anjum as an organizer. The coordinator of the event was Dr Mohd. Kashif.



A Webinar on SARS CoV-2 TESTING/DIAGNOSIS: NANOMATERIAL-BASED BIOSENSORS USING PHYSICAL PERSPECTIVE



Organized by

Department of Applied Sciences

Galgotias College of Engineering and Technology Greater Noida- 201306,

Uttar Pradesh

Mode: GOOGLE MEET

Time: 11.00 am to 12.00 pm

Date: 14.06.2020 (Sunday)

Meet link: https://meet.google.com/ubf-sskr-aie

Speaker

Dr. Sudhisht Kumar Srivastava

(Assistant Professor, Department of Applied Physics, Gautam Buddha University)

Prof. Pankaj Pathania

Dr. Rajesh Tripathi

Dr. Brijesh Singh

(Organizer, GCET)

(Convener & HOD-AS, GCET)

(Director, GCET)

A webinar on "SARS CoV-2 testing/diagnosis: nanomaterial-based biosensors using physical perspective" was held on 14th June 2020. The speaker of webinar was Dr. Sudhist Kumar Srivastava, Gautam Budhha University, Greater Noida.

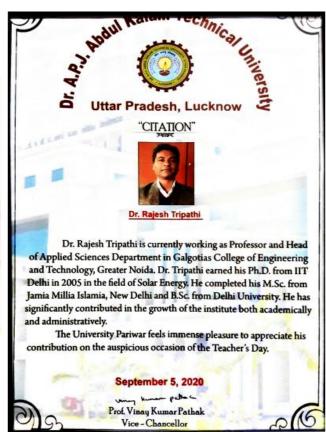
Low-cost technologies using Graphene-based nanopores for DNA/RNA analysis without using any primers were discussed. The webinar encouraged participants for industrial research and their contributions in medical research to make revolutionary transformations in medical diagnosis.

The event was held under convene ship of Dr Rajesh Tripathi and Dr Pankaj Pathania as an organizer. The coordinator of the webinar was Dr. Rajendra Prasad.

ACHIEVEMENTS OF THE DEPARTMENT

ACADEMIC ACHIEVEMENTS 2020





It had been a moment of pride for the Department of Applied Sciences to have Professor (Dr) Rajesh Tripathi been appreciated by Dr A.P.J Abdul Kalam Technical University in recognition for his contribution towards academic and administrative growth of institute, on the occasion of Teacher's Day, September 05, 2020. Professor Tripathi is a distinguished and endowed faculty member of the department us who has always contributed to the evolution of department as well as institute.





It was a moment of extreme pride for us to have a first-year student from Information Technology Branch, Kaustubh Singh winning the "Online Hackathon" organized by Delhi Technological University, April 2020.

We congratulate him for the achievement and wish him success in future ahead!

Dr Monika Malik from Department of Applied Sciences, amongst females awarded with "Certificate of Appreciation" by Internal Complaint Committee, GCET for her outstanding efforts in teaching on International Women's Day 2021.

Dr Ansar Anjum from Department of Applied Sciences, amongst females awarded with "Certificate of Appreciation" by Internal Complaint Committee, GCET for her outstanding efforts in Research, on International Women's Day 2021.

Dr Bipin Kumar Srivastava designated as Innovation Ambassador of IIC from Galgotias' College of Engineering and Technology.

Editorial Board member	Dr Vinay Gautam International Journal of Management and Fuzzy Systems
	Dr Ansar Anjum American Journal of Water Science and Engineering
Reviewer	Dr Vinay Gautam Academic Exchange Information Centre
	Dr Rajesh Tripathi Solar energy Desalination Renewable and Sustainable Energy Reviews
	Dr Vinay Gautam 2020 International Conference on Big Data and Information Education
	Dr Rajesh Tripathi National level initiative for student learning Assessment Program, AICTE
	Dr Bipin Kumar Srivastava "Orientation session on start-up opportunities for youth in 2021 to make Atmanirbhar Bharat" at JIMS Engineering Management Technical Campus, Great Noida, Uttar Pradesh
Invited Talk	"National Innovation and start-up policy: Role of Technical Institutions in Innovation & IPR" at JIMS Engineering Management Technical Campus, Great Noida, Uttar Pradesh
	Dr Pankaj Pathania "Fiber optics communication Technology" at Amity Institute of Applied Sciences, on 24th March, 2021

CLUBS OF THE DEPARTMENT

The Green Environment Club

GREEN ENVIRONMENT CLUB

DEPARTMENT OF APPLIED SCIENCES

GALGOTIAS COLLEGE OF ENGINEERING AND TECHNOLOGY

VISION :

It aims to make students conscious towards the environment and their responsibility to protect it.

MISSION:

- To create awareness among students about the importance of the environment.
- To inculcate an Eco-friendly attitude in students through an action-based program.
- To exert value-oriented efforts for a clean and green environment thus creating awareness towards the three 'R's-reduce, reuse and recycle of conservation.



DR. RAJESH TRIPATHI
PROFESSOR, HOD(AS)



DR. INDU TYAGI ASSOCIATE PROFESSOR



DR. MANJU KASHYAP ASSOCIATE PROFESSOR









MS. PRATIKSHA BHATIA

ASSISTANT PROFESSOR