



# Prospectus 2019

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## Bhaskaracharya College Of Applied Sciences (University Of Delhi)

NAAC Accredited "A" Grade  
Star College Status by DBT

Sector-2, Phase -1, Dwarka, New Delhi - 110075

Phone No: 011-25087597, Fax: 25081015

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## *From the Principal's Desk*



***'By education, I mean an all round drawing of the best in child and man in body, mind and spirit' - Mahatma Gandhi***

Bhaskaracharya college of Applied Sciences is one of the premier colleges of University of Delhi where the students are not only taught but they are also inspired to absorb facts and to acquire understanding. In this College we provide holistic education to students where they are encouraged to be innovative and come up with new ideas. Students here learn, train their minds to think, which in turn prepares them for life. The high standards in this college has been validated by NAAC and our college has got an **A grade**.

The college currently offers eleven undergraduate courses in various disciplines of Science and Applied Sciences. Some of the courses are unique as they are being offered in very few colleges of University of Delhi, which attracts many students to this college. The rich curriculum allows for good placements after graduation.

The college has faculty which is dedicated and has outstanding academic records. The teacher here is seen as a friend, a mentor, and a facilitator for the students. The college has lot of inter departmental and interdisciplinary academic activities which inculcates lateral thinking in students. Students and Faculty also have interactions with foreign universities for knowledge exchange in field of research and technology. This leads to development of scientific temperament in our students and helps to develop, attitude of questioning and reasoning. Here ample opportunities are made available to our students to work in Innovation Projects, extramural projects, summer trainings, and workshops to keep our students in step with the world.

I am happy to inform that our college will go "Solar" in the coming academic season! We are taking another step towards saving the environment.

I am proud to announce that our college has been awarded ‘**Star College Status**’ by DBT which has further enhanced the reach and opportunities for our students to work in research projects, workshops, training etc. This leads to scientific excellence, collaborative and project based learning in students and facilitates excellent placements after graduation. The college receives grants from various sources which has helped us to improve the teaching environment and infrastructure over the years.

For cognitive, creative, social and emotional development of our students there are many clubs, societies and cells in the college. By their active participation the students have brought lots of laurels by winning many prizes at inter-college and inter-university level. One of our students has also shown exemplary performance on the international level also. This comprehensive style of education not only focuses on learning but also on implementing what is learnt.

This year the training and placement cell of the college under the aegis of Ministry of Skill Development and Entrepreneurship organized the ‘Rozgar Mela’. It was a massive outreach program where nearly 70 companies visited the campus with a foot fall of 3000+ candidates and 1003 placements were made. The students are also encouraged to innovate and establish their own start-ups.

Internal Quality Assurance Cell (IQAC) which is integral part of functioning of our college maintains high standards and closely monitors its activities whereby the process of betterment becomes a continuous process.

Mentorship program allows interaction of educators with their students and also incorporates family members, whereby learning about their wellbeing becomes a social and family activity. We have also added an outdoor gym and a multipurpose AstroTurf facility for sports activities in our college this year.

In short, the students who graduate from BCAS have a strong sense of identity and wellbeing, are confident and involved learners, are effective communicators and have a stronger ability to be themselves and contribute to the world in both large and small ways.

I would like to end with a beautiful quote by Anthony J. D’Angelo - ‘*Develop a passion for learning. If you do, you will never cease to grow*’. As they say education is the passport to the future, tomorrow belongs to those who prepare for it today. We hope to give a beautiful future to all those joining BCAS family.

With this I extend a warm welcome to all the students joining this institution this year!

All the best

Dr. Balaram Pani

## *General Introduction*

1. **The College is a “No Smoking Zone” of the University of Delhi.**
2. All Undergraduate degree courses are being taught in Choice Based Credit System (CBCS) semester mode.
3. This bulletin contains essential information for all those who have passed Senior Secondary Certificate Examination (Class XII) of the Central Board of Secondary Education or an Examination recognized as equivalent thereto (herein after called the Qualifying Examination) and wishes to seek admission to various undergraduate courses offered by the college.
4. Candidate seeking admission to the courses should have passed the qualifying examination obtaining minimum marks as specified for each course (as per University of Delhi norms).
5. Details of the courses offered, number of seats, college activities, rules and regulations and other relevant information pertaining to admission have been outlined in this bulletin. The syllabus structure mentioned in this bulletin is subject to change as per University of Delhi guidelines as and when received.
6. No student whose name appears in the admission list or who qualifies on the basis of the percentage indicated in a list declared by the college shall be denied admission provided he/she completes the procedure by the date and time stipulated.
7. There is no minimum age bar for admission to undergraduate courses.
8. Admissions in all the courses including admission under reserved categories also are provisional and subject to verification of certificates and approval of the University of Delhi.
9. Applications for admission in the courses in respect of candidates belonging to the



Examining bodies of Boards/Universities recognized/ accredited by the Association of Indian University/ UGC/MHRD shall be considered by the College in terms of the guidelines received from the University of Delhi. Grade conversion shall be in accordance of AC resolution no.319, dated 22.03.1976.

10. Applicants are advised to read carefully the College Prospectus and the Information Bulletin issued by the University of Delhi.
11. All the announcements regarding admission to the various courses will be put up on the College Notice Board as well as College website and no individual intimation will be sent.

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**Every attempt has been made to verify the authenticity of the contents of the College Prospectus, 2019. However, the college will not be responsible for any wrong information and the consequences of using such information. The data contained in this Prospectus is indicative only and must not be used for legal purposes. Any information given here is subject to change without information as per the guidelines of the University of Delhi as and when received.**

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## ***Bhaskaracharya- The Great Mathematician***

*“Bhaskaracharya feats are revered by both the wise and the learned. A poet endowed with fame and religious merit, he is like the crest on a peacock.”*

An appropriate tribute to Bhaskaracharya, one of the most celebrated mathematician and astronomer of the 12<sup>th</sup> century.

Bhaskaracharya was born in Shaka 1036 (1114 A.D.). Bhaskaracharya’s masterpiece, *Siddhanta-Siromani* (Sanskrit for crown of treatises), composed at the young age of 36 years in the year 1150 A.D, is aptly considered to be the pinnacle of those times. A mammoth work comprising of 1450 verses, *Siddhanta-Siromani*, is divided into four parts: *Lilavati*(arithmetic), *Bijaganita*(algebra), *Goladhyaya* (celestial globe), and *Grahaganita*(mathematics of the planets). Each part, considered to be a book, contains simplistic methods for calculations from arithmetic and astronomy. Bhaskaracharya was a born genius and an authority in Mathematics, especially in Algebra and Geometry. His unparalleled works substantiate his profound intelligence. His Astronomical findings on planetary position, occurrence of eclipses and cosmography, written in his treatise titled “SiddhantaShiromani”, stuns everyone.

Bhaskaracharya was the first to give that any number divided by zero gives infinity. He described easy methods to find the squares, square roots, cube, and cube roots of big numbers. The great mathematician developed a proof of the Pythagoras theorem and gave an approximate value of PI as  $22/7$ . He accurately calculated the time that earth took to revolve around the Sun as 365.2588 days that is a difference of 3 minutes of modern acceptance of 365.2563 days. This was much before Leibniz or Newton could come up with Differential or Integral Calculus and to explain the forces of gravity.

In one of his work, Bhaskaracharya wrote, *“The hundredth part of the circumference of a circle seems to be straight. Our earth is a big sphere and that’s why it appears to be flat.”* He also headed the Astronomical Observatory in Ujjain that was the learning Centre of India. His contribution to Astronomy and Mathematics was unparalleled and significant. He was bestowed an apt title for his genius work in Astronomy and Mathematics Bhaskaracharya “Ganakachakrachudamani” which means “a Gem among all the calculators of astronomical phenomena”. On 20 November 1981 the Indian Space Research Organization launched the Bhaskara II satellite honouring the mathematician and astronomer.

## *About the College*

Bhaskaracharya College of Applied Sciences, named after the great mathematician of 12th Century was set up in October, 1995. This is a constituent college of University of Delhi and is fully supported and funded by Government of NCT, Delhi. The sprawling campus of the college spans about eight acres of land with exquisite landscaping and captivating architecture. The college has well-equipped state of the art well ventilated laboratories, extensive library facility, classrooms with LCD projectors, auditorium, open air theatre and a spacious sports ground. The campus of the college is Wi-Fi enabled. It is a tobacco free campus.

The college provides a stimulating environment for holistic development of the students. They are motivated to excel in academics and attain University positions in their respective disciplines. They are provided with ample opportunities through participation in several extracurricular activities organized by various clubs, societies and committees. The societies of various Departments provide a platform for interaction with renowned academicians and scientists from their respective fields. Besides this, in order to inculcate research aptitude, skills and synergy among students and faculties, various research and innovation projects are being carried out in the college. The college is a member of the Star College Scheme of Department of Biotechnology, Government of India. In this new session more Departments have come under this status. Under this scheme, the college conducts various academic activities such as workshops, lectures, industrial visits, research projects and outreach programs. College motivates students to get involved in outreach programs and work for the upliftment of weaker sections. The college has a dedicated NSS cell which organizes various activities like blood donation camps, medical check-up camps, awareness programs and drives. Every year, college organizes various inter Departmental, inter college and Inter-University sports activities and encourages the students to participate in inter-college and open tournaments. This year we have added an open air gym and a multi utility AstroTurf facility. The college also has a well-established and active Training and Placement Cell which works in tandem with Central Placement Cell of University of Delhi for internship as well as placement of deserving students. The dynamic and dedicated faculty of the College is not only involved in teaching but also guiding Ph.D. students of various renowned universities.



## *Admission Schedule*

S. No.	Activity	Date
1	Notification of First cut-off marks list	28 <sup>th</sup> June 2019
	Document verification, approval of admission and payment of fees	28 <sup>th</sup> June 2019 to 1 <sup>st</sup> July 2019 (except Sunday)
2	Notification of Second cut-off marks list	4 <sup>th</sup> July 2019
	Document verification, approval of admission and payment of fees	4 <sup>th</sup> July 2019 to 6 <sup>th</sup> July 2019
3	Notification of Third cut-off marks list (if any)	9 <sup>th</sup> July 2019
	Document verification, approval of admission and payment of fees	9 <sup>th</sup> July 2019 to 11 <sup>th</sup> July 2019
4	Notification of Fourth cut-off marks list (if any)	15 <sup>th</sup> July 2019
	Document verification, approval of admission and payment of fees	15 <sup>th</sup> July 2019 to 17 <sup>th</sup> July 2019
5	Notification of Fifth Admission cut-off marks list (if any)	20 <sup>th</sup> July 2019
	Document verification, approval of admission and payment of fees	20 <sup>th</sup> July 2019 to 23 <sup>rd</sup> July 2019

### **Note**

**For Fee Payment:** The applicant has to log on to the Undergraduate Admission Portal to make online payment of the fee. This may be done till 15:00 hrs. of the next day of the approval of Admission in the portal

**Further Cut-off Lists schedule may be declared depending on the number of vacant seat(s).**

## *Courses Offered*

### List of B.Sc. (Hons.) Courses, 2019-2020

<b>S.No</b>	<b>Courses offered</b>
1	Biomedical Sciences
2	Botany
3	Chemistry
4	Computer Science
5	Electronics
6	Food Technology
7	Instrumentation
8	Microbiology
9	Physics
10	Polymer Science
11	Zoology

## Course Details\*

\* Subject to any change as per guidelines of University of Delhi as and when received.

Course	(No. of Seats) **Gen/SC/ST/OBC/EWS	First Cutoff (for General Category) % in 2018
B.Sc.(H)Biomedical Science	(52) 24/8/4/14/2	95% PCB/ PCBt
B.Sc.(H)Botany	(34) 16/5/3/9/1	91% PCB/ PCBt
B.Sc.(H)Chemistry	(34) 16/5/3/9/1	92.66% PCM
B.Sc.(H)Computer Science	(52) 24/8/4/14/2	93.5% (PCM+ language)
B.Sc.(H)Electronics	(52) 24/8/4/14/2	92% PCM
B.Sc.(H) Food Technology	(52) 24/8/4/14/2	93% PCM/PCB/PCBt(which ever is higher)
B.Sc.(H)Instrumentation	(52) 24/8/4/14/2	90% PCM
B.Sc.(H) Microbiology	(34) 16/5/3/9/1	92% PCB/PCBt
B.Sc.(H) Physics	(34) 16/5/3/9/1	93% PCM
B.Sc.(H) Polymer Science	(52) 24/8/4/14/2	90% PCM
B.Sc.(H) Zoology	(34) 16/5/3/9/1	91% PCB/ PCBt

For details on eligibility criteria, refer to University of Delhi, Bulletin of Information (2019- 2020).

\*\*Reservations are as per rules of the University of Delhi.

## ***RTI & Staff Council Committees***

<b>Appellate Authority</b>	Dr. Balaram Pani (Principal)
<b>Public Information Officer</b>	Dr. Inderbir Kaur
<b>Assistant Public Information Officer</b>	Sh. Rajesh Raghav

<b>Conveners of Few Staff Council Committees</b>	
1. Academic	Dr. Anita Sondhi
2. Admission	Dr. Jitender Kumar
3. Alumni	Dr. Vandana Batra
4. Anti-Discriminatory Cell	Dr. Sujata Bhardwaj
5. Canteen Committee	Dr. Eram S. Rao
6. Career Counselling Cell	Ms. Shweta Gupta
7. Committee for Student Counselling System	Dr. Anand Bharadvaja
8. Equal Opportunity Cell	Dr. N. Vijay Kumar
9. Extra-Curricular Activity (ECA)	Dr. Ramesh Kumar
10. Garden	Dr. Meenakshi Garg
11. Gender Sensitization and Presiding Officer, Internal Complaint Committee	Dr. Rizwana
12. Library	Dr. Ranjeet S. Thakur
13. Magazine	Dr. Amit Kumar
14. National Service Scheme (NSS)	Dr. Neeru Sharma
15. North East Cell	Dr. Saroj K. Shukla
16. Proctorial & Anti-Ragging	Dr. Bhavya Deep
17. Prospectus & Annual Report	Dr. Inderbir Kaur (Convener : Prospectus)
18. Public Grievance Redressal	Dr. Anil K. Bali
19. SC/ST Cell	Dr. Ramesh Kumar
20. Special Categories Admission Enabling	Dr. Ramesh Kumar
21. Sports	Dr. Sidharth Sirohi
22. Student Advisory and PR	Dr. Sangeeta Srivastava
23. Swacchata & Waste Management	Dr. Anand Bharadvaja
24. Time Table	Dr. Sandeep Kumar
25. Training & Placement Cell	Dr. Susmita Dey Sadhu
26. Website & Internet	Dr. Ragini Jindal
27. Women Development Cell	Dr. Geeta Mongia

<b>Bursar</b>	Dr. Sidharth Sirohi
<b>Section Officer (Administration)</b>	Sh. Santhanam Iyengar
<b>Section Officer (Accounts)</b>	Mr. Rajiv Dawar
<b>Sr. P. A. to Principal</b>	Ms. Ritu Sareen



## Choice Based Credit System (CBCS)

Choice Based Credit System (CBCS) has been introduced based on the recommendations of University Grants Commission (UGC) to create uniformity in teaching in India. This credit based semester system provides flexibility in designing curriculum and assigning credits based on the course contents. In this system, an opportunity is provided to the students to explore additional avenues of learning beyond the core subjects for their holistic development and choose inter-disciplinary, intra-disciplinary and skill based courses. Various types of courses offered in CBCS are as follows:

1. **Core Course:** These course papers are compulsory to be studied by a student of particular discipline. There are 14 core papers distributed in all the semesters of the course.
2. **Elective Course:** These courses can be chosen from a pool of courses which may be specific to the discipline/ subject of study or to some other discipline/subject or nurtures the candidate's proficiency.
  - **Discipline Specific Elective (DSE):** A student has to study 4 discipline specific elective papers during the course. Two papers each are offered in V and VI semesters.
  - **Generic Elective (GE):** Different generic elective papers will be offered to students by other Departments (disciplines) of the College and the student will have the option to choose one generic elective paper each in the first four semesters. The list of GE papers to be offered by the college in I semester of academic session 2019-2020 is as follows:

DEPARTMENT	PAPER
Biochemistry	Biochemistry of Cell
Biomedical Science	Biostatistics
Botany	Biodiversity
Chemistry	Atomic structure, Bonding, General Organic Chemistry
Computer Science	Introduction to Programming
Electronics	Digital System and Design
Food Technology	Food Processing and Preservation
Human Communication	General Psychology
Instrumentation	Sensors and Actuators
Mathematics	Calculus
Microbiology	Introduction and Scope of Microbiology
Physics	Electricity and Magnetism
Physical Education	Introduction to Physical Education in the Contemporary Context
Polymer Science	Chemistry of Polymers
Zoology	Animal Diversity

\*Students need to check the GE1 options available in the college at the time of taking admission

3. **Ability Enhancement Compulsory Courses:** These courses are mandatory for all the disciplines. The student is supposed to take one in each semester of first year.
4. **Skill Enhancement Courses:** These courses may be chosen from a pool of courses offered by the College which are designed to provide value-based and/or skill-based knowledge. The students have to undertake two Skill Enhancement courses each in III and IV semester.

The number of courses in each semester to be studied by the student is mentioned in the table given below:

<b>SYLLABUS STRUCTURE</b>		
<b>SEMESTER-I</b>	<b>SEMESTER-III</b>	<b>SEMESTER-V</b>
Core Courses-2 Ability Enhancement Compulsory Course-1 Generic Elective Course-1	Core Courses-3 Skill Enhancement Courses-1 Generic Elective-1	Core Courses-2 Discipline Specific Elective Course-2
<b>SEMESTER-II</b>	<b>SEMESTER-IV</b>	<b>SEMESTER-VI</b>
Core Courses-2 Ability Enhancement Compulsory Courses-1 Generic Elective Course-1	Core Courses-3 Skill Enhancement Courses-1 Generic Elective-1	Core Courses-2 Discipline Specific Elective Course-2

## *Department of Biomedical Science*

### **Faculty**

<b>Name</b>	<b>Qualification</b>	<b>Specialization</b>
<b>Dr. Uma Chaudhry</b> ( <i>Teacher-In-Charge</i> )	Ph.D. (DU)	Medical Biotechnology
Dr. Shivani G. Varmani	Ph.D. (AIIMS)	Medical Biochemistry and Biotechnology
Dr. Uma Dhawan	Ph.D. (DU)	Human Genetics and Bioinformatics

B.Sc. (Hons.) Biomedical Science is an interdisciplinary three-year degree course offered by University of Delhi. The programme has been meticulously structured to cover a wide spectrum of subjects including Human Physiology, Human Pathology, Immunology, Cell Biology, Molecular Biology, Human Genetics, Biochemistry, Medical Biotechnology, Biophysics, Medical Microbiology, Computational Biology and Drug Design, Medicinal Chemistry, Pharmacology, Toxicology, etc. The first year of this course is designed to give a basic knowledge of the course followed by further step-wise introduction of specialized papers in subsequent years. This gradual increase in the knowledge base provides a platform to students for their future endeavors in academics, research or in industry.

The theoretical classroom experiences are supplemented by well-designed laboratory practices. Besides lecturing and close interactions with the well qualified faculty, regular assignments, presentations, seminars and field studies form the mandates of the course. Concepts of peer learning and team spirit are emphasized and imbibed among the students. In this undergraduate program, each student is expected to work on a project under the supervision of a distinguished scientist in a reputed institution, hospital or in house faculty. The training not only gives an early exposure to the field of research, but also helps the student to gauge his/her research aptitude and attitude. Ample learning and research opportunities have also been provided to the faculty and students through innovation/minor projects of the faculty and events organized under the aegis of Star College Scheme of Department of Biotechnology (DBT).

Capacity building and manpower development is a formidable task, both from educational and infrastructural perspective. The Department has highly qualified faculty members devoted to make this difficult task easier. Students are frequently absorbed into institutions such as TIFR, Mumbai; University of Delhi, South Campus; IIT; Jamia Hamdard, Delhi; Jawaharlal Nehru University; South Asian University and Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi to name a few.

The Biomedical Science laboratories of the college are well-equipped with various sophisticated instruments including computer-based UV-Visible spectrophotometers, carbon dioxide incubator, digital viscometer, PCR machines, gel documentation systems, refrigerated high speed centrifuges, orbital shaker incubator, microtomes, UV trans-

illuminator, ELISA plate reader, digital colony counter, digital melting point apparatus, binocular microscopes with camera and projection system as well as other regular instruments including electronic balances, autoclave, colorimeters, vertical and horizontal electrophoresis units, electro-blotting system, laminar hood, magnetic stirrers, vortex shakers, ice flaking machine, ovens, etc.

The Department through its continuous and dedicated efforts has also been awarded with STAR STATUS by Department of Biotechnology (DBT), Government of India, in June 2017.

Biomedical Science has its Departmental Society “DNAmics” which is a joint enterprise of students and teachers. The society has been formulated with an objective to abreast the students about the latest findings, developments and avenues in the field of Biomedical Science. To broaden the horizons of its stakeholders, each year the Departmental society conducts events and activities to promote academic, extra-curricular and socio-cultural linkages with peers in other colleges and institutions. In order to promote ‘Learning beyond the classroom’ we also encourage our students and faculty to attend lectures, workshops, symposiums, conferences, etc. Following were the events and activities, including the Departmental festival, lecture, quiz, outreach programmes, visits, conducted in the academic year 2018-19:

- ‘Genesis 19’, the annual inter-college festival of DNAmics, the society of the Department, was held on February 06, 2019. It comprised of lectures by Dr. Rajesh S. Gokhale, Former Director, CSIR-IGIB and Staff Scientist VII, National Institute of Immunology, New Delhi, and Professor Yogendra Singh, Dean Research (Life Sciences), University of Delhi, Delhi followed by various students’ activities.
- The Department in collaboration with Manipal Hospitals, Dwarka, New Delhi organized an awareness drive on Cervical Cancer for staff and students of the college on January 21, 2019.
- The students of the Department also attended the 6<sup>th</sup> World Congress on ‘Nanomaterials Sciences ISNSCON-2018’ and ‘Chemistry Biology Interface Synergistic in New Frontiers (CBISNF-2019)’ from January 07-09, 2019 at Vigyan Bhawan, New Delhi.
- The students of the Department attended the International Symposium on Infectious Diseases from November 12-14, 2018 held at Jamia Hamdard, New Delhi and Regional Centre for Biotechnology (RCB), Faridabad, Haryana.
- A lecture on ‘Microscopy as a Tool for Studying Live Sciences’ was delivered on November 05, 2018 by Dr. Deepak K. Saini, Department of Molecular Reproduction, Genetics and Development, Indian Institute of Science, Bengaluru.
- The Department organized a two-day workshop on ‘Handling and Care of Laboratory Animals’ comprising of lectures and live demonstration of handling laboratory animals in association with CLAR, JNU, New Delhi from October 31-November 01, 2018. The workshop had enthusiastic participation from different colleges and universities.
- An invited lecture on ‘Radio safety’ was delivered by Dr T. Ganesh, Chief Radiation Safety Officer, Manipal Hospitals, Dwarka, New Delhi on October 30, 2018. The lecture was instrumental in reinforcing the importance of radio safety among students.
- An inspiring lecture on ‘Brilliant Discoveries: Incredible People’ was delivered by Prof. Shrikant Kukreti, Department of Chemistry, University of Delhi on October 26, 2018.
- The students and a faculty member of the Department carried out an outreach activity on Pesticide Awareness for the students of Sarvodaya Bal Vidyalaya, Matiala, Delhi on



October 22, 2018.

- The students and faculty members of the Department visited Oncology section of the Manipal Hospitals, Dwarka, New Delhi for gaining knowledge about radiology and radiotherapy techniques on October 11, 2018.
- The students and a faculty member of the Department visited CSIR- Institute of Genomics & Integrative Biology, Mathura Road, New Delhi on September 27, 2018 on the occasion of the CSIR open day. The visit provided excellent opportunity to the students for interacting with the experts in the latest fields of science and technology.
- The students of the Department visited National Brain Research Centre, Manesar, Haryana on September 20, 2018 on the Open Day.
- Three students of the Department participated in the 'International Ozone Day' celebration held at Delhi Secretariat on September 17, 2018 and received a cash prize of Rs. 2000/- as 'Appreciation Award' for their presentation on 'Why Ozone, Why Today?'.
- A session to propagate the need of 'Eye Donation' amongst the students and staff of the Department was organized in the Department by Saksham Seva under Cornea Andhatv Mukta Bharat Abhiyan (CAMBA) on September 07, 2018. The short movie on the Swachhata theme was also screened on the same day.

**The Department is offering following GE paper (2019-2020; First Semester):**

### **Biostatistics**

The objective of this paper is to acknowledge, appreciate and effectively incorporate the basic statistical concepts indispensable for carrying out and understanding biological hypothesis, experimentation as well as validations. It is aimed at creating awareness about the applications of statistics in biological sciences along with building confidence in students to logically test their experimental data with an appropriate set of test of significance. Use of open source software and web material is encouraged as the course intends to give wings to the students and not just the height for their soaring potentials.

SYLLABUS STRUCTURE		
<b>SEMESTER-I</b> <b>C-1</b> BMS-101:Bioorganic Chemistry <b>C-2</b> BMS-102:Cell and Radiation Biology <b>AECC-1</b> English/MIL communication/ Environmental Science  <b>GE-1</b>	<b>SEMESTER-III</b> <b>C-5</b> BMS-301: Biochemistry <b>C-6</b> BMS-302:Human Physiology and Anatomy II <b>C-7</b> BMS-303: Medical Microbiology  <b>SEC-1</b> <b>GE-3</b>	<b>SEMESTER-V</b> <b>C-11</b> BMS-502:Biophysics <b>C-12</b> BMS-502: Pharmacology  <b>DSE-1</b> <b>DSE-2</b>
<b>SEMESTER-II</b> <b>C-3</b> BMS-201:Principles of Genetics <b>C-4</b> BMS-202:Human Physiology and Anatomy I <b>AECC-2</b> English/MIL communications/ Environmental Science <b>GE-2</b>	<b>SEMESTER-IV</b> <b>C-8</b> BMS-401: Immunobiology <b>C-9</b> BMS-402: Molecular Biology <b>C-10</b> BMS-403: Medicinal Chemistry  <b>SEC-2</b> <b>GE-4</b>	<b>SEMESTER-VI</b> <b>C-13</b> BMS-601: Human Pathology <b>C-14</b> BMS-602: Toxicology  <b>DSE-3</b> <b>DSE-4</b>

**C:** Core Courses; **GE:** Generic Elective (To be selected from papers offered by other Departments of the college); **AECC:** Ability Enhancement Compulsory Course; **SEC:** Skill Enhancement Courses and **DSE:** Discipline Specific Elective (To be selected from papers offered by the Department of Biomedical Science)

SKILL ENHANCEMENT AND DISCIPLINE SPECIFIC ELECTIVE PAPERS OFFERED BY DEPARTMENT OF BIOMEDICAL SCIENCE	
Skill Enhancement Papers	Discipline Specific Elective Papers
BMS-S1 Methods in Epidemiological Data Analysis (EDA)	BMS A Computational Biology and Drug Design
BMS-S2 Medical Laboratory Diagnostics (MLD)	BMS B Genome Organization and Function
BMS-S3 Techniques for Forensic Science	BMS C Human Genetics
BMS-S4 Tools in Modern Biology	BMS D Medical Biochemistry
	BMS E Medical Biotechnology
	BMS F Project Work (can be chosen only in semester VI)



**For more details regarding syllabus and scheme please refer**  
[http://www.du.ac.in/du/uploads/Syllabus\\_2015/B.Sc.%20Hons.%20Bio-Medical%20Science.pdf](http://www.du.ac.in/du/uploads/Syllabus_2015/B.Sc.%20Hons.%20Bio-Medical%20Science.pdf)

## *Department of Botany*

### **Faculty**

<b>Name</b>	<b>Qualification</b>	<b>Specialization</b>
<b>Dr.N. S. Abbas</b> <i>(Teacher-In-Charge)</i>	Ph.D. (D.U.)	Plant Biotechnology
Dr.Sujata Bhardwaj	Ph.D. (M.D.U.)	Ethnobotany and Ecology

The Department traces its origin back to 1995 from the day of inception of the college. It used to support the requirements of Biology Department. It elevated itself to offer B.Sc. (H) Botany from the year 2017. The emphasis in UG program at present is to give a comprehensive professional training in the field of Plant biology and Plant biotechnology. Botany is the scientific study of plants. It is one of the preferred choices of study among the science students in India. Botany focuses on an extensive plant study ranging from their structures, growth, use, and process of plant life-their evolution, ageing, decaying and death. Plants provide food, clothing and shelter to mankind. They range from the smallest bacteria to the largest Sequoia tree. Considering the current scenario, various factors like urbanisation, population explosion, pollution etc. are affecting the flora. Therefore, apart from in-depth study of flora, a Botanist is also required to explore the possible way out of agricultural, horticulture and environment related issues. Thus, career in Botany can be highly rewarding for those, who are allured with the aesthetic beauty of nature and flora.

Botany has become such a vast research enterprise that it is not generally studied as a single discipline, but as a number of clustered sub-disciplines. The multi-disciplinary initiative is significant for several reasons. First of all, it represents the culmination of a long-cherished aspiration of the Institute. Equally significant is its historical moment, namely, the beginning of the new century that is aptly called the post-genome era. Botany is currently experiencing a golden age of research-driven discoveries. The application of plant sciences improves the yield and supply of medicines, foods, fibres, building materials and other plant products. The knowledge of plant sciences is essential for development and management of forests, parks, waste lands, sea wealth etc.

After completing the course, one can be a part of any reputed organization as an academia, scientist, plant explorer, conservationist, ecologist, environment consultant, horticulturist, plant biochemist, molecular biologist, taxonomist, plant pathologist and farming consultant, sericulturist; Marine/freshwater biologist; forest service employee; Environmental impact specialist; Greenhouse specialist; Agricultural Research Service; Botanical gardens and arboretums such as the National Arboretum; Lumber and paper industries; Bio-technical regulatory agencies; National Park Service Employee; National forestry or conservation expert; Science columnist; Researcher in food based plants, Ayurveda; Entrepreneurs/startups in above mentioned fields, R & D; Forensic science; business and industry. One can be part of more recent and interesting fields like space travel agriculture, artificial environments, hydroponics and various other interesting areas of research. The demand for botanists is increasing in areas such as medical plant research, plant diseases, plant breeding and plant



genetics, molecular biology, plant biotechnology. Some botanists work in administration and marketing for biological supply companies, seed companies, biotechnology firms and pharmaceutical manufacturers.

Vision of the Department is to think big and achieve the same with the vision of the faculty and hard work of the students, as told by his highness Dr. A.P.J. Abdul Kalam, the former President of India- “To explore and not to exploit the plant world”. To produce disciplined, competent, spiritually and socially committed, morally upright students through quality education and research. Producing Botany students as ambassadors of sustainable development and leaving the earth to the successive generation as intact as possible. The objectives of the Department are to predict future trends in Botany and train the students to meet challenges with best teaching methods. To shape and mould students as worthy citizens; To build self-confidence in the students; To infuse ethics, values and responsibility in them; To provide academic excellence; To develop a model Department in the University and country & to make the Department a centre of excellence in thrust areas of Biological Science and equip our students to meet global challenges. The Departmental highlights include looking into the present scenario and the unique nature of the environment surrounding the CBCS syllabus to suit the present day needs. Additional inputs are inserted in curriculum with student centric thought provoking teaching aids with modern gadgets, Modular courses content, Intensive field work for collection of local flora helps them to know about the area and familiarise them of their distribution and other patterns.

The Department of Botany has state-of-art laboratories with high end instruments. The required infrastructure for this course is adequate and is in place. The laboratories are designed in such a manner that it is well-illuminated and aerated. It has a dedicated room with projector facility and two laboratories with latest instruments particularly Binocular microscope, B.O.D. incubator, PC-based UV-Vis-Spectrophotometer, Autoclave, Laminar flow, Refrigerated centrifuge, Growth chamber, pH-meter, Electronic balance, Vortex shaker, Electrophoresis and UV trans-illuminator, Ice Flaking machine, Refrigerated Centrifuge, Water purification system etc.

The Department has a botanical society “PHYTOMICS” which was inaugurated on 11<sup>th</sup> March 2019. It aims to organize various activities including seminars, workshops and lectures by the experts in the varied fields to keep the students aware of the latest advancement in the field of science and technology. Its objective is to develop the interest, knowledge, and scientific temper in the students. Under the backdrop of the society an annual fest “BLOSSOM” is organized with the purpose to develop intra and inter-college interactions among students. It helps students to engage in various curricular and extra-curricular activities that give them a platform to show-case their talents. In addition to teaching through modern techniques, students will be given exposure to National conferences/seminars/symposia/workshops/invited lectures and botanical excursions organized in and out of the college to update their knowledge in the subject. In order to inspire the endeavours of meritorious students in their academic pursuit, hands-on-training and study of project works under the guidance of staff members with research experience will also be provided to the students.

### **Various Activities organized by the Department in 2018-19:**

- Students participated and presented poster in an International conference “Contemporary Issues in Integrating Health and Nutrition with the Emerging Areas of Food Technology, Agriculture, Environment and Allied Sciences” jointly organized by Shyama Prasad Mukherji College for women, University of Delhi and Krishi Sanskriti, New Delhi on 6<sup>th</sup> April 2019 at Shyama Prasad Mukherji College for Women, New Delhi.
- Students participated and presented poster in two day National seminar “Challenges in Climate Change and Sustainable Development” jointly organized by Sri Venkateshwara College, University of Delhi and Society for Environment and Development (SED India), New Delhi on 6<sup>th</sup> -7<sup>th</sup> April 2019 at Sri Venkateshwara College, New Delhi

### **Educational trip to Shimla**

As a part of curriculum, the Department organized an educational trip to Shimla from 14-17<sup>th</sup> March 2019. Students visited to Central Potato Research Institute (CPRI), Shimla (Himachal Pradesh) with the aim to develop scientific temperament among the students on 15<sup>th</sup> March 2019. An educational trip to Directorate of Mushroom Research (DMR), Solan (Himachal Pradesh) followed by hands on training on harvesting of mushroom was conducted with the aim to develop entrepreneurship opportunities and skill required to develop the start-up set ups among the students on 15<sup>th</sup> March 2019.

### **DBT Biocare conclave**

As a part of Women’s Day, Students and the Faculty of the Department participated Bio care Conclave on women Scientist Achieving great height on March 8-9<sup>th</sup>, 2019 organized by Department of Biotechnology (Govt. of India) and National Institute of Plant Genomic Research

### **Educational visit to INSA, New Delhi**

Students and Faculty of the Department visited to Indian National Science Academy (INSA, New Delhi) as a part of National Science Day Celebration on 28<sup>th</sup> February 2019

### **Field visit to Aravalli Biodiversity Park, New Delhi**

The Department organized an educational visit to Aravalli Biodiversity Park, Vasant Vihar, New Delhi, the Green Lungs of the City on 6<sup>th</sup> October 2018. Aim behind this trip was to bring students abreast the natural environment, flora and fauna, and to understand interactions and processes of the ecosystems. Most importantly with this visit, the students realized the importance of natural ecosystems as the vital life-support systems on the earth, which is the dire need of the hour, leading us to sustainability

## **Trip to National Brain Research Institute (NBRC), Manesar**

An educational Trip to National Brain Research Institute (NBRC), Manesar (Haryana) was conducted with the aim to develop scientific temperament among the students on 20th Sept. 2018. This gave a great opportunity to the students and faculty to learn about the ongoing neuroscience research activities, through live demonstrations, posters, and lectures.

### **Poster making competition**

Intra-College Poster-Making Competition on the theme, “पर्यावरण और जीवन” was organized by the Department of Botany in collaboration with the Eco-club of the college, ‘Pranahi’ under the aegis of IQAC, as part of Ozone Day Celebration on 14<sup>th</sup> September 2018, near the Saraswati Idol. Recycled paper sheets made in the college were provided to the participants for making the poster on the given theme. Posters were collected and displayed on the notice boards near the Saraswati idol.

### **Pot decoration competition**

Intra college pot decoration was organized by the Department of Botany on 30<sup>th</sup> August 2018, near the Saraswati Idol at 10:00 am. A total of 13 students from various Departments participated in this competition. Such competition provides a platform to promote the hidden talent within students.

### **Paper recycling workshop**

To impart environmental awareness among students a “Paper recycling workshop was organized by the Department of Botany, in collaboration with the Eco club, as part of Ozone Day Celebration on 18<sup>th</sup> August 2018 near sports room. Students from various Departments attended the workshop. The workshop began with the explanation of working of the paper recycling machine and demonstrated the paper recycling to all the students and the faculty members. Then, students were allowed to make recycled sheets individually.

### **Tree census and identification**

Department of Botany in collaboration with Eco-club (BCAS) ‘Pranahi’ under the aegis of IQAC conducted tree census of the college campus on 10<sup>th</sup> August 2018 with active participation from the students. Total number of 46 trees were counted and identified. This helped students learn college tree species, their scientific names, and their importance.

### **Swachhta and waste management**

The Botany Department organized a cleanliness drive on Swachhta Day as an environmental awareness programme on 9<sup>th</sup> August 2018. All the students, teaching and non - teaching Staff participate and make the programme successful. This Swachhta drive gives an opportunity to all the students to work effectively as a team and a responsible citizen.

**The Department is offering following GE paper (2019-2020; First Semester):**

**Biodiversity (Microbes, Algae, Fungi and Archegoniatae)**

The Department offers GE-1 paper on Biodiversity (Microbes, Algae, Fungi and Archegoniatae). The course aims at making familiarity with special groups of microorganisms (Bacteria and Virus) and plants (Algae, Fungi, Lichen, Bryophyte, Pteridophyte and Gymnosperm), their evolution process through identification, field studies, laboratory works and interactive teaching tools.

Biodiversity is the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part including diversity within species, between species, and of ecosystems. The study of Biodiversity helps in assessment of ecological and economic importance of lower plants to higher plants through lecture, research projects, seminars and supervisions. The richer the diversity of life, the greater the opportunity for medical discoveries, economic development and adaptive responses to such new challenges as climate change. Therefore, it becomes imperative to maintain biodiversity of all life forms on Earth for successful regulation of the ecosystem and for their multi-fold uses. Thus the offered paper will provide a foundation of learning diversity and their importance in the field of Science and Technology to all the students which is a basic requirement in every area of competitive assessment and higher educations.

SYLLABUS STRUCTURE					
SEMESTER-I		SEMESTER-III		SEMESTER-V	
CC-1**	Microbiology and Phycology	CC-5**	Anatomy of Angiosperms	CC-11**	Reproductive Biology of Angiosperms
CC-2**	Biomolecules and Cell Biology	CC-6**	Economic Botany	CC-12**	Plant Physiology
AECC-1^	English/MIL Communication /Environmental Science	CC-7**	Genetics	DSE-1#	
GE-1*		SEC-1#		DSE-2#	
		GE-3*			
SEMESTER-II		SEMESTER-IV		SEMESTER-VI	
CC-3**	Mycology and Phytopathology	CC-8**	Molecular Biology	CC-13**	Plant Metabolism
CC-4**	Archegoniatae	CC-9**	Ecology	CC-14**	Plant Biotechnology
AECC-2^	English/MIL communication/ Environmental Science	CC-10**	Plant Systematics	DSE-3#	
GE-2*		SEC-2#		DSE-4#	
		GE-4*			

**\*\*Core Course; ^Ability Enhancement Compulsory Course; \*Generic Elective** – To be selected from papers offered by other Departments of the college; **#Skill Enhancement Course and Discipline Specific Elective Course** – To be selected from papers/dissertation/project offered by the Department of Botany.

SKILL ENHANCEMENT AND DISCIPLINE SPECIFIC ELECTIVE PAPERS OFFERED BY DEPARTMENT OF BOTANY			
Skill Enhancement Papers		Discipline Specific Elective Papers	
SEC-1	Any One a) Ethnobotany  b) Intellectual Property Rights	DSE-1	Analytical Techniques in Plant Sciences
		DSE-2	Biostatistics
		DSE-3	Industrial and Environmental Microbiology
SEC-2	Any One a) Biofertilizers  b) Medicinal Botany	DSE-4	Bioinformatics





For more details regarding syllabus and scheme please refer to:  
[http://www.du.ac.in/du/uploads/Syllabus\\_2015/05082015\\_B.Sc.%20\(Honours\)\\_Botany%20Syllabus.pdf](http://www.du.ac.in/du/uploads/Syllabus_2015/05082015_B.Sc.%20(Honours)_Botany%20Syllabus.pdf)



# Department of Chemistry

## Faculty

Name	Qualification	Specialization
Dr. Lalit Kapur (Teacher in-Charge)	Ph.D. (D.U.)	Inorganic Chemistry
Dr. Balaram Pani	Ph.D. (J.N.U.)	Inorganic Chemistry Environmental Chemistry

One of the leading subjects in pure sciences, Chemistry offers the students an ideal platform to begin exploring the composition, structure, properties & behavior of all forms of matter. The emphasis at the under-graduate level is to give a broad coverage of most common branches of Chemistry considering the inter-disciplinary nature of the subject today.

The laboratories of the Department are well equipped with sophisticated instruments. Some notable instruments are electronic and analytical balances, pH-meter, hot air oven, double distillation plant, vacuum pump, de-ionizer, spectrophotometer, polarimeter, colorimeter, digital potentiometer, digital melting & boiling point apparatus, conductivity meter and fuming hood chamber that enables students to carry out all the experiments as prescribed in the syllabus as well as simple projects. Besides these, there is an Instrumentation laboratory for carrying out experiments in Physical chemistry and Analytical techniques. Titrations, synthesis, purification and analysis of chemical compounds are some of the aspects that form the basis of the lab. Moreover, there are dedicated laboratories for conducting research work in leading areas of Chemistry that are equipped with sophisticated instruments being funded by Board of Research in Nuclear Sciences, Science and Engineering Research Board and University of Delhi. Currently, two students are pursuing Ph.D in the Department. To provide detailed subjective knowledge to the students, modern power-point based teaching methodologies are employed. Moreover, students are encouraged to perform minor projects to attain hands-on experience of latest instruments. After graduation, students have lucrative and attractive career options in Research & Development and Managerial positions in Pharmaceutical and Chemical industries.

It is worth mentioning that B.Sc.(H) in Chemistry course commenced from the year 2017-18. In all 69 students were enrolled in first batch. In the year 2018-19, 32 students were enrolled. The result was overwhelmingly 100%. The chemical society 'ALCHEMY' organizes periodically events viz. Chemcarnival, Antibiotics awareness programme and Bhaskaracharya Chemistry Day, seminars, invited lectures/ talks, excursion.

The Details of the activities organized during the year 2018-19 are available on our blog (<http://bcaschem.blogspot.in/?m=1>) and at present 4230 visitors have visited the blog site. A Google-page, Email and WhatsApp group of the Department of Chemistry is also functional. The Department has a task force "**Bhaskaracharya Environmental and Sustainability Taskforce (BEST)**" whose primary objective is to preserve and enhance the environmental activity so as to achieve healthier environment

**The Department is offering following GE paper (2019-2020; First Semester):**

**Atomic structure, Bonding, General Organic Chemistry**

In order to bring equity, efficiency and diversification the university adopted CBCS. Accordingly Generic elective subjects are offered, the Department offers GE papers as to expose students in a discipline different from their course of study.

The GE offered by the Department is beneficial in many ways:

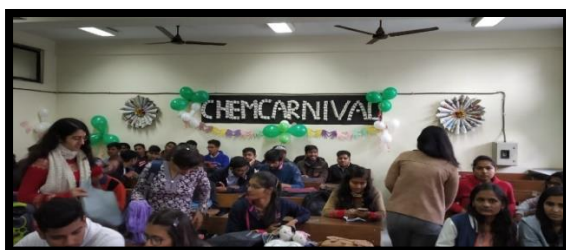
- Provides an insight of the subject thereby encouraging inter-disciplinary activities.
- The knowledge obtained by studying GE enables them to better understanding of their own elective subjects.
- For post-graduation in certain disciplines the study of Chemistry in under graduate is mandatory.

SYLLABUS STRUCTURE					
SEMESTER-I		SEMESTER-III		SEMESTER-V	
CC-1**	Inorganic Chemistry-I	CC-5**	Inorganic Chemistry-II	CC-11**	Organic Chemistry-IV
CC-2**	Physical Chemistry-I	CC-6**	Organic Chemistry-II	CC-12**	Physical Chemistry-V
AECC-1^	English communication/ Environmental Science	CC-7**	Physical Chemistry-III	DSE-1 <sup>#</sup>	
GE-1*		SEC-1 <sup>#</sup>		DSE-2 <sup>#</sup>	
		GE-3*			
SEMESTER-II		SEMESTER-IV		SEMESTER-VI	
CC-3**	Organic Chemistry-I	CC-8**	Inorganic Chemistry-III	CC-13**	Inorganic Chemistry-IV
CC-4**	Physical Chemistry-II	CC-9**	Organic Chemistry-III	CC-14**	Organic Chemistry-V
AECC-2^	English communications/ Environmental Science	CC-10**	Physical Chemistry-IV	DSE-3 <sup>#</sup>	
GE-2*		SEC-2 <sup>#</sup>		DSE-4 <sup>#</sup>	
		GE-4*			

**\*\*Core Course; ^Ability Enhancement Compulsory Course; \*Generic Elective – To be selected from papers offered by other Departments of the college; <sup>#</sup>Skill Enhancement Course and Discipline Specific Elective Course – To be selected from papers offered by the Department of Chemistry**

## SKILL ENHANCEMENT AND DISCIPLINE SPECIFIC ELECTIVE PAPERS OFFERED BY DEPARTMENT OF CHEMISTRY

Skill Enhancement Papers		Discipline Specific Elective Papers	
SEC-1	IT Skills for Chemists	DSE-1	a) Novel Inorganic Solids
SEC-2	Basic Analytical Chemistry		b) Inorganic Materials of Industrial Importance
SEC-3	Chemical Technology & Society		
SEC-4	Chemoinformatics	DSE-2-4	a) Applications of Computers in Chemistry
SEC-5	Business Skills for Chemists		b) Analytical Methods in Chemistry
SEC-6	Intellectual Property Rights		c) Molecular Modelling & Drug Design
SEC-7	Analytical Clinical Biochemistry		d) Polymer Chemistry
SEC-8	Green Methods in Chemistry		e) Research Methodology for Chemistry
SEC-9	Pharmaceutical Chemistry		f) Green Chemistry
SEC-10	Chemistry of Cosmetics & Perfumes		g) Industrial Chemicals & Environment
SEC-11	Pesticide Chemistry		h) Instrumental Methods of Analysis
SEC-12	Fuel Chemistry		i) Dissertation



For more details regarding syllabus and scheme please refer to:

[http://du.ac.in/du/uploads/Syllabus\\_2015/B.Sc.%20Hons.%20Chemistry.pdf](http://du.ac.in/du/uploads/Syllabus_2015/B.Sc.%20Hons.%20Chemistry.pdf)

## Department of Computer Science

### Faculty

Name	Qualification	Specialization
<b>Mr.Bhavya Deep(Teacher-In-Charge)</b>	M.Sc.(DAVV,Indore)	Cloud Computing, Internet of Things, Blockchain, Swarm Intelligence, Recommender Systems, Data Science
Ms.Manu Kataria	MCA(HPU Shimla)	Computer Graphics
Dr.Sangeeta Srivastava	Ph.D.(D.U.)	Software Engineering , Data Mining and Machine Learning
Ms.Arati Dua	MCA (GGSIPU,Delhi)	Computer Networks

Department of Computer Science, was established in the year 1997 with the vision to inculcate knowledge among students and enhance their problem solving skills. The Department is primarily offering B.Sc. (H) Computer Science course of University of Delhi. B.Sc. (H) Computer Science is a popular course of University of Delhi which focuses on fundamentals of computer programming and develops an approach to software development. Future is Technology and this has led to the boom in technology sector thereby creating an ample number of opportunities. Increasing number of software companies and IT hubs indicate an increasing demand for Computer Science graduates. B.Sc. (Hons) Computer Science course aims to develop strong theoretical and analytical skills which can be applied to many different professional pursuits like engineering, healthcare or finance. In the past years, our students have been well placed in prestigious companies like TCS, TAPROOM, Sensus Labs, Indian Army, Enable Professional Services Pvt. Ltd., Software ONE, ZS Associates, Vivo India etc. The students have also got selected in top institutes of India like NIT Jamshedpur, NIT Karnataka, NIT Calicut, IIIT Hyderabad for post graduate courses. The faculty of the Department engages themselves in research work and Government funded projects. The faculty also participates in training programs. The faculty and students work in tandem on Research projects and have also received awards for the same. Over the years, the Department has evolved into a niche of excellence in academics, technology and other activities.

The Department is spread over three spacious air conditioned laboratories having more than hundreds of computers with the facility of IT peripherals such as scanners, projectors and printers. The laboratories are well equipped with several multimedia computers of Pentium range loaded with latest software platforms and curriculum recommended software such as C++, Java, SQL server, Ubuntu, etc. The College provides Internet access to faculty and students on their machines through Wi-Fi network and e-Journal facility at various locations in the college.

Department of Computer Science organizes various workshops, outreach activities and technical talks from time to time so as to make students as well as faculty equip with the latest trends and technologies. Workshop like "Data Sciences using R Language", Outreach

activity on “M-Commerce” for neighbouring government school students in collaboration with ICT Academy, outreach activity on ‘Digital divide and Role of Social Media’ for school students, Seminar on ‘Career in Computer Science after Graduation’, Cloud Literacy Day by Amazon Web Services are the few ones to name.

The Department has its own Computer Science Society, CS.Net, a society by the students, of the students and for the students. The society was founded in the year 2007 and is blossomed with the efforts of faculty, students and non-teaching staff. The Computer Science Society CS.Net celebrates its Inter-college Annual Techno-Cultural festival “INTERFACE” every year.

**The Department is offering following GE paper (2019-2020; First Semester):**

### **Introduction to programming**

With Generic Elective paper GE1 “Introduction to programming”, the first year students learn the art of solving problems using C and C++. With an introduction to the traditional approach of programming using C, the students gradually move to more advanced approach of problem solving i.e. object oriented programming using C++. The purpose of OOP is to organize a program's structure so that one can build programs using "objects" that encapsulate data and behaviour into one unit. An effective implementation helps to reduce the complexity and improves the maintainability of the system

SYLLABUS STRUCTURE					
SEMESTER-I		SEMESTER-III		SEMESTER-V	
CC-1**	Programming Fundamentals using C++	CC-5**	Data Structures	CC-11**	Internet Technologies
CC-2**	Computer System Architecture	CC-6**	Operating Systems	CC-12**	Theory of Computation
AECC-1^		CC-7**	Computer Networks	DSE-1#	
GE-1*		SEC-1#		DSE-2#	
		GE-3*			
SEMESTER-II		SEMESTER-IV		SEMESTER-VI	
CC-3**	Programming in JAVA	CC-8**	Design and Analysis of Algorithms	CC-13**	Artificial Intelligence
CC-4**	Discrete Structures	CC-9**	Software Engineering	CC-14**	Computer Graphics
AECC-2^		CC-10**	Database Management Systems	DSE-3#	
GE-2*		SEC-2#		DSE-4#	
		GE-4*			

\*\*Core Course; ^Ability Enhancement Compulsory Course; \*Generic Elective–To be selected from papers offered by other Departments of the college; #Skill Enhancement Course and Discipline Specific Elective Course–To be selected from papers offered by the Department of Computer Science



**SKILL ENHANCEMENT AND DISCIPLINE SPECIFIC ELECTIVE PAPERS OFFERED BY  
DEPARTMENT OF COMPUTER SCIENCE**

Skill Enhancement Papers		Discipline Specific Elective Papers
SEC-1	Android Programming	DSE-1 Any One a) System Programming b) Numerical Methods c) Operational Research for Computer Science DSE-2 Any One a) Microprocessor b) Modeling and Simulation c) Advanced Algorithms DSE-3 Any One a) Machine Learning b) Introduction to Data Sciences c) Combinational Optimization DSE-4 Any One a) Digital Image Processing b) Data Mining c) Project work/ Dissertation
SEC-2	PHP Programming	



For more details regarding syllabus and scheme please refer to:

[http://du.ac.in/du/uploads/Syllabus\\_2015/B.Sc.%20Hon.%20Computer%20Science.pdf](http://du.ac.in/du/uploads/Syllabus_2015/B.Sc.%20Hon.%20Computer%20Science.pdf)

## Department of Electronics

### Faculty

Name	Qualification	Specialization
Dr. Manoj K. Khanna (on lien/leave)	Ph. D. (Delhi University)	Microelectronics and VLSI designing
<b>Dr. Geeta Mongia</b> <i>(Teacher-In-Charge)</i>	Ph. D. (Delhi University)	Optical Data Storage & Photovoltaic
Dr. Inderbir Kaur	Ph. D. (Delhi University)	Amorphous Semiconductors
Dr. Avneesh Mittal	Ph. D. (Delhi University)	Genetic Algorithm and Adaptive Controls
Dr. Manoj K. Tiwari (on leave)	Ph. D. (Delhi University)	Microwave Photonics
Ms. Shweta Gupta	M. Sc. (Delhi University)	Electronics
Dr. Jitender Kumar	Ph. D. (Delhi University)	Nano-Materials and devices (LED Solar Cell, Sensors)
Dr. Amit Kumar	Ph. D. (Delhi University)	Electroluminescent Materials & Devices

Degree in B.Sc. (Hons.) Electronic Science covers all the key knowledge areas required to become a successful Electronics Professional. It equips students with broad foundation of the fundamentals of Electronics and associated subjects and provides students with skills which are required to design electrical, electronic, computer, automation and communication systems. It includes courses on Analog and Digital Electronics, Signals and Systems, Electrical Machines, Communication, Microprocessor and C programming language. Practicals based on simulators like PSPICE, QUCS, SCILAB, etc. are also included in the curriculum. This degree provides comprehensive opportunities to the graduates to explore and attain the zenith of success in research & development, aerospace and defence electronics, design, testing, quality control, and project management. After graduation, students can also pursue higher studies in Electronics or Information technology from University of Delhi, Indian Institute of Technology, Jamia Millia University, Kurukshetra University, Devi Ahilya University, Banasthali Vidyapeeth University, etc. The students are also eligible to pursue MBA and MCA from various esteemed Universities.

The Electronics Laboratory is well equipped with latest state-of-the art instruments such as Cathode Ray Oscilloscopes (CRO) & Digital Storage Oscilloscopes (DSO) (100MHz), CRO demonstration kits, Pulse Generators, Function Generators, Power Meter, Analog and Digital I.C. tester, LCR Q-tester, 8085 and 8086 Microprocessor kits, Microcontroller trainer, Interfacing modules and cards, Universal Programmer, various communication modules experimental kits, LASER kits, Antenna trainer kits, PCB design Unit, AVR Microcontroller

and Arduino Kits etc. The Department also has well equipped computer laboratory with various simulation software installed to facilitate the students to gain expertise in IT skills

Department has its society named ‘**SPARKS**’ which organizes various activities like Workshops/ Conferences/ lectures/Seminars/ Technical Fest, etc. every year under the guidance of eminent personalities from the academia and industries. To promote the holistic development of students, many activities have been organized in the last academic year. This includes a one day seminar on the topic ‘What after Graduation’ and an Annual Departmental Technical Fest ‘Techmania’19’ in which Dr. Harsupreet Kaur, Assistant Professor, Department of Electronics, University of Delhi, South Campus, was invited to deliver a talk on ‘Emerging Nanoelectronic Devices’. Several other events namely Techno Quiz, Circuit making competitions, and other fun events were also organized in which students from various Departments enthusiastically participated.

**The Department is offering following GE paper (2019-2020; First Semester):**

### **Digital System Design**

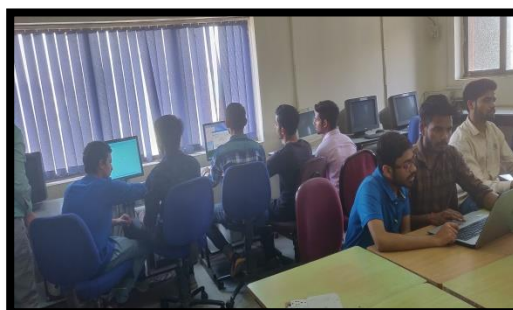
Electronics industry is ever-growing involving technological advances for new era. The above mentioned GE paper equips the learners about the designing of the digital circuits along with their simulation. The inclusion of the VHDL language in the curriculum not only enhances the skill of the students but also make them industry ready. Also, the practical exposure provided to the students enables them in learning circuit implementations and troubleshooting.

SYLLABUS STRUCTURE					
SEMESTER-I		SEMESTER-III		SEMESTER-V	
CC-1**	Basic Electronics and Network Analysis	CC-5**	Electronic Circuits	CC-11**	Microprocessors And Microcontrollers
CC-2**	Mathematics Foundation for Electronics	CC-6**	Digital Electronics and VHDL	CC-12**	Electromagnetics
AECC-1^	English/MIL communication/ Environmental Science	CC-7**	C Programming and Data Structures	DSE-1#	
GE-1*		SEC-1# GE-3*		DSE-2#	
SEMESTER-II		SEMESTER-IV		SEMESTER-VI	
CC-3**	Semiconductor Devices	CC-8**	Operational Amplifiers and Applications	CC-13**	Communication Electronics
CC-4**	Applied Physics	CC-9**	Signals and Systems	CC-14**	Photonics
AECC-2^	English/MIL communications/ Environmental Science	CC-10**	Electronic Instrumentation	DSE-3#	
GE-2*		SEC-2# GE-4*		DSE-4#	

**\*\*Core Course; ^Ability Enhancement Compulsory Course; \*Generic Elective – To be selected from papers offered by other Departments of the college; #Skill Enhancement Course and Discipline Specific Elective Course – To be selected from papers offered by the Department of Electronic.**

**SKILL ENHANCEMENT AND DISCIPLINE SPECIFIC ELECTIVE PAPERS OFFERED  
BY DEPARTMENT OF ELECTRONICS**

Skill Enhancement Papers		Discipline Specific Elective Papers	
SEC-1	Design and Fabrication of Printed Circuit Boards	DSE-1	Power Electronics
SEC-2	Robotics	DSE-2	Numerical Analysis
SEC-3	Mobile Applications Development	DSE-3	Modern Communication Systems
SEC-4	Internet and Java Programming	DSE-4	Semiconductor Fabrication and Characterization
SEC-5	Programming with LabVIEW	DSE-5	Electrical Machines
		DSE-6	Basic VLSI Design
		DSE-7	Digital Signal Processing
		DSE-8	Control Systems
		DSE-9	Computer Networks
		DSE-10	Embedded Systems
		DSE-11	Biomedical Instrumentation
		DSE-12	Transmission Lines, Antenna and
		DSE-13	Wave Propagation
		DSE-14	Dissertation



For

more details regarding syllabus and scheme please refer to:

[http://www.du.ac.in/du/uploads/Administration/AC/10072015/Annexure/10072015\\_Annexure-93.pdf](http://www.du.ac.in/du/uploads/Administration/AC/10072015/Annexure/10072015_Annexure-93.pdf)



## Department of Food Technology

### Faculty

Name	Qualification	Specialization
Dr. Rizwana	M.Sc.(CFTRI), Ph.D. (Jamia Hamdard)	Food Technology
Dr. Vandita Gupta	M.Sc., Ph.D. (DU)	Food and Nutrition
Dr. Shalini Sehgal	M.Sc., Ph.D. (NDRI, Karnal)	Food Microbiology
<b>Dr. Eram S. Rao</b> ( <i>Teacher-In-Charge</i> )	M.Sc., Ph.D. (BKU)	Food Science and Nutrition
Dr. Meenakshi Garg	M.Sc., Ph.D. (HAU)	Food Processing and Packaging

The Department of Food Technology conducts B.Sc. (H) Food Technology degree. The Department has been awarded with \*STAR DEPARTMENT STATUS\* in the year 2013 by Department of Biotechnology, Government of India. With changing lifestyle and food habits, there is a growing global demand for processed food products that are not only appealing but also safe and nutritious by a large population. This provides a great potential in the global market which needs to be properly managed and harnessed. Food Technology makes it possible to ensure safe and abundant supply of a variety of foods that are affordable and healthy to a large audience through scientific conservations, minimal losses and making available more balanced and nutritious food. Food processing has been identified as the sunrise industry due to its enormous impact and significance in the Indian development sector. Recognizing the potential in this sector the College has started the Food Technology course which is very well recognized by the modern industrial world and deals with every aspect of food processing and technology offering a number of subjects Food Chemistry, Food Safety, Food Microbiology, Food Engineering, Food Packaging, Food Quality and Technology of Plant and Animal Food. The course offers educational tours, seminars and industrial training. There are lots of job avenues for students of Food Technology. Students have excellent job opportunities in Government and private sector, industries and in multinational companies. In the preceding years, the students have been well placed in various companies such as Intertek, Delmonte, Evaluate Serve, Haldiram, Midas Foods India Pvt. Ltd., Britannia Industries Ltd., GSK, Dabur, Parle, Veeba Food Services Pvt. Ltd., Nestle Pvt. Ltd., Packaging consultant, etc. as well as deputed as scientists and professors in various reputed organizations. After graduation, students can also pursue higher studies in Food Technology or allied subjects both in India and abroad viz. Central Food Technology and Research Institute (Mysore), Indian Institute of Food Technology (Kharagpur), IARI (New Delhi), Kansas State University (USA), McGill University (Canada), and many more. The students are also eligible to pursue in management studies (MBA) from various institutes.

The Department of Food Technology has well-equipped laboratories which have sophisticated equipments such as Automatic Nitrogen analyzer, Brookfield's viscometer, UV-Vis spectrophotometer, Laminar air flow, etc. Besides, this Department has a pilot plant which aims at providing practical experience to the students. It is well equipped with a

canning unit, bakery unit, MAP, milk processing plant, FFS, sieve shaker, Lovibond Tintometer, Rotary vacuum evaporator and drying oven, etc. The Department also has a research room which includes highly sophisticated equipments like gas chromatography, texture analyzer, water activity meter, etc.

The Food Technology Department has its Society 'AMBROSIA' which organizes talks, seminars and workshops to provide practical hands on experience on emerging technologies. The society also gives the students a chance to showcase their abilities and talents.

- Workshop on 'Cuisine of Sikkim' was organized on March 20, 2018 by North East Cell in collaboration with Department of Food Technology to sensitise the students about the food culture in North East India.
- An expert lecture on 'Veterinary Inspection of Meat and Poultry' was delivered by Dr. Mita Sinhamahapatra, Assistant Professor, School of Agriculture, IGNOU, New Delhi, on October 04, 2018.
- The Ambrosia Society organized an outreach activity on the theme 'Food Safety and Food Nutrition' in Government Co-Ed Senior Secondary School, Dwarka Sector-2, on October 12, 2018 to make the school students aware about the basic importance of personal hygiene and sanitation, nutritional labelling and importance of consuming a balanced, safe and nutritious diet.
- A workshop on 'Chocolate Making' was organized on October 26, 2018. Various procedures for preparation of a variety of chocolate types procedure like Oreo chocolate, dry fruit chocolate, dark chocolate and mint chocolate was demonstrated by chocolate making professional Ms. Poonam Maurya Maheswari. The students further went on to prepare the chocolates and put for Diwali sale in the college premises on November 02, 2018. The response was overwhelming and greatly appreciated by the students, faculty and staffs of the college.
- A one-day workshop on 'Waste management and making of compost' was organized on November 28, 2018.
- An expert lecture on 'Logistics and supply chain management' was delivered by Dr. L. Karthigeyan, Deputy Director, Education Division, Confederation of Indian Industry, Institute of Logistics, Chennai on January 08, 2019.
- Another workshop on 'Cake Baking' was organized on February 04, 2018. The baked goods prepared viz. Cupcake, muffins, etc.
- The Departmental Fest 'AMBROSIA 2019' was held on February 07-08, 2019. Lectures on 'Application of probiotics in non-dairy food products' delivered by Dr. Vasudha Sharma (Assistant Professor, Jamia Hamdard) and 'Status of fortification in India: Progress so far' by Ms. Shivani Bansal Moghe (Consultant, Food Fortification Resource Centre, FSSAI), and an interactive session by IMS (Dwarka) were some of the main programmes. There were many prize winning activities related to the theme of the fest i.e. 'Youth Against Hunger' conducted successfully along with many fun games by the students along with the teachers of the Department. The students had further put on sale of chocolates and baked products prepared by them during the fest.
- Industrial sponsored project from String Biotech Company was conducted on 'Preparation and sensory evaluation of rainbow trout fish' on March 12, 2019. The students of B.Sc. (H) Food Technology II and III Year were involved and got good exposure.

- A one-day seminar on ‘Good Food for Healthy Life’ was organized in collaboration with AFST (I) Delhi Chapter and PFNDAI on March 15, 2019.

The students of B.Sc. (H) Food Technology final year (1015-18) have made the Department proud with their respective achievements. Ms.Rupal received a scholarship of Rs. 10000/- from Government of National Capital Territory of Delhi for excellent performance in the course studies. Mr. Yaman Sharma received a financial support in the form of scholarship of Rs. 15000/- from Protein Foods and Nutrition Development Association of India, Mumbai. Ms.DeebaZarin of B.Sc. (H) III Year (2016-19) and Mr.Joyal James, Ms.Reyhana and Mr. Muhammad Kalid K. of B.Sc. (H) IYear (2018-21) have been selected for the CII-SKA Merit-cum-Means Scholarship for the year 2018-19 and will be receiving a sum of Rs. 25,000/- from CII-SKA. Ms.Priyanka Gupta received the IMS certificate of merit 2018 (New Delhi) after clearing the Scholarship Test 2018. Four students of B.Sc. (H) III Year (2016-19), viz. Kinshuk Arora, Tanesh, Nikita Arya and Kanika Sindhi won 1st prize and achieved the DuPont Nutri Scholars cash award of Rs. 50,000/- in the ‘Out of the Box’ bakery innovation category under the mentorship of Dr.Vandita Gupta.

**The Department is offering following GE paper (2019-2020; First Semester):**

### **Food Processing & Preservation**

The course GE-I (Food Processing & Preservation) offered by the Department of Food Technology have been developed to impart basic knowledge and skills on processing and preservation methods of food products. Apart from fundamental knowledge in food processing, students develop the skills to evaluate alternative food manufacturing methods as well as an in-depth knowledge of the processes involved in the food market. The course provides:

- An overview about the different processing techniques generally used for preservation of foods viz. refrigeration, dehydration and thermal processing.
- An insight about the structural and dynamic aspects of multi-phase food systems like foams, gels, etc. which contribute to the appearance and textural aspects of different foods.
- Emphasis on the impact of waste water disposal and sanitation on safety issues in food industries.
- Highlights on general principles behind minimal processing and hurdle technology to enhance the shelf life of foods without any adverse changes in their nutritive value and sensory attributes with greater health benefits.
- Knowledge about the different food additives and contaminants that may enter the food chain during processing as well as food laws and regulations to be followed and comply in food industries.

SYLLABUS STRUCTURE					
SEMESTER-I		SEMESTER-III		SEMESTER-V	
CC-1**	Fundamentals of Food Technology	CC-5**	Food and Nutrition	CC-11**	Food Engineering
CC-2**	Principles of Food Science	CC-6**	Technology of Fruit, Vegetable and Plantation crops	CC-12**	Food Chemistry –I
AECC-1^	English Communication	CC-7**	Technology of Dairy and Sea Foods	DSE-1#	
GE-1*		SEC-1#		DSE-2#	
		GE-3*			
SEMESTER-II		SEMESTER-IV		SEMESTER-VI	
CC-3**	Technology of Food Preservation	CC-8**	Technology of Cereal, Pulses and Oilseeds	CC-13**	Food Chemistry-II
CC-4**	Food Processing Technology	CC-9**	Food Microbiology	CC-14**	Food Quality and Sensory valuation
AECC-2^	Environmental Science	CC-10**	Technology of Meat, Poultry and Egg	DSE-3#	
GE-2*		SEC-2#		DSE-4#	
		GE-4*			

**\*\*Core Course; ^Ability Enhancement Compulsory Course; \*Generic Elective** – To be selected from papers offered by other Departments of the college; **#Skill Enhancement Course and Discipline Specific Elective Course** – To be selected from papers offered by the Department of Food Technology.

SKILL ENHANCEMENT AND DISCIPLINE SPECIFIC ELECTIVE PAPERS OFFERED BY DEPARTMENT OF FOOD TECHNOLOGY					
Skill Enhancement Papers			Discipline Specific Elective Papers		
SEC-1	Confectionary Technology		DSE-1	Food Safety	
SEC-2	Food Product Development		DSE-2	Food Quality Management	
			DSE-3	Bakery Technology	
			DSE-4	Food Packaging	



**For more details regarding syllabus and scheme please refer to:**

[http://www.du.ac.in/du/uploads/Syllabus\\_2015/B.Sc.%20Hons.%20Food%20Technology.pdf](http://www.du.ac.in/du/uploads/Syllabus_2015/B.Sc.%20Hons.%20Food%20Technology.pdf)



## Department of Instrumentation

### Faculty

Name	Qualification	Specialization
<b>Dr. Geeta Bhatt</b> ( <i>Teacher-In-Charge</i> )	Ph.D. (Univ. of Mumbai)	Material Science (Semiconductor Thin Films)

Instrumentation is a specialized field which deals with the science and technology of measurement that provides service to not only physical, chemical and biological sciences; but also to all branches of engineering and medicine. Bhaskaracharya College of Applied Sciences is the only co-educational college in the University of Delhi, offering a Bachelor of Sciences (Hons.) course in Instrumentation. This course imparts knowledge and prepares skilled manpower that can design, develop, use and maintain various advanced instruments and creates bright career prospects. The students are also eligible for pursuing M.Sc. Instrumentation, M.Sc. Electronics, M.Sc. Operational Research, M.Sc. Forensic Science, MCA and MBA from various Universities across India.

The College has a specialized Instrumentation Laboratory which provides practical expertise to the students and trains them to design, develop, maintain and troubleshoot instruments that are being used in varied fields like Automation and Control, Process Industries, Medicine, Quality Control etc. The Laboratory is equipped with state-of-the-art instruments like NI My RIO, NI My DAQ, NI ELVIS-II Educational Laboratory Virtual Instrumentation Suite supported by LabVIEW full development system from National Instruments and NI USB Data Acquisition Card, to help students interface and integrate real time signals and data. It also has Multisim software to simulate electronic circuits and designs. The laboratory also acquaints students with devices used in Process and Control Industries like ratio control trainer, differential pressure transmitter, circular chart recorder, various flow meters such as electromagnetic, orifice meter, ultrasonic etc. It also has advanced transducer and instrumentation trainer, temperature transducers, LVDT, strain gauge trainer etc. Students learn to design and develop small projects on high performance microcontroller and microprocessor kits which are provided with interfacing modules like Temperature Controller, Keyboard, Elevator Simulator Interface, Stepper Motor etc. The Instrumentation Laboratory also boasts of training students in sophisticated biomedical and analytical instruments like 3 to 6 Channel Electrocardiograph, Heart Rate Monitor cum ECG trainer, Respiration Rate Monitor, UV-VIS Spectrophotometer, flame photometer etc.

The Instrumentation Department has its own society named “Sensors” which comprises of all the students of the Department. Aim of the society is to provide students a platform to organize, manage and coordinate various activities along with learning, interacting with experts from the industry and other fellow students. It is with this endeavor that the society has been regularly organizing various seminars, workshops, talks by experts and industrial visits which apart from facilitating the learning process helps students in exploring and honing their creative, communication and problem solving skills. Last year, Department of Instrumentation organized a one day workshop on “Internet of Things” in collaboration with



DUCAT on January 10, 2019. The workshop was attended in large numbers by students of all streams. The ‘Sensors’ Society of Department also conducted an Invited Talk on “Introduction to Ultrafast and Ultrasmall Measurements” by Dr. Mahesh Kumar, Senior Scientist, NPL on January 11, 2019. There was also an interactive session with some of the very bright and talented alumni of the Department. Mr.Ashutosh and Mr.Pranav, who are passed out students have already started We-Convert, a start up with an aim to to create smart waste collecting machines. They have also been selected as innovators in Manufacturing and Industry in Forbes under 30 Asia. Another alumni who was invited was Mr.Vijay who has completed his M.Tech from IIT Delhi sponsored by Texas Instruments. Students found the interactive session very informative and encouraging. They could get guidance and advice from their seniors regarding the different career options available and ways to pursue them. An Intercollege Quiz was also held on “Indian History with Essence of Ancient Science” on October 5, 2018. The Department also organized industrial visits to Aimil Instrumentation & Technology and Excel Technologies on August 27 and September 19, 2018 respectively. Aim was to bridge the gap between industry and academia and also expose students to the work culture, ethics and functioning of industries. The staff and students of the Department actively observed Swachhata Day on August 9, 2018 as a part of Swachhata Pakwada, an initiative by Govt. of India.

### **Special achievements of students graduating in 2019**

- A placement drive was conducted by Tata Consultancy Services Limited for the profile of Graduate Trainee in which three students were selected.
- A placement drive was conducted by Wipro Limited for the profile of Trainee - Computer Applications in which four students were selected.
- Another Placement drive was conducted by Elcamino Software Pvt. Ltd in which three students of the Department were shortlisted

### **The Department is offering following GE paper (2019-2020; First Semester):**

#### ***Sensors and Actuators***

We use many equipments/devices in our daily lives without knowing about them. Sensors and Actuators are part and parcel of such devices. When we use a gas lighter which works for years without using a battery, when the street lights start working on their own after sunset, it is the vital role of sensors and actuators which executes such sensing action. They assist us to monitor and run our day to day gadgets. This credit course will throw light on the working principle and applications of such devices. This course will be helpful in future while making application based projects. Details of the syllabus are on college website and prospectus.

[http://du.ac.in/du/uploads/Syllabus\\_2015/18082015\\_B.Sc.%20\(Hons.\)%20Instrumentation.pdf](http://du.ac.in/du/uploads/Syllabus_2015/18082015_B.Sc.%20(Hons.)%20Instrumentation.pdf)

## SYLLABUS STRUCTURE

SEMESTER-I	SEMESTER-III	SEMESTER-V
CC-I ** Basic Circuit Theory and Network Analysis  CC-II ** Applied Physics  AECC-1^ English/MIL communication/ Environmental Science  GE-1*	CC-V ** Biomedical Instrumentation  CC-VI ** Digital Electronics and VHDL  CC-VII ** Engineering Mathematics  SEC-1 #  GE-3*	CC-XI** Measurement Technology  CC-XII** Microprocessor  DSE-1 #  DSE-2 #
SEMESTER-II	SEMESTER-IV	SEMESTER-VI
CC-III ** Analog Devices and Circuits  CC-IV ** Transducers and Sensors  AECC-2^ English/MIL communication/ Environmental Science  GE-2*	CC-VIII ** Operational Amplifiers and Applications  CC-IX ** Analytical Instrumentation  CC-X ** Electronic Instrumentation  SEC-2 #  GE-4*	CC-XIII** Power Electronics  CC-XIV** Control Systems  DSE-3 #  DSE-4 #

**\*\*Core Courses; ^Ability Enhancement Compulsory Course; \*Generic Elective** – To be selected from papers offered by other Departments of the college; **#Skill Enhancement Course and Discipline Specific Elective Course** – To be selected from papers offered by the Department of Instrumentation.

## SKILL ENHANCEMENT AND DISCIPLINE SPECIFIC ELECTIVE PAPERS OFFERED BY DEPARTMENT OF INSTRUMENTATION

### Skill Enhancement Papers

SEC-1 Programming in C  
SEC-2 VLSI Design and Verification  
SEC-3 Testing and Calibration  
SEC-4 PLC and SCADA  
SEC-5 Virtual Instrumentation  
SEC-6 Programming using MATLAB

### Discipline Specific Elective Papers

DSE-1 Concepts of Chemistry  
DSE-2 Signal and Systems  
DSE-3 Advanced Analytical Instrumentation  
DSE-4 Communication System  
DSE-5 Advanced Biomedical Instrumentation  
DSE-6 Embedded System and Robotics  
DSE-7 Process Control Dynamics  
DSE-8 Reliability & Quality Control Tech.  
DSE-9 Dissertation



For more details regarding syllabus and scheme please refer to:

[http://du.ac.in/du/uploads/Syllabus\\_2015/18082015\\_B.Sc.%20\(Hons.\)%20Instrumentation.pdf](http://du.ac.in/du/uploads/Syllabus_2015/18082015_B.Sc.%20(Hons.)%20Instrumentation.pdf)

## Department of Microbiology

### Faculty

Name	Qualification	Specialization
Dr.N. Vijaya Kumar	Ph.D. (DU)	Molecular Biology
<b>Dr. Purnima Anand</b> (Teacher-In-Charge)	Ph.D. (JNU)	Environmental Microbiology
Dr.Ruchi Gulati Marwah	Ph.D. (DU)	Industrial Microbiology
Dr. Pawas Goswami	Ph.D. (NDRI)	Dairy Microbiology

Louis Pasteur once said, 'Never Underestimate the Power of the Microbes'. Microbiology is one of the most dynamic areas of biological sciences, as microbes are evolutionary and ecological pioneers and have immense socio-economic importance in our day to day life. These miniscule organisms play an indispensable and vital role in research in all areas of basic and applied sciences. It is an exceptionally broad discipline encompassing and integrating areas as diverse as Biochemistry, Cell Biology, Genetics, Molecular Biology, Environment, Agriculture, Taxonomy, Bioinformatics and Biotechnology.

The course curriculum provides a balanced introduction to basic, applied and advanced aspects of Microbiology and allied fields. Microbiologists are employed in variety of industries ranging from Food, Dairy, Pharmaceuticals, Chemicals to Hospitality industry. The students are acquainted with the knowledge about all major groups of microorganisms, their influence and applications in our daily lives and how their potential can be harnessed for the betterment of the human life.

The Department of Microbiology of our college is very well-equipped to provide hands-on-training to our undergraduate students. The laboratories are equipped with state-of-the-art equipment's such as Biological Safety Cabinets, Monocular and Binocular Microscopes, Trinocular Microscope, Spectrophotometers, Thermal Cycler (PCR), UV-visible double beam Spectrophotometer, Autoclaves, Incubators, Centrifuges, Shaker incubators, Electrophoresis set up, High precision electronic balances, pH analyzers, Cooling centrifuge, Deep freezer, Cooling cabinet, Reverse Osmosis water purifier (large scale), Gel Documentation System, Ice-making Machine, Hybridization oven, Mini Spinner, Dry heating block, Auto pipettes, etc. to carry out various microbiological, biochemical and biotechnological experiments.

The Department is proud to have been awarded the Star College Status by Department of Biotechnology, Government of India in June 2017 as part of which the Department receives 5 Lakhs of recurring grant and 15 lakhs of non-recurring grant. The grant helps us to go beyond the curriculum in training our students.

The Department has a society named 'SUKSHMJEEV' which organizes a variety of academic and co-curricular activities in the form of conferences, seminars and lectures, etc.

for the holistic development of students. Sukshmjeev provides a platform for interaction amongst students, faculty members and various academicians invited from renowned institutions.

A plethora of activities were organized this year. In collaboration with Manipal Hospital (Dwarka, Delhi), the Department observed World Rose Day for Cancer patients on September 24, 2018 with an aim to bring cheers to cancer patients and their caregivers. The students, faculty members and Principal Sir greeted the cancer patients with roses and handmade cards. A lecture series on 'Augmenting Curricular Concepts in Microbiology to stimulate Young Minds: An Interdisciplinary Approach' was organized. The part I of the lecture series was on the theme 'Plant Microbe interactions' and part II of the series was organized on the theme 'Cancer Biology'. The Department also organized a debate competition on 'Genetically modified crops cause more good than harm' with an aim to initiate a healthy discussion and dialogue on the motion among students, and also provide them with a platform to polish their oratory skills. To give wings to the creativity of students, Agar Art Competition and Essay Writing Competition were organized. The Department also conducts various outreach programs to do its bit towards a better society. The students conducted survey cum awareness campaigns on topics of much importance. One of these was on the inadvertent use of antibiotics and the resulting antibiotic resistance. The other one was on 'Hand hygiene' with an aim to increase awareness about the importance of hand washing as an extremely important and affordable way to maintain hygiene and control infectious diseases. The highlight of this year was a **one-day seminar on the topic 'Advances in Sequencing Technology: Accelerating Progress in Biological Sciences'** and the **annual Microbiology festival MICROQUEST 2019**, which included lectures by distinguished speakers and a number of student activities. On this occasion, the annual Departmental magazine 'Life under Lens' was released on the theme 'Microcosmos, unveiling the world of Microbiomes'. The students visited a diagnostic laboratory in Manipal Hospital, Dwarka to get an insight into automation in diagnostics.

The students are encouraged to participate in conferences, hands on training and workshops organized by different colleges and universities. This year some students participated in a two day hands-on-training on Molecular and Diagnostic assays of plant viruses organized by Amity Institute of Virology and Immunology, in a workshop on 'Biotechnology Start-up Ecosystem in India' held at BCIL (Biotech Consortium India Limited), and in a conference organized by International Institute of Biotechnology and Toxicology (IIBAT). The students also attended a two-day BioCARE conclave organized at National Institute of Plant Genome Research (NIPGR) on the occasion of women's day. Seventeen students went for **summer training** at various institutes/Departments like ICGEB, National Institute of Pathology, JanakPuri Super Speciality Hospital, Dr. Baba Saheb Ambedkar Hospital and Medical College, and Bhaskaracharya College of Applied Sciences.

Besides all these activities, the students also actively participate in several in-house research projects (under the Star College Scheme, DBT, Govt. of India) which go beyond their curriculum and foster their interest and research aptitude.

The Department realizes the much important role of Alumni in guiding the students regarding career aspects and with this in mind, various alumni interactions are planned where students from various batches and different profiles interact with the present batches. Students of the Department are also encouraged to participate in various sports, ECA and NSS activities.

The Department also offers Generic Elective courses to the students of other Departments in

the first four semesters.

**Special achievements of students in the year 2018-2019:**

- **Mansi Singh** of the batch 2014-2017 received University gold medal in the 95<sup>th</sup> Annual Convocation of University of Delhi, held on November 19, 2018 for securing the highest marks in B.Sc. (Hons.) Microbiology.
- **Neeru Sharma, Saurav Malik and Preeti Yadav** of B.Sc. (Hons.) Microbiology III year secured 7<sup>th</sup>, 24<sup>th</sup> and 76<sup>th</sup> rank respectively in IIT JAM entrance examination 2019.
- **Udaat Mittu** of B.Sc. (Hons.) Microbiology III year was awarded first prize in the Debate Competition held at Regional Centre for Biotechnology, Faridabad on September 24, 2018.

**The Department is offering following GE paper (2019-2020; First Semester):**

**Introduction and scope of Microbiology**

The Generic elective paper GE1 offered in the first semester introduces students of other disciplines to the fascinating world of microorganisms. The paper discusses the development of microbiology as an important scientific discipline, the diversity amongst different groups of microorganisms and their impact on various spheres of our life. The paper includes the study of microorganisms as the causative agents of diseases, their role in food fermentation and food spoilage and their importance and impact with respect to the environment.



SYLLABUS STRUCTURE					
SEMESTER-I		SEMESTER-III		SEMESTER-V	
C-1**	Introduction to Microbiology and Microbial Diversity	C-5**	Microbial Physiology and Metabolism	C-11**	Industrial Microbiology
C-2**	Bacteriology	C-6**	Cell Biology	C-12**	Immunology
AEC-1^	English Communication	C-7**	Molecular Biology	DSE-1#	
GE-1*		SEC-1#		DSE-2#	
		GE-3*			
SEMESTER-II		SEMESTER-IV		SEMESTER-VI	
C-3**	Biochemistry	C-8**	Microbial Genetics and Genomics	C-13**	Medical Microbiology
C-4**	Virology	C-9**	Environmental Microbiology	C-14**	Recombinant DNA Technology
AEC-2^	Environmental Science	C-10**	Food and Dairy Microbiology	DSE-3#	
GE-2*		SEC-2#		DSE-4#	
		GE-4*			

**\*\*Core Course; ^Ability Enhancement Compulsory Course; \*Generic Elective**–To be selected from papers offered by other Departments of the college; **#Skill Enhancement Course and Discipline Specific Elective Course**–To be selected from papers offered by the Department of Microbiology.

SKILL ENHANCEMENT AND DISCIPLINE SPECIFIC ELECTIVE PAPERS OFFERED BY DEPARTMENT OF MICROBIOLOGY					
Skill Enhancement Papers			Discipline Specific Elective Papers		
SEC-1	Microbial Quality Control in Food and Pharmaceutical Industries		DSE-1	Bioinformatics	
			DSE-2	Plant Pathology	
SEC-2	Microbial Diagnosis in Health Clinics		DSE-3	Inheritance Biology	
SEC-3	Biofertilizers and Biopesticides		DSE-4	Biomathematics and Biostatistics	
SEC-4	Food Fermentation Techniques		DSE-5	Microbial Biotechnology	
SEC-5	Management of Human Microbial Diseases		DSE-6	Advances in Microbiology	
			DSE-7	Instrumentation and Biotechniques	
SEC-6	Microbiological Analysis of Air and Water		DSE-8	Biosafety and Intellectual Property Rights (IPR)	
SEC-7	Fundamentals of Bioinformatics		DSE-9	Project Work	



For more

details regarding syllabus and scheme please refer to:

[http://www.du.ac.in/du/uploads/Administration/AC/10072015/Annexure/10072015\\_Annexure-92.pdf](http://www.du.ac.in/du/uploads/Administration/AC/10072015/Annexure/10072015_Annexure-92.pdf)

## Department of Physics

### Faculty

Name	Qualification	Specialization
Dr. AnandBharadvaja	Ph.D. (D.U.)	Atomic and Molecular Physics
<b>Dr. VandanaBatra</b> ( <i>Teacher-In-Charge</i> )	Ph.D. (D.U.)	Astrophysics
Dr. MeetuLuthra	Ph.D. (D.U.)	Cosmology
Dr. Partha S. Pal (on leave)	Ph.D. (D.U.)	Computational Physics
Mr. VikasTyagi (on leave)	M.Sc. (D.U.)	Quantum Field theory
Mr. Sandeep Kumar	M.Tech. (IIT Roorkee)	Solid State Materials
Mr. Ramesh Kumar	M.Tech. (IIT Delhi)	Optoelectronics

Physics is one of the most fundamental scientific disciplines. Needless to say, that the understanding of the physical phenomena has led to development of new technologies and new ideas.

B.Sc. (Honors) Physics is a three year undergraduate program. It intends to provide a broad-based education at undergraduate level to facilitate an early induction to global research scenario. The course is interdisciplinary with necessary flexibility to provide an overview of the entire gamut of important and recent scientific developments. The curriculum encompasses theoretical, experimental, and computational aspects of Physics education. Sufficient exposure is provided on Mathematics, Chemistry and Electronics. The curriculum provides a thorough understanding of fundamental subjects in order to enable students to cope with the challenges of modern research. There are lots of options for Physics graduate students. They can pursue higher education from Institutes like IISERS, Delhi University, IITs and other premier institutes of India and abroad. Our graduate students are doing exceedingly well in higher education and professional areas.

The laboratories of our Department are well equipped with latest and sophisticated equipments required to give an experimental exposure. Some of the key equipments include Digital Storage Oscilloscopes, Spectrometers (10 sec least count), Laser Kits, Universal Interferometer, Ultrasonic Grating Experimental Kit with CCD Camera, Four- Probe set up with USB interface, P-E Hysteresis Kit etc. We have introduced both quantitative (problem-oriented) and qualitative (motivational in nature) approach to experiments in our laboratories.

The Physics Society "*QUBIT*" organizes academic activities which include visits to research institutes, invited lectures of eminent personalities of the country from scientific domain to motivate and update students about research activities.

Following were the activities organized last year by the Physics Society of the Department:

- A students' visit was organized to CSIR-NPL on 28.09.2018 to update their knowledge about new technologies and sophisticated characterization instruments used for nanoscience and nanotechnology. Students learnt about analytical characterization facilities like FMR, HETEM, AFM, XRD, PLD, SIMS etc. Students also gained a new perspective about Indian Standard Time and temperature standard measurements.
- Students of 5<sup>th</sup> semester of B. Sc. (H) Physics went for an educational visit to Solid State Physics Laboratory (SSPL-DRDO, New Delhi). The students mainly visited crystal growth, slicing crystal wafers, growth of epitaxial layer, mask fabrication and fab line for fabrication of MMIC labs, GaAs crystal growth facility. Thereafter students visited Molecular Beam Epitaxy (MBE) facility lab.
- Mr. Abhai Kumar, Scientist at DRDO Kanpur was invited to deliver a lecture on "Nanophotonics" on September 14, 2018. The talk, tagged as mini workshop, intended to make the students enrich their knowledge on latest IC technology. A scientific quiz competition was also organized followed by talk.
- For further students' enrichment, a talk on 12.02.2019 entitled "Silver Nanowire: An Optical Angular Momentum Sensor" was delivered by Mr. Deepak Kumar Sharma (an alumnus of our college) PhD student, IISER Pune. He talked about the Optical angular momentum of light, and also demonstrated some very interesting experiments.
- The next seminar was organized on 18th of February, 2019. The speaker was "Dr. R. K. Shukla, Professor at University of Lucknow. He gave a talk on "Optical Fiber".
- Students participated in a one-day workshop organized by Inter University Accelerator Centre (IUAC) on the occasion of National Science day, February 28, 2019. During this event the students also got an opportunity to learn the working of particle and beam accelerators.

### Special Achievements of Final Year Students

- Alex Kumar Singh and Ashutosh Shukla, students of B.Sc (H) Physics 3<sup>rd</sup> Year, participated and secured 2<sup>nd</sup> position in the event of PICTOGRAM in the annual inter-college Physics Fest, FEYNMANIA, on 27th and 28th March 2018 organized by ARSD College. They also participated and secured 1<sup>st</sup> position in the event of INQUIZITIVE in ASTRODROID in 2018-19 organized by PHYSCOM Society at Kalindi College, University of Delhi.
- Ashutosh Shukla, a final year student, has secured All India Rank-38 in Joint Admission Test for M.Sc. (JAM-2019) conducted by IITs. Ashutosh has also secured All India Rank-134 in Joint Entrance Screening Test (JEST-2019).
- Alex Kumar Singh, a final year student, has qualified Graduate Studies (GS-2019) Test conducted by Tata Institute of Fundamental Research (TIFR), Bombay.

The students seeking admission to this course are strongly recommended to study Mathematics and Chemistry subjects (as GE Papers) during the course. This would be of help them while seeking admission to M.Sc. and other degree courses.

The Department is offering following GE paper (2019-2020; First Semester):

### Electricity and Magnetism:

This paper explains the basic concepts of electric field and magnetic field like vector analysis, electrostatics, magnetism, electromagnetic induction, Maxwell' equations and electromagnetic wave propagation. Students also get an opportunity to do the experiments to further enhance their theoretical concepts, through a laboratory experience.

SYLLABUS STRUCTURE					
SEMESTER-I		SEMESTER-III		SEMESTER-V	
CC-1**	Mathematical Physics-I	CC-5**	Mathematical Physics-II	CC-11**	Quantum Mechanics and Applications
CC-2**	Mechanics	CC-6**	Thermal Physics	CC-12**	Solid State Physics
AECC-1^	English/ Environmental Science	CC-7**	Digital Systems and Applications	DSE-1#	
GE-1*		SEC-1#		DSE-2#	
		GE-3*			
SEMESTER-II		SEMESTER-IV		SEMESTER-VI	
CC-3**	Electricity and Magnetism	CC-8**	Mathematical Physics-III	CC-13**	Electromagnetic Theory
CC-4**	Waves and optics	CC-9**	Elements of Modern Physics	CC-14**	Statistical Mechanics
AECC-2^	English/ Environmental Science	CC-10**	Analog Systems and Applications	DSE-3#	
GE-2*		SEC-2#		DSE-4#	
		GE-4*			

**\*\*Core Courses;** ^**Ability Enhancement Compulsory Course;** \***Generic Elective** – To be selected from papers offered by other Departments of the college; #**Skill Enhancement Course and Discipline Specific Elective Course** – To be selected from papers offered by the Department of Physics.

SKILL ENHANCEMENT AND DISCIPLINE SPECIFIC ELECTIVE PAPERS OFFERED BY DEPARTMENT OF PHYSICS					
Skill Enhancement Papers			Discipline Specific Elective Papers		
SEC-1	Computational Physics Skills			<b>Odd Semester (any 2)</b>	
SEC-2	Applied Optics		DSE-1	<b>Advanced Mathematical Physics-I</b>	
			DSE-2	<b>Nuclear and Particle Physics</b>	
			DSE-3	Physics of Devices and Communication	
			DSE-4	Astronomy and Astrophysics	
				<b>Even Semester (any 2)</b>	
			DSE-5	<b>Advanced Mathematical Physics-II</b>	
			DSE-6	Communication System	
			DSE-7	<b>Nano Materials and Applications</b>	
			DSE-8	Dissertation	





For more details regarding syllabus and scheme please refer to:  
[http://du.ac.in/du/uploads/Syllabus\\_2015/BSc-Hons-Physics.pdf](http://du.ac.in/du/uploads/Syllabus_2015/BSc-Hons-Physics.pdf)



## Department of Polymer Science

### Faculty

Name	Qualification	Specialization
Dr. S.K. Shukla	Ph.D. (Gorakhpur Univ.)	Polymer Characterization
<b>Dr. Sidhharth Sirohi</b> <i>(Teacher-In-Charge)</i>	Ph.D. (IIT Delhi)	Controlled Polymerization, Composite Nanofibres, Nanomaterials
Dr. Susmita Dey Sadhu	Ph.D. (IIT Kharagpur)	Rubber Technology

B.Sc. (H) Polymer Science course is unique course running successfully in Bhaskaracharya College of Applied Sciences since 2004. None other College of Delhi University offers this course. The broad components of course include Polymer Technology, Polymer Processing Fibre Science, Rubber Technology, Chemical Technology and Polymer Blends & Composites. This program is designed to provide fundamental understanding of polymer science, engineering and technology. Students who pass out are well placed in various Polymer Industries and Academic Institutions in India and abroad. It gives an exposure to the students to latest developments in polymeric materials to develop skilled manpower for the fast expanding polymer industry in India.

The Department of Polymer Science has well equipped Laboratories to train the students with synthesis, processing and testing of different polymers. The Departmental Laboratories have sufficient instrumentation facilities as per industrial standards. A few noteworthy equipments of Department of Polymer Science Laboratories are

- **TGA/DTA**
- **Injection Molding Machine**
- **Compression Molding Machine**
- **Two-Roll Mill**
- **Single Screw Extruder**
- **Universal Testing Machine**
- **Heat Distortion Temperature & Vicat Softening Point Apparatus**
- **FT-IR Spectrometer**
- **Impact Tester**
- **MFI Tester**
- **Hardness Testers**
- **UV-Vis spectrometer**
- **Hardness Testers**

The syllabus is designed in such manner so as to give students understandings of theoretical as well as experimental studies of polymer science enabling students to compete at the global level. Many students get benefited by the internship in industries and research laboratories during their course of study in college. In addition to the experiments performed in the Laboratories, students are also trained in handling, maintenance and trouble-shooting of various equipments available in the laboratories.

The objectives of course are:

- To understand the basics of polymer science and polymer synthetic techniques.

- To enable the skilled manpower for polymer industries with sufficient knowledge.
- To provide ample knowledge and understanding to pursue a carrier as polymer scientists.
- To understand & explore more applications of polymers in the society.
- To characterize the chemical and physical properties of polymers

Employment opportunities for polymer science students exists in the following areas

- Polymer manufacturing (IOCL, GAIL, Reliance, etc)
- Polymer processing (Supreme, Moser Baer, Havel, etc)
- Mold and Die designing (Hivec Rhino, Solid Works etc)
- Fibre Technology (Aditya Birla, Arvind Mills, Vardman Textiles)
- Rubber Technology (Bridgestone, MRF, JK Tyre etc)
- Paints & Coatings & Adhesives (Burger, Asian, Dupont, Pidilite etc)
- Performance evaluation & quality assurance
- Marketing and sales
- Polymer waste management (Banyan Nation, Jet Polymer Recycling etc)

The Department organized several industrials and academic talks under the banner of PEARLS Society of Department.

A few of activities organized by the Department are:

- Release of first Departmental Magazine “BAHULAK” Vol. 1, 2017-18 on October 29, 2018
- Visit to Nidhi Enterprises (recycling plant), Bawana, Delhi on February 28, 2018.
- Visit to “Tool Room & Training Centre” Delhi on February 13, 2018.
- Organization of Departmental Fest “CROSSLINK-2019” on January 21, 2019.
- Organization of Industrial Talks titled “The Plastic Industry-Unfolded” on October 29, 2018.
- Participation in International Conference on “Polymer Waste Management” on September 28, 2018 at India Habitat Centre, Delhi
- Visit to University Science Instrumentation Centre (USIC), University of Delhi on 6<sup>th</sup> September, 2018.
- Organization of a *Swaccha Drive* in the Department on August 9, 2018.

**The Department is offering following GE paper (2019-2020; First Semester):**

#### **Polymer Modifiers and Waste Management**

Department of Polymer Science is offering “Polymer Modifiers and Waste Management” as optional Generic Elective paper for students of other departments of the college. The students will learn about the various methods and techniques of the waste disposal and waste management and it will make them aware about the protection of the environment.

## SYLLABUS STRUCTURE

Semester I	Semester III	Semester V
AECC1 English/MIL Communication or EVS  C-101 Introduction to polymer Science C-102 Raw Material of Polymers  GE-1	C-301 Polymer Rheology C-302 Polymer Additives C-303 Polymer Degradation  GE-3  SEC-1	C-501 Polymer Characterization  C-504 Specialty Polymer  DSE-1 Discipline Specific Elective  DSE-2 Discipline Specific Elective
Semester II	Semester IV	Semester VI
AECC2 English/MIL Communication or EVS  C-201 Polymer Technology C-202 Unit Operations  GE-2	C-401 Polymer Processing and Mold Design  C-402 Polymer Testing  C-403 Recycling and Waste Management  GE-4  SEC-2	C-601 Polymer Blends and Composites  C-602 Fiber Science and Rubber Technology  DSE-3 Discipline Specific Elective DSE-4 Discipline Specific Elective

\*\*Core Courses; ^Ability Enhancement Compulsory Course; \*Generic Elective – To be selected from papers offered by other Departments of the college; #Skill Enhancement Course and Discipline Specific Elective Course – To be selected from papers offered by the Department of Polymer Science..

### SKILL ENHANCEMENT AND DISCIPLINE SPECIFIC ELECTIVE PAPERS OFFERED BY DEPARTMENT OF POLYMER SCIENCE

Skill Enhancement Papers	Discipline Specific Elective Papers
SEC-1 Biopolymers SEC-2 Estimation of Polymers and Polymeric Compounds SEC-3 Wire and Cable Technology SEC-4 Footwear Technology	DSE-1 Conducting Polymer DSE-2 Fibre Manufacturing Technology DSE-3 Paints, Coatings and adhesive DSE-4 Polymeric Nanomaterials DSE-5 Tyre Technology DSE-6 Packaging Technology DSE-7 Fabrication of Polymeric products DSE-8 Polymer in Biomedical Applications



For more details regarding syllabus and scheme please refer to:

[http://du.ac.in/du/uploads/Syllabus\\_2015/18072015BScHonsPolymerScience\\_Revised.pdf](http://du.ac.in/du/uploads/Syllabus_2015/18072015BScHonsPolymerScience_Revised.pdf)

For more details Polymer science Department's Blog may be referred at

<http://polybcas.blogspot.com>

## Department of Zoology

### Faculty

Name	Qualification	Specialization
<b>Dr. Anil K. Bali</b> ( <i>Teacher-In-Charge</i> )	D.Phil. (University of Sussex, U.K.)	(Zoology), Molecular Biology & Biotechnology

Zoology, the branch of biological science that deals with study of the animal kingdom, has captured the interest of human race since time immemorial. The field saw its genesis through the works of great scientists like Aristotle and Galen, and since then it has gained tremendous momentum in exploring various aspects of the animal kingdom. Under the domain of Zoology, we are now capable of understanding the evolution, the taxonomy & systematics, the morphology, the physiology, the biochemical & molecular aspects, the genetic basis, the process of embryo development and many more aspects of animal world. Zoology has a huge potential in the field for research. At present, many significant discoveries are coming from the research being carried out in this field that are directly related to the benefit of human and animal husbandry. The future scope is not only limited to research but extends to various other professional roles such as jobs in academic institutions, pharmaceutical industry, pathological testing laboratories, forest and animal conservation organizations, government and non-government Departments related to agriculture & animal husbandry, etc.

The young and growing mind of an undergraduate student should be nurtured graciously and cautiously. It is the best stage of one's life to develop a view point about oneself and the surroundings. Taking this into consideration, Bhaskaracharya College of Applied Sciences introduced **B.Sc. (H) Zoology** in the academic session of 2017-18 to provide an opportunity to the undergraduate students to understand the biological life within and around them. The curriculum of this course provides comprehensive theoretical as well as practical knowledge of Zoology. Several core papers are taught during the three year span of this course such as Non-Chordates, Chordates, Cell Biology, Ecology, Physiology, Biochemistry, Molecular Biology, Developmental Biology, Genetics, etc. Discipline-specific papers such as Biotechnology, Endocrinology, Animal Behavior & Chronobiology, Immunology, etc. are also offered to have in-depth knowledge about these topics. The curriculum also focuses on enhancing the skill of undergraduate students by offering skill-enhancement papers (Sericulture, Apiculture, Fisheries, etc.) so that they may have a future as entrepreneurs or may join skill-based industries.

Since its genesis in 2017, the Department of Zoology of Bhaskaracharya College of Applied Sciences has diligently worked to deliver the knowledge of Zoology to its students in best possible way. The Department is proud to mention that within its first academic year (2017-18), one of its students has secured the 5<sup>th</sup> position in B.Sc. (H) Zoology First Year Examination among all the Zoology first year students enrolled in the 19 colleges of University of Delhi. The Department also encourages its students to join research projects and summer internship programs. The curriculum of B.Sc. (H) Zoology aims to provide out-of-classroom knowledge of the subject. This is executed by the Department by conducting trips to Zoological parks, research organizations, and Institutes related to sericulture,



apiculture, etc. The following activities were conducted in academic year 2018-19:

- Field trip to the National Zoological Park, Mathura Road, Delhi on October 11, 2018
- One-day visit to the Centre for Innovation in Infectious Disease Research, Education and Training and Central Instrumentation Facility of University of Delhi South Campus on October 11, 2018
- Field trip to Central Silk board Regional Sericulture Research Station, Dehradun on March 12, 2019
- One-day visit to Animal House and Museum facility of Department of Zoology, University of Delhi on March 15, 2019

Since its formulation, the Zoological society “ERANKO” has been organizing several scientific and extra-curricular events. In the academic year 2018-19, the following events were organized:

- One-day seminar on ‘Neuroplasticity: Role in Learning, Memory and Spinal Injury’ along with poster presentation competition on the topic ‘Landmark Achievements in Neuroscience’ on February 20, 2019
- One-day workshop on ‘Foldscope’ conducted by the students and faculty of the Department of Zoology at the Department of Biomedical Science of Acharya Narendra Dev College on February 02, 2019
- Zoological annual fest ‘ZOOSANGAM’ on January 18, 2019

The infrastructure of Department of Zoology is at par with any other biological science institute. The Department has two well-equipped laboratories with projector facility and high-end scientific instruments for conducting practicals and research such as Binocular and Trinocular microscopes, B.O.D. incubator, PC-based UV-Vis Spectrophotometer, Refrigerated centrifuge, Deep Freezer, Digital blood cell counter, Digital hemoglobin reader, Digital blood analyzer, pH-meter, Electronic balance, Vortex shaker, Electrophoresis chamber, UV trans-illuminator, Ice Flaking machine, Glucometer etc. Also, a tissue-culture laboratory is present that is furnished with all the essential equipments like Laminar Flow, Orbital Shaker, Growth chamber, etc.

**The Department is offering following GE paper (2019-2020; First Semester):**

### **Animal Diversity**

In accordance with the curriculum of Choice-based Credit System (CBCS) Undergraduate Course of University of Delhi, the Department of Zoology of Bhaskaracharya College of Applied Sciences is offering ‘**Animal Diversity**’ as General Elective paper 1 (GE-1) to the first semester students in the academic session 2019-20. The paper aims to acquaint students with the Animal Kingdom keeping in focus its evolutionary aspect and special features of all its groups.

Life began from formation of one cell and has reached to the complex organization of an intellectual social multicellular organism that we recognize today as ‘Human’. Throughout this process which is still undergoing, each and every living organism is playing its role in determining the course of evolution. The current circumstances of our World have forced us to ask two most important questions- ‘Are we still moving towards the betterment of all the life forms?’ and ‘What can be done to ensure it?’ It appears that the answers to some part of these questions lie with Zoology and hence, the best we can do is to learn it and then search the answers.



SYLLABUS STRUCTURE					
SEMESTER-I		SEMESTER-III		SEMESTER-V	
CC-1**	Non-chordates I: Protista to Psuedocoelomates	CC-5**	Diversity of Chordates	CC-11**	Molecular Biology
CC-2**	Principles of Ecology	CC-6**	Physiology: controlling and coordinating system	CC-12**	Principles of Genetics
AECC-1^	English Communication	CC-7**	Fundamentals of Biochemistry	DSE-1#	
GE-1*		SEC-1#		DSE-2#	
		GE-3*			
SEMESTER-II		SEMESTER-IV		SEMESTER-VI	
CC-3**	Non-Chordates II: Coelomates	CC-8**	Comparative Anatomy of Vertebrates	CC-13**	Developmental Biology
CC-4**	Cell Biology	CC-9**	Physiology: Life Sustaining Systems	CC-14**	Evolutionary Biology
AECC-2^	Environmental Science	CC-10**	Biochemistry of Metabolic Processes	DSE-3#	
GE-2*		SEC-2#		DSE-4#	
		GE-4*			

**\*\*Core Course; ^Ability Enhancement Compulsory Course; \*Generic Elective – To be selected from papers offered by other Departments of the college; #Skill Enhancement Course and Discipline Specific Elective Course – To be selected from papers offered by the Department of Zoology.**

**SKILL ENHANCEMENT AND DISCIPLINE SPECIFIC ELECTIVE PAPERS OFFERED BY  
DEPARTMENT OF ZOOLOGY**

Skill Enhancement Papers		Discipline Specific Elective Papers	
SEC-1	Apiculture	DSE-1	Animal Behavior and Chronobiology
SEC-2	Aquarium and Fish Keeping	DSE-2	Basics of Neuroscience
SEC-3	Medical Diagnostics	DSE-3	Animal Biotechnology
SEC-4	Research Methodology	DSE-4	Biology of Insects
SEC-5	Sericulture	DSE-5	Computational biology
		DSE-6	Parasitology
		DSE-7	Endocrinology
		DSE-8	Fish and Fisheries
		DSE-9	Immunology
		DSE-10	Reproductive Biology
		DSE-11	Wildlife conservation and Management



**For more details regarding syllabus and scheme please refer to:**  
[http://du.ac.in/du/uploads/Syllabus\\_2015/B.Sc.%20Hons.%20Zoology.pdf](http://du.ac.in/du/uploads/Syllabus_2015/B.Sc.%20Hons.%20Zoology.pdf)

# Department of Biochemistry

## Faculty

Name	Qualification	Specialization
<b>Dr. Anita Sondhi</b> ( <i>Teacher-In-Charge</i> )	Ph.D.(D.U.)	Medical Biochemistry

Biochemistry is a very interesting body of knowledge. It is an endeavour into a field which enriches the study of the human system. In the present times, the study of Biochemistry is greatly influencing other fields like Life Sciences, Food Sciences, Biotechnology, Applied Sciences, Biomedical Sciences, Bioinformatics (Computational Biology), Patent law and Intellectual Property Rights, Clinical Research and Diagnostics, Agriculture, Molecular Biology and Molecular Diagnostics. Recognizing its importance and potential, the Department has been nominated as one of the four Departments to receive funds under the Star College Scheme of DBT and has recently been awarded “**Star Department Status**” by the **Department of Biotechnology, Government of India**. The Star-funds have been used for enriching the curriculum by introducing new practicals, new techniques, conducting workshops, seminars, Visits to Institutes, organizing minor projects for students.

Ever since its inception more than two decades ago, the College has added tremendously to the infrastructure catering to the students of Biochemistry. The state-of-the-art Laboratory at the college is well equipped to take care of the needs of the students. It familiarizes the students with the latest and the most sophisticated of equipment like Trans-Illuminators, Spectrophotometers (UV-Visible and Visible), Electrophoresis apparatus (Vertical, Horizontal, Slab, Paper, Rod) Thin layer chromatography, Gel filtration chromatography, Auto Titrator and the use of equipment like Autoclave, Centrifuge, Laminar air flow chamber and pH meter.

The Department of Biochemistry also offers Generic Elective papers to inter and trans-disciplinary students.

## **The Department is offering following GE paper (2019-2020; First Semester):**

### **Biochemistry of Cell**

For First semester students (2019-2020) batch the Department is offering the paper ‘Biochemistry of Cell’ which deals with the study of the molecules of life viz, Sugars and Polysaccharides, Amino acids and Peptides, Lipids, Vitamins, Nucleic acids, Enzymes, Signalling molecules and a very interesting set of techniques and analytical methods to understand the importance and functioning of these biomolecules.



**For more details regarding syllabus and scheme please refer to:**  
[http://du.ac.in/du/uploads/Syllabus\\_2015/B.Sc.%20Hons.%20Biochemistry.pdf](http://du.ac.in/du/uploads/Syllabus_2015/B.Sc.%20Hons.%20Biochemistry.pdf)

# Department of Human Communication

## Faculty

Name	Qualification	Specialization
Dr. Madhulika Bajpai (Teacher-In-Charge)	M.Phil, Ph.D.(D.U.)	Psychology

*"There is, in every child at every stage, a new miracle of vigorous unfolding, which constitutes a new hope and a new responsibility for all." - Erik Erikson*

As the above quote by Erikson (a famous Developmental Psychologist and a Psychoanalyst) suggest, Psychology can be a path to an inner journey of discovering and then rediscovering oneself. Department of Human Communication offers different papers under the discipline of Psychology. The Department deals with these aspects of human interaction on individual, organizational and very importantly societal contexts. The Department has catered to various disciplines in the past with different subjects to make the students more confident, self-reliant and to be in a position to take on further challenges in life. An emphasis is also made to ascertain students' holistic growth especially in their capability to find their feet in the vocational world without losing themselves in the due process.

Department faculty in association with various other committees has involved students in several activities of relevance to youth. Besides curriculum, an effort is made to take up individual or collective concerns and provide an effective solution so as to not just enrich their learning but improve the quality of life as well.

**The Department is offering following GE paper (2019-2020; First Semester):**

### General Psychology

The Department currently offers General Elective (GE) papers in Psychology for all the undergraduate students seeking admission under CBCS in the college. This semester, an introductory paper, *General Psychology* is being offered. The paper enables the understanding of the fundamental tenets of psychology to help students with no prior background to ease into the subject. From basic schools of thought to principles of learning, intelligence, memory, emotion, and motivation along with an insight into the human development stages and application in the area of work and health are all covered under this paper.

The objective of the Department can be summed up in the words of a very famous psychologist, Ivan Pavlov, (along with Erikson, his theory you shall study in the GE paper this semester), *"Don't become a mere recorder of facts, but try to penetrate the mystery of their origin"*.





For more details regarding syllabus and scheme please refer to:  
[http://du.ac.in/du/uploads/Syllabus\\_2015/B.A.%20Hons.%20Psychology.pdf](http://du.ac.in/du/uploads/Syllabus_2015/B.A.%20Hons.%20Psychology.pdf)



## Department of Mathematics

### Faculty

Name	Qualification	Specialization
<b>Dr. Ragini Jindal</b> ( <i>Teacher-In-Charge</i> )	Ph.D. (CCS Univ.)	Applied Mechanics
Dr. Neeru Sharma	Ph.D.(D.U.)	Functional Analysis

*“Mathematics is a more powerful instrument of knowledge than any other that has been bequeathed to us by human agency. — Rene Descartes”*

Mathematics is a fundamental part of human thought and logic, and integral to attempts at understanding the world and ourselves. Mathematical knowledge plays a crucial role in understanding other fields such as sciences, social sciences, and even music and art.

Understanding and competence in applying the fundamental mathematical tools is often required to do serious study in any field of sciences. Role of mathematics in various disciplines of Physical Sciences is well established. Scientists experienced at working at the interface of biology, mathematics and computation are greatly needed in Biological Sciences. Progress in biomedical research increasingly requires mathematical approaches. The theoretical description of the properties of polymers involves use of a wide range of mathematical sciences techniques. The role of mathematics in food technology and microbiology is also immense. Food processes, problems related to bacterial growth in food and other areas of predictive microbiology are studied using mathematical modelling techniques. Industry managers, engineers, researchers and scientists require mathematical tools to find solutions to a variety of problems.

Department of Mathematics being an integral part of the college since 1995 has been catering to courses in the college. At present, it takes General Elective papers in mathematics for all courses of the college. The Department room is well equipped with computer, printer and scanner. Mathematics plays a critical role in many competitive examinations for higher studies. Department helps prepare the students for today's ever evolving world of competition and carve a professional niche.

Department not only imparts mathematical knowledge based on prescribed syllabus, it also strives to inculcate better understanding of the subject and appreciation of mathematics in real world. It has organized lectures by eminent mathematicians, workshops and talks in the past.

### Activities organized this year:

- Remedial classes for several courses of the college were held to help students

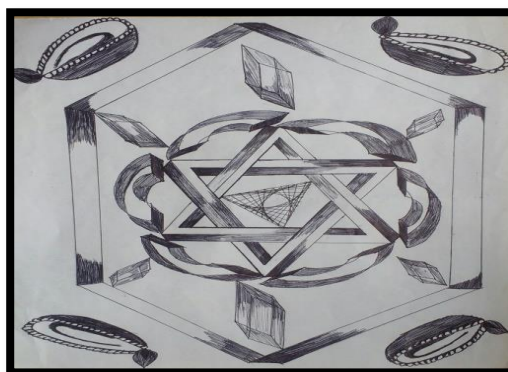
understand the subject better

- ‘Click and Share’ Competition was conducted wherein students were encouraged to observe the world around them, click a picture and share it along with mathematical concept that they see in it.
- ‘Rangoli Designing Competition’ was conducted in which students designed Rangoli using numbers, geometrical shapes and mathematical symbols only.

**The Department is offering following GE paper (2019-2020; First Semester):**

### Calculus

Calculus is the study of how things change. It provides a framework for modeling systems to help arrive at an optimal solution. It is a mathematical discipline that is concerned with functions, limits, derivatives, and integrals just to name a few. Some of the concepts that use calculus include motion, electricity, heat, light, acoustics, astronomy, and dynamics. In chemistry, calculus can be used to predict functions such as reaction rates and radioactive decay and in biological sciences to formulate rates such as birth and death rates. Thus, calculus has a huge role in the real world and would be a great help to student of any discipline.



For more details regarding syllabus of GE1 and other GE papers of mathematics please refer to:

Mathematics papers for students of B.Sc. (H), B.A. (H) & other than B.SC. (H) Mathematics  
[http://www.du.ac.in/du/uploads/Syllabus\\_2015/Mathematics%20papers%20for%20students%20of%20B.Sc.%20\(H\)B.A.%20\(H\)%20&%20othe%20than%20B.SC.%20\(H\)%20Mathematics.pdf](http://www.du.ac.in/du/uploads/Syllabus_2015/Mathematics%20papers%20for%20students%20of%20B.Sc.%20(H)B.A.%20(H)%20&%20othe%20than%20B.SC.%20(H)%20Mathematics.pdf)

# The Library

## Faculty

Name	Qualification	Specialization
<b>Dr. Ranjeet S. Thakur</b> ( <i>Librarian</i> )	Ph.D. (DU)	Academic and Media Libraries

The College Library was set up in 1995 with the mission to cater to the information needs of the students and faculty. The library functions as an information resource center for the college in achieving its aim.

## Infrastructure

The library is housed in a spacious and well-lit three storied building called the library block. Lower ground floor is being used mainly as stack hall with a facility of reading space for 15-20 users. Upper ground floor is being used for circulation cum reference service, stack room, staff working area, entry-exit and some reading area for 15-20 users. The top floor is mainly used as a reading hall with a capacity of 120 users at a time. This floor also has an air-conditioned Internet facility with 20 desktop computers.

## Collection

The Library has a staking length of 3396 ft. having a strong collection of nearly 26500 volumes of books including reference books and bound volumes of journals. The student books ratio of the library is 1:22. Library also has more than one thousand CD-ROMs/ DVD-ROMs. The library has developed a computerized record of nearly 11000 articles from various journals with bibliographic details. These are used by students for their projects.

Apart from the in-house collection, the library has full, IP based, access to the thousands of journals online which are being subscribed to by the Central Reference Library (University of Delhi). The Library is also subscribing to National Library and Information Services Infrastructure of Scholarly Contents (N-LIST) Programme - (a collection of e-Resources under UGC-INFONET Digital Library Consortium) providing password based access to thousands of e-Resources 24X7

## Library Automation

The college library is automated using an open source Library Management Software KOHA with Web-OPAC (Web based Online Public Access Catalogue) facility. The library uses RFID technology for many of its operations. The library block is under eight CCTV cameras surveillance with a recording facility. The library has its own intranet.

## Services

- Web-OPAC – Web based Online Public Access Catalogue
- Article Indexing Service – Bibliographical details of the journal articles are computerized and disseminated to the users on demand

- Open Access to stack hall
- Lending Service and Reference Service
- Newspaper Clippings
- Library Blog - <http://bcaslib.blogspot.com>
- Library Orientation Programme
- Information Literacy Programme covering Library Management Software (KOHA) and e-Resources (N-LIST programme)
- Book Exhibitions by publishers

### Facilities

- Air-Conditioned Internet Room freely available to the students and the faculty with 20 desktop computers.
- Reprography in proximity with the Library
- Reading Hall with adequate furniture for 120 students
- Water cooler with RO and adequate number of restrooms

### Future Plans

The Library is planning to develop its own institutional repository using Dspace platform.





## *Star College Scheme*

As per the DBT norms, the scheme is smoothly conducted by various team leaders which are as mentioned below.

### **Coordinators of the Star College Scheme (2018-19):**

1. Dr. Balaram Pani, Chairman, Star College Scheme
2. Dr. Uma Chaudhry, Coordinator, Star College Scheme
3. Dr. Anita Sondhi, Biochemistry Department Coordinator
4. Dr. Uma Dhawan, Biomedical Science Department Coordinator
5. Dr. Vandita Gupta, Food Technology Department Coordinator
6. Dr. Pawas Goswami, Microbiology Department Coordinator

Under the ongoing **Star College Scheme of Department of Biotechnology, Ministry of Science and Technology, Govt. of India** in our college, several academic activities were organized by the participating Departments, namely, **Biochemistry, Biomedical Science, Food Technology and Microbiology**. The foremost aim of the scheme is to strengthen science education and research at the undergraduate level. Keeping these objectives in mind, a number of academic activities were conducted at the respective Department levels and the college at large.

Following are few of the activities that were conducted during **2018-19**:

- Invited talks of eminent scientists such as Prof. Neeraj Jain (Director, National Brain Research Centre, Manesar Gurgaon), Prof. Shiv Kumar Sharma (Scientist VI , National Brain Research Centre, Manesar Gurgaon), Prof. Srikant Kukreti (Department of Chemistry, Delhi University), Dr. L. Karthigeyan (Confederation of Indian Industry, Institute of Logistics, Chennai), Prof. Ashwani Pareek (School of Life Sciences, Jawaharlal Nehru University), Dr Saurabh Raghuvanshi,(University of Delhi, South Campus ) gave a platform to students where they could interact with senior scientists and get motivated for research.
- Hands-on training and workshops on a plethora of topics enhanced interest in science. To name a few, workshops on ‘Stress and Coping: An Insight’, ‘Handling and Care of Laboratory Animals’, ‘Preparation of candies from water melon peels’, Determination of antimicrobial activity of biodegradable films were thoroughly enjoyed by the students. The mandate of the scheme is also to have greater interaction between the various Departments and foster an interaction between faculty and students. This is being achieved by involving and engaging students with diverse interests in minor research projects.
- The students were also given experiential learning through visits to various industries, institutes and research laboratories. These visits helped them to understand applications of their subject of study in other institutes and also familiarize them with various career options into their chosen scientific fields.

- To inculcate the attributes of social responsibility and empathy among students, the Departments observed several National Days and also conducted outreach activities. Through these programmes, students have understood the importance of social interactions as they go to schools, villages and neighbouring institutes.
- Our college presented the Annual Progress report of star college scheme at the meeting of **DBT Task Force to review ongoing programmes for annual review CUM Co-coordinators meet** held at Pondicherry University from 18<sup>th</sup>-21<sup>st</sup> April, 2019.



Poster Presentation at Pondicherry University by **College Principal Dr. Balaram Pani** and Biochemistry Department Coordinator, Dr Anita Sondhi.



- PFMS-EAT (Public Financial Management System - Expenditure, Advance and Transfer) A few special training- cum hands-on session were organized by our college as an outreach program at Meerut College, Meerut and Khalsa College, Anandpur during the month of December 2018.

It is with great pride we share this that four more Departments of our college viz., **Computer Science, Electronics, Instrumentation and Physics** have recently been awarded financial support from Department of Biotechnology, Ministry of Science and Technology, Govt. of India under their Star College Scheme to help us in continuing our tradition of motivating and inspiring all the stakeholders involved in imparting education to the young minds.

#### **Coordinators of the Star College Scheme for the Additional Courses**

1. Dr. BalaramPani, Chairman, Star College Scheme
2. Dr. N.S. Abbas, Coordinator, Star College Scheme
3. Dr.Jitender Kumar, Co-coordinator, Star College Scheme
4. Dr.Vandana Batra, Coordinator, Department of Physics
5. Dr.Geeta Bhatt, Coordinator, Department of Instrumentation
6. Dr. Amit Kumar, Coordinator, Department of Electronics
7. Sh. Bhavya Deep, Coordinator, Department of Computer Science

## College Activities

Holistic education and overall development of the students have been the main mottoes of the college. Keeping these in mind, various committees and cells have been constituted in the college. These committees and cells organize a wide variety of enriching, engaging, informative events and activities each year. Active participation in these provides ample opportunities to students to develop, enhance and showcase their potential in wide-ranging domains and extra-curricular activities. These committees organized several activities throughout the last year, which provided a wonderful platform for students to learn and evolve.

### Alumni Committee

The most significant contribution of an educational institution to the society and nation can be judged by the achievements of its alumni. We are proud that our alumni are well-placed and doing exceedingly well in their respective professions, across the country as well as in foreign land. The committee interacts on regular basis to keep the channel of communication alive between alumni and college. To facilitate this process, the college website has a portal through which alumni can register themselves. A database of alumni is also created to be in know of the development and constant progress our alumni are making in their respective careers. Besides these, Alumni Committee also organizes an **Alumni Meet** every year. Around 100 people including 25 alumni attended the meet this year and the alumni promised to actively participate and contribute in various activities related to growth and development of the college. Each year, the college also felicitates an alumnus with the “Distinguished Alumni Award” to recognize his/her outstanding contribution to the society.





### Career Counselling Cell

The Career Counselling Cell of Bhaskaracharya College of Applied Sciences, University of Delhi organized a career counselling session on “Higher Education Opportunities in Abroad” on 28<sup>th</sup> September 2018 in the college. The session was attended by students, faculty of the college and enabled undergraduate students to explore overseas opportunities. Mr. Atul Gupta, Product Head at TIME Education, in his talk, presented a brief introduction to career planning, its need and impact of improper career planning in students’ life. The session gave exposure to various overseas career opportunities like MS in IT, financial marketing, public health or choosing research as career. He emphasized that students must focus on excellence and also must try to explore his capabilities, strengths. He shared various fellowship schemes provided by international universities and also guided the students on how to select a suitable field of career and overcome common challenges. He thoroughly described all the steps necessary to plan a career effectively, with visual support. The session provided comprehensive guidance to students for planning their career wisely. The session was a great success and well appreciated by the college.



### Bhaskaracharya Cell

The Bhaskaracharya Cell was founded with a view to facilitate a scientific temper and enhance rational thinking amongst the students. Illumined by these precepts, the cell has organized several events of contemporary relevance to the students; A quiz competition organized on “Building India Upon Values, In order to revisit the glorious scientific heritage of India, the Cell has celebrated “*Bhaskaracharya Week-2019*” from 28 January 2019 to 2<sup>nd</sup> February 2019 in collaboration with Ethiccraft Club. In this auspicious week we have organized “7 Sessions” on “Vedic and Value based knowledge”.



### Extra-Curricular Activity Committee

The Extra Curricular Activity (ECA) committee along with its 11 associated clubs, aims to provide a platform to students by organizing multiple and diverse events and activities. These help students improve their interpersonal skills, pursue their interests and nurture and highlight their talents. Various activities organized by the committee allows the students to showcase their talents and also go a long way in their holistic development. The committee organizes different events in the college throughout the year. Through this committee, students of the college can also participate in various inter-college and inter-university events. Besides the exposure and experience these participations bring for the students, they have also successfully and regularly brought many accolades to the college.

In the gone academic session as well, a number of events were organized under its umbrella. 69th Republic Day was celebrated with a lot of zeal and fervor. On this occasion, various events underlining the patriotic sentiments through dance, singing and poetry etc. were organized.

‘SRIJAN, the Annual Cultural Festival and the most awaited extra-curricular event in the college was organized on February 28<sup>th</sup> February and 01<sup>st</sup> March, 2019, along with Student Advisory and Public Relations Committee. This year, the festival witnessed a huge participation from the various colleges and institutes from Delhi-NCR. Various events like, singing, dancing, debates, kavi-sammelan, fashion show, battle of bands, street play etc. were organized. On the closing day, a performance by N.S.Chauhan – a Bollywood singer was the highlight of the festival . The Dance Club, RAGE organized an event “Blast from the Past” on 5<sup>th</sup> April 2019. In this event, various colleges from Delhi participated enthusiastically.



### Gandhian Study Centre

With the aim of inculcating values of Mahatma Gandhi in youth and to revive the spirit of love, truth and non-violence, several activities are routinely organized by Gandhian Study Centre.

On the occasion of 150<sup>th</sup> birth celebration of Mahatma Gandhi, the members of Gandhian Study Centre and Dramatics Club participated in an inter-college competition titled, "Plays on Gandhi", organized by Gandhi Bhawan, University of Delhi. To celebrate Gandhi Jayanti in college, Gandhian Study Centre organized an extempore speech competition and a slogan writing competition on the topic "Spreading the Message of Peace". This activity allowed the students to express their views and helped understand the Gandhian philosophy.

Gandhian Study Centre in collaboration with Literary club also organised a self-composed poem recitation competition on the topic, "Gandhiji: Glory of the Nation". An inter-college quiz competition related to life of Mahatma Gandhi was also organised. Students enthusiastically participated in all these activities.





### Gender Sensitization Committee

Mutual respect between genders is a hallmark of a civil society. Being a co- educational institution, it is imperative that our students are made aware and sensitised about the same. With this objective, this cell has been constituted in the college and plays a crucial role in gender sensitization. Last academic year, different activities were organized by the committee. At the beginning of the session, a short-talk competition on “Need of Gender Sensitization” was conducted on 29<sup>th</sup> August 2018 to select ‘Gender Champions’ of the college. A poster making competition on “Gender Inequality” and collage making competition on “Spectrum of Gender” were held on 24<sup>th</sup> September 2018. A slogan writing competition on “Changing Opinion about Gender” was also organized by the committee on 21<sup>st</sup> January 2019. All these events were a great success and witnessed enthusiastic participation from all the students of the college.



### North East Cell

A meeting with DCP was conducted on 30<sup>th</sup> August 2018 in DCP office, Dwarka and various issues were discussed by the North East students. In respect to resolve the issues DCP shared various contact no. of local police officers, SHO etc. and assured safety to all the members of NEC both on campus and off campus. Additionally, poster making competition on "Cultural Diversity in North East" was organized by the cell on 29<sup>th</sup> September, 2018. In this competition various posters on the concerned theme were prepared and presented by the students of college. In this cell a documentary was displayed on the theme "North East India: Assam" on 26<sup>th</sup> October, 2018, this documentary covered the Assam state in respect to their cultural diversity and life style.

To promote the culture of north a popular lecture of Dr. Tuisem Shimrah from G.G.S.I.P, University, Delhi was also organised by cell on 22.2.2019. The speaker speaks on festivals, social practices and geographical diversity on north east.





## National Service Scheme (NSS) Cell

The **National Service Scheme (NSS)** is an Indian government-sponsored public service program conducted by the Ministry of Youth Affairs and Sports of the Government of India. It aims at developing student's personality through community service. NSS is a voluntary association of young people in College working for a campus-community (esp. Villages) linkage. The programme aims to instill the idea of social welfare in students.

NSS Cell of the college is very active and strives for developing social and civic responsibility and national harmony among students. It has organized various activities throughout the year to instill the right values in students. Some of the highlights of the various activities carried out last year include: NSS in association with Yoga club Observed “**International Day of Yoga**” in which eminent yoga experts enlightened the students regarding the importance of Yoga and also make them learn different yoga asanas. **Swachhta Pakhwara** was observed which was themed on campus cleaning, door to door campaigning and distribution of literature regarding the importance of maintenance of hygienic conditions. **NSS day** was organized in the college to create awareness among students about the voluntary service to the society which saw active participation of both students and faculty .

**Voter ID Card Registration Drive and Matdata Drive** was organized in association with **District Election Office, Delhi** and an “**EVM-VVPAT** (Electronic Voting Machine- voter verifiable paper audit trail )training programme: a workshop on Voter awareness” were held in the college to prepare the students for upcoming elections.

Keeping in mind the concerns of students, an awareness program on **Road Safety and Traffic Rules** was organized in collaboration with Delhi Police (Traffic) . This kind of information is very crucial for all the stakeholders for better norms of road safety. Students were apprised of dos and don'ts of traffic rules along with the necessary legal norms applicable for various traffic violations.

NSS volunteers participated in National Youth Campaign Programme on **Cardio Pulmonary Resuscitation (CPR)**. It was a joint effort by Heart Care Foundation of India and Ministry of Youth Affairs and Sports. In this programme volunteers were trained in CPR by medical experts. Besides these activities NSS members remain involved in various other initiatives through the year to help students learn the virtues of sharing, gratitude, nationalism . Some of these activities organized last year were: A **plantation drive** in college campus to contribute towards a healthier, pollution-free environment and building a green campus, “**Rashtriya Ekta Diwas**”, “**National Voters' Day**”, “**Surgical Strike Day**”, “**Clothes Distribution Drive**” , “**Celebration of Diwali with the children of adopted village**” .



## Sports

The college believes in the all-round development of the students. Sports are part and parcel of formal education in the college. Sports Committee puts sincere efforts on physical, social and mental development through organization and participation in various intramurals and extramural sports events. College houses a basketball court, a volley ball court, a synthetic volley ball court, cricket ground, football ground, athletics ground, a lawn tennis court, two badminton courts and a table tennis room. The college has both indoor and outdoor gymnasium facility. The indoor gymnasium facility includes one treadmill, one cross trainer, two cycles, four small multi gym stations, one vibrator, one tummy twister, three medicine balls and two swiss balls. The outdoor gymnasium includes 22 gym stations.

The College regularly organizes sports day and an Inter-college cricket tournament by the name of **Bhaskaracharya Inter College Cricket Tournament**.

With the able help of the committee, the students have been able to garner various laurels at different levels. Some of the notable achievements of the last year were:

- Nishant Sindhu of B.Sc. (H) 3<sup>rd</sup> year, Department of Electronics won **Gold Medal** in 10 meter Air Rifle/Air Pistol (M & W) Inter College Shooting Championship 2018-19 organized by University of Delhi held at Hansraj College from 11 to 13 October 2018.
- Nishant Sindhu of B.Sc. (H) 3<sup>rd</sup> year, Department of Electronics won **Silver Medal** in 10 meter Air Pistol- Men (Team Event) in All India Inter University Shooting Championship (2018-19) held at Guru Nanak Dev University, Amritsar on November 6, 2018.
- Nishant Sindhu of B.Sc. (H) 3<sup>rd</sup> year, Department of Electronics won **Gold Medal** in 62<sup>nd</sup> National Championship Competitions (NSCC) in 50 meter Pistol Junior Men (Team Event) on December 3, 2018.





## Training and Placement Cell



The Training and Placement Cell of the college remains active throughout the year. This year the Cell organized a one-day Seminar on “Opportunities in Sciences, Challenges and Way Forward” on 5th October 2018 at the college auditorium. The highlight of the seminar was the inauguration of the BCAS Innovation Hub. Students of the college registered themselves for internships and jobs on the Central Placement Cell of the University of Delhi and were encouraged to take free online skill tests per MHRD directive to make them eligible for various internships and jobs. A “Rozgar Mela” was organized by National Skill Development Corporation (NSDC) under the aegis of Ministry of Skill Development and Entrepreneurship in collaboration with the Training and Placement Cell of the college on 3rd March 2019 on the college campus. 73 Companies (including Amazon, Tech Mahindra, Bajaj Capital Finance, Aegis, Elcamino Software, NIIT) visited the college to conduct interviews and offer jobs to candidates. The event saw a footfall of 3000+ candidates. 2176 students registered for the event and 1003 students were offered jobs. Apart from the above-mentioned activities students from various Departments of the college appeared for interviews and got placements in some the distinguished companies such as Wipro, Wipro & Panacea Infosec Pvt. Ltd and TCS.



## Vivekananda VicharManch



Vivekanand Vichar Manch celebrated Universal Brotherhood Day and Birthday of Pandit Deendayal Upadhyay on 28<sup>th</sup> September 2018 .A speech on the topic “Vivekand Deendayal aur Bharat” by eminent scholar Dr Mahesh Chandra Sharma was organized on this day. A speech was organized to celebrate Vijay Diwas (Jammu Kashmir accession day) on 25<sup>th</sup> October 2018.Shri Chandra Prakash Bharadwaj delivered an inspiring lecture on the topic.

## Women Development Cell

*“There is no tool for development more effective than the empowerment of women.”*

*-- Kofi Annan*

**Women Development Cell** —*There is no tool for development more effective than the empowerment of women.*|| -- Kofi Annan

Women Development Cell @ BCAS is a vibrant and incessantly active collaboration of students, faculty, and staff; endeavouring to create a more inclusive, tolerant and gender sensitized community within campus as well as in society. It believes in strengthening students by creating awareness about socio-political, cultural, and legal perspectives through talks, workshops and symposia. Through its myriad activities - slogan writing, poster-making, rangoli making, debates, self-defence training courses - the Cell sensitizes and educates female students in a holistic manner. Our last year programmes and events primarily aim at creating awareness about issues mentioned above still prevailing in our society. Given below are the highlights of the activities organized by Women Development Cell:-

- Outreach Activity: Women Development Cell, conducted a 10 days Self Defence Training program from **2<sup>nd</sup> to 12<sup>th</sup> Jul 2018** for girls and women of neighbouring areas in collaboration with Delhi Police at our college lawns.
- A workshop in collaboration with Delhi Police on **“HimmatPlus App”** conducted on **14<sup>th</sup> August 2018** for women safety.
- After the tremendous success of the outreach activity, a similar 10 days Self Defence Training program was organized for girl students of our college from **1<sup>st</sup> to 12<sup>th</sup> Oct 2018**.
- A one day workshop on **Women Empowerment** in collaboration with







“UDDAN” on **14<sup>th</sup> Feb 2019**. Mr. Rashmi Ranjan, founder of "UDDAN", a trainer as well as a management consultant was invited as the trainer. Various techniques on developing self-BCAS, DU (2019) belief as well as for stress management were discussed and the basics of entrepreneurship and awareness associated with legal issues broadened the horizons of our students as a multidisciplinary approach for the overall personality development.

- On **8<sup>th</sup> March 2019**, the cell celebrated International Women’s Day ‘नारीUtsav’ for the first time to rejoice womanhood. The chief guest on the occasion was Prof. Sushma Yadav, Vice Chancellor, Bhagat Phool Singh Mahila Vishwavidyalaya. The Cell invited many eminent personalities such as, Dr. Suman Govil (former Senior advisor, Department of Biotechnology), Dr. Sunaina Kanojia (OSD, Institute of Cyber Security and Law) and Ms. Archana Pathak Dave (Advocate on record Supreme Court). The program included a number of intercollegiate competitions such as debate, poster making, rangoli making, self-composed poem recitation and slogan writing competition where students showcased their knowledge, talents, values, and skill. On the same day the cell also organized a „Breast Cancer awareness“ signature campaign in collaboration with Department of Microbiology.
- On **12<sup>th</sup> March 2019**, a lecture was organized on „Career Prospects in Healthcare Industry“ by Dr. Divyaagarwal, International Institute of Health Management and Research (IIHMR).

## College Clubs

With an objective to provide comprehensive opportunities to the students to explore, the following clubs have been constituted in the college. These clubs organize several workshops, seminars, lectures, competitions, etc. to promote the academic and extra-curricular interests of the students.

### Astronomy Club

*“To understand the Universe, you must understand the language in which it's written the language of Mathematics.”*

*- Galileo Galilei*

The Astronomy Club of our college serves a platform where students having interest in space, collaborate and perform. Under this club, a successful visit was organized for Nehru Planetarium to attend a seminar and its exploration on August 11, 2018. The talk was delivered by Dr. Bharat Ratra, Kansas State University, USA on ‘Cosmology’. Students of various Departments participated and explored the existence of universe, Dark matter and Dark Energy. The lecture ended up with a short sci-fi video describing the standard model of universe and the current emergence of understanding the universe. The students gained relevant knowledge and motivated more towards to know how the astronomical phenomenon’s of the universe. A quiz competition on “Vedic astronomy” was organized on March 1, 2019 (SRIJAN). The winners were awarded with certificates and prizes of token money. Two activities were in physics fest ‘EPISTEME’ on 7-8 March 2019 in association with Department of Physics, first, a debate on ‘expenditure on space research-wastage of money or not?’ and second talent hunt competition. The winners also were awarded with certificates and prizes of token money for both the events.







### **Dance Club (Rage)**

The Dance club of the college 'RAGE' is one of the most sought after and popular clubs among students. Every year the club witnesses active participation from its enrolled members during each and every event organized in the campus. The academic session 2018-19 had been an exciting and eventful year for the club. It organized a number of dance performances on the occasion of Independence Day and Republic day to rekindle the spirit of patriotism in all minds and hearts. A dance workshop on basic bhangra-bollywood routine was conducted with two inter-Departmental competitions 'Blast from the Past' and 'Dance Till you Drop' which was greatly enjoyed and appreciated by the audience. The team put its best foot forward with a group fusion dance performance during the annual cultural fest of the college 'SRIJAN 2019'. It also conducted Solo and Group dance competitions during Srijan. The club and its members look forward to welcoming creative and motivated individuals to discover and express themselves through dance.

### Debate Club

Colin Powel said “great leaders are always almost great simplifiers, who can cut through arguments, debate and doubt, to offer a solution everybody can understand.” This is what the debate club is about, debating over the contemporary issues that surround us and propose meaningful solutions to them. The debate club not only teaches one to merely be a good speaker but also a great thinker, to empower one to be able to convince people with one’s ideas and arguments. It helps one hone the qualities to be the leader of tomorrow. This is done through various intra and inter-college quiz competitions, parliamentary and conventional debate competitions, group discussions and interactions. This year the debate Club organized two intra-College debate competitions on the topic ‘The notion of independence is being misinterpreted by the millennials’ and ‘Genetically modified crops do more good than harm’ respectively. An Intercollege Asian Parliamentary debate competition ‘*Conloquium*’ was also organized. Besides these, debate club organized another Intercollege extempore debate competition ‘*Consilium*’ during the annual cultural festival SRIJAN.



### Dramatics Club (DARPAN)

BCAS Dramatics Club ‘Darpan’ tries to bring forth this face of art to life using theater because we believe ‘well performed well received’. The club presented a stage play ‘**Anekta me Ekta**’ on 14<sup>th</sup>, August 2018 on the occasion of Independence Day celebration in the college. The play very artfully depicted the various religions of India and yet the love that they share for ‘Bharat Mata’. The club along with Gandhian Study Centre also successfully participated in the ‘Natya Pratiyogita’ organized by the Gandhi Bhawan, University of Delhi on 23<sup>rd</sup>, Aug 2018. The play ‘Gandhi Ji in Champaran’ was based on a historic event where Gandhi Ji fought for the rights of innocent farmers.

### Eco Club (PRANAHI)

Eco club 'Pranahi' in the college is sensitizing students to participate and take up meaningful environmental initiatives. Pranahi is organizing activities viz. Plantation drives, Environment Awareness Lectures, Poster making competitions using recycled sheets. Posters for celebrating Eco friendly 'Green Diwali' are displayed in the campus. The Eco Club pledge to work in an environment friendly manner which includes usage of recycled sheets, paper bags, rain water harvesting, saving electricity and anti cracker campaign. Rakhi Making competition using waste materials was organized on 21st August; 2018. Poster Making competition using recycled sheets was organized in association with Department of Botany on 14<sup>th</sup> September 2018. Theme for the poster making competition was "पर्यावरण और जीवन". In 2018-19 students of Eco Club collected data on pollution during Diwali and presented in Ministry of Environment during Ozone Day Celebrations held on 17<sup>th</sup> September; 2018. Tree Census project in the college premises has been initiated in association with Botany Department. Prof. Satish Chandra Garkoti of School of Environmental sciences, JNU delivered a lecture on the topic "Ecosystem and Global Climate Change" on 4<sup>th</sup> April; 2019 and students presented a Nukkad Natak on Tree protection.







### Film Club

*“Cinema is a matter of what's in the frame and what's out”*

BCAS Film club has been actively involved in encouraging the students to understand and learn the essence of cinematography and film making. Members of the club are actively involved in making documentaries and short films for various activities happening in the college throughout the year. As a part of the tradition, this year film club organized a movie screening of “PARMANU” on 30<sup>th</sup> January, 2019 in AV Room. Around 110 students gathered up for this fun as well as informative screening. Our principal, Dr. Balaram Pani, marked his presence and gave the background of movie and informed everyone aware of about what happened in Pokhran. Film club keeps on striving to cultivate an interest in the youth of our college to join and master the incredible art of film making

### Fine Arts Club(Akriti)

Akriti- Fine Arts Club redefine the beauty of the art. Here, it is encouraged to let your imaginations take flight and bring down the expression of happiness, sorrows, freedom, uniqueness, culture and most importantly thoughts on the piece of paper or any art form. Last year, the student members of Fine Arts club of college had beautifully decorated the college campus for Independences Day and Republic Day celebrations. The club had organized an event titled “Click and Draw” during the month of August. The club also organized inter-college events of comic making on the theme “Comic-o-rama” and fun event title “Dekha Andekha” during our Annual Cultural Fest SRIJAN. All the activities won accolades in the college. Mr. Shubham Singh of B. Sc. (H) Polymer Science, II<sup>nd</sup> Year won the first prize in Sketch-doo-paint competition at the Acrylica '18 organized by Vibygor -The Fine Art Society of Shivaji College, University of Delhi.



## Music club

*“Music gives a soul to the universe, wings to the mind, flight to the imagination and life to everything.” - Plato*



The Music Club ‘Moksha’ of our college serves a platform where students with interest in music can meet, collaborate and perform. The club conducts various activities throughout the year to showcase their musical talent and spread musical joy. On the occasion of 72<sup>nd</sup> Independence Day, the students from music club participated in the celebrations and raised the feeling of motherhood among the audience through their heart-throb singing. The club organized an Intra college Singing Competition on 30<sup>th</sup> October 2018, which witnessed active participation of students from different Departments and got huge appreciation from the students. On 69<sup>th</sup> Republic day, the students mesmerized the audience with their marvelous singing performances. An Antakshari Competition “Andaaz Apna Apna” was organized on 28<sup>th</sup> January 2019, which rejuvenated the childhood memories among the students from different Departments. The club organized events like solo singing competition (ALAAP), Duet singing competition (ALANKAAR), group singing competition (SAPTAK), Western solo singing competition (ALLEGRO), Battle of Bands (SANGRAM) in college cultural festival ‘SRIJAN 2019’ on February 28<sup>th</sup> and March 1<sup>st</sup>, 2019. Students from various institutions participated in the various competitions with zeal and enthusiasm. All the winners were awarded with certificates and cash prizes. DHRITI, the band of our college won the first prize in Battle of Bands competition held under the aegis of Revel 2K19, the annual cultural fest of Satyawati College (Eve.) on 27<sup>th</sup> February 2019.



### Yoga Club

Yoga is an invaluable gift of ancient Indian tradition which embodies unity of mind and body; thought and action; harmony between man and nature and a holistic approach to health and well-being. The overall purpose and goal of the Yoga Club is to promote health and wellness by organizing fun, stress relieving and educational activities. To fulfill this goal, Yoga club organizes lectures, intercollege yoga competitions, quiz competitions etc. throughout the year. Last year, 'Yoga Club' and Department of Physical Education, jointly organized a workshop on 'Transforming Body & Soul through'. Dr. Tarak Nath Pramanik, an Assistant Professor from Indira Gandhi Institute of Physical Sciences and Sports Sciences, University of Delhi was invited as the Yoga expert. He demonstrated various pranayamas and yoga asanas followed by a lecture on Transforming Body & Soul through Yoga. 'Yoga Club' in association with NSS of the college also celebrated '**International Yoga Day**' with great success. In order to spread consolidated and effective knowledge about the benefits of yoga, eminent yoga experts, Shri Bhola Ram Malik and Shri Balkrishna Grover from Bhartiya Yog Sansthan were invited to conduct demonstration and participative session on various pranayamas and yoga asanas such as vakrasana, bhujangasana etc.





## *Research at BCAS*

Various research projects are being carried out in the College with an objective to encourage trans-disciplinary research and inculcate research aptitude, skills and synergy among students and faculty. In these research projects, students and faculty of the college are actively involved. The focus is to nurture talent of young minds to enable them to think creatively and help them become technologically superior and academically competent.

<b>Project Code</b>	<b>Title of the Project</b>	<b>Principal Investigator</b>
36(4)/14/28/2015-BRNS	Spatial Distribution of uranium and associated water quality parameters in groundwater/surface water in six(06) districts of Uttar Pradesh (Agra, Mathura, Mahamaya Nagar, Kanshiram Nagar, Etah and Badaun)	Dr. Balaram Pani and Dr. Manjeet Singh Barwa
File No. 30-9/2016 (SA-II)	Detection, Identification and Analysis of the quality of fruits and vegetables	Dr. Uma Chaudhry
File No. CO/A/FP/E108/2016	Safeguarding immunity and health versus Indiscriminate use of antibiotics: Building medical awareness and capacity for informed choice through multilevel orientation, exhibitions and demonstrations for students, paramedics, drug marketing systems and community	Dr. Uma Chaudhry and Dr. Balaram Pani
BT/IN/Indo- US/Foldscope/39/2015	Use of Foldscope for the speed identification of microbes: An inexpensive and point-of-care solution for screening of microbes	Dr. Uma Chaudhry
ECR/2017/000605	Significance of 5-hydroxy methylcytosine in neurodegeneration associated with rapid eye movement sleep deprivation	Dr. Uma Dhawan

## *Faculty Supervisors of Doctoral Program*

The college has well experienced and dedicated faculty who are not only involved in classroom teaching and various extra-curricular activities but also guiding Ph.D. students of various renowned universities.

<b>Name of the Faculty</b>	<b>Department</b>	<b>Number of Ph.D/PDF. Students enrolled/submitted till date</b>
Dr. Balaram Pani	Chemistry	05
Dr. Uma Chaudhary	Biomedical Science	05
Dr. Saroj Kumar Shukla	Polymer Science	03
Dr. Uma Dhawan	Biomedical Science	03
Dr. Geeta Bhatt	Instrumentation	02
Dr. Meenakshi Garg	Food Technology	01
Dr. Siddharth Sirohi	Polymer Science	01
Dr. Rizwana	Food Technology	01

## *College Rules*

- **Identity Card:** Identity cards are issued to all the bonafide students of the College. It must be renewed in the beginning of every academic session. Every student has to wear Identity Card during the college timings, so that it could be shown to the college authority as and when demanded. Duplicate I-card will be issued only after furnishing a copy of the F.I.R. and on payment of Rs.100/-
- **Vehicle Pass:** Students are not allowed to bring automotive vehicles inside the College campus without a valid license and vehicle sticker. Vehicle sticker can be issued from the college office once he/she has been issued the college identity card.
- **Hostel:** The College does not provide hostel facility. Outstation students are required to make their own arrangements for boarding and lodging.
- **D.T.C. Bus Pass and Railway Concession:** The students can avail the D.T.C. Student Concession Bus Pass facility and Railway monthly/quarterly season tickets from residence to college and back. Outstation candidates are entitled for 2<sup>nd</sup> Class Sleeper Railway concession for visiting their hometown during vacations as per the University of Delhi norms.
- **Minimum Attendance:** Subject to the provision of ordinance VII, the candidate is required to attend not less than two third of theory and practical classes separately in all the subjects taken together in the college in an academic session so as to appear in the University Annual/Semester Examination.
- **Examination:** Examination and marking scheme (including Internal Assessment) procedure shall remain same as notified by the University of Delhi from time to time.
- **Website:** Students are advised to regularly visit the college and Delhi University websites: <http://bcas.du.ac.in> and <http://du.ac.in> respectively for important notices, ordinances, time table and inputs and for reference to various undertakings and guidelines.
- **Notice Board:** Students are advised to check the notice boards of the college for regular updates and relevant information.

## *Library Rules and Regulations*

- The Library is open to the college students and staff members only.
- The librarian has the discretion to refuse admission to student(s).
- Any issued book/s can be demanded back at any time.
- Personal books, umbrella, stick, money- bag, mobile phones etc. are not allowed in the library. These personal belongings are to be left outside the library at student's own risk.
- Students must carry their Identity Card with them whenever they enter the library. They can be refused admission to the library if they fail to produce their identity card on demand.
- Any misuse of the library facilities will be considered as a serious breach of discipline and the Principal can take such action as is necessary.
- The Principal may change any or all the library rules without any notice.
- Students are expected to read notices issued by the Librarian from time to time. Ignorance will be no excuse.
- Students on leave must arrange for the return of books in time.
- Entire library premises are a SILENCE ZONE.
- Borrowers must ensure that book(s) which are not properly issued in their name are not to be taken out of the library in any circumstances.
- Membership is NOT TRANSFERABLE.
- Book(s) once taken from the shelves should be left on the reading table only.
- Students are entitled to borrow four books. The books are issued for fifteen days only.
- The rate of overdue charges will be Re 5/- per day per book. Off-days will be included for calculation of overdue charges.
- Students may borrow books against the membership ID issued to them. Loss of library documents should be immediately reported to the Librarian with the copy of FIR lodged.
- Borrowers must ensure that the books borrowed by them are not spoiled, dog-eared, marked or otherwise mutilated.
- Books lost or damaged shall have to be replaced or its double price shall be charged from the borrower.
- Reference books and "Not to be issued" books will not be issued.
- No. book(s) shall be issued after the library clearance.



## *Admission Rules*

- The medium of instruction is English only for the admission forms.
  - Applicants selected for admission, will be required to log on to the UG Admission portal to make the online admission fee payment through available online payment options as per guidelines of Bulletin of information (2019-2020) for admission to Undergraduate programme (Merit based).
  - Documents required at the time of Admission: Applicants selected for admission will be required to submit the admission form along with the following certificates in original along with their self-attested copies\*
    - ✓ Board Examination Certificate (Class X) issued by the concerned board.
    - ✓ Provisional Certificate for class XII examination from the institution last attended, if Board Certificate is not issued.
    - ✓ Detailed mark sheets issued by the recognized board of class XII & X examination issued by the relevant Board.
    - ✓ A recent Character Certificate from the Head of the institution last attended.
    - ✓ Transfer Certificate from the School/College last attended and Migration Certificate from Board/University (required from the students who have passed Senior Secondary Exam from outside Delhi.)
    - ✓ Certificate mentioning Hindi studied (minimum up-to class VIII)
    - ✓ SC/ST/PwD/CW/KM/EWS Certificate (in the name of the Applicant) issued by the competent authority
    - ✓ One thumb size and three identical recent passport size coloured photographs.
    - ✓ OBC (Non-Creamy Layer) Certificate (in the name of the Applicant) caste must be in central list issued by <http://ncbc.nic.in>. The validity of the non-creamy layer certificate shall be for the financial year 2018-2019, issued after 31st March, 2019.
    - ✓ The name of the applicant claiming reservation under SC/ST/PwD/CW/KM/EWS /OBC (Non-Creamy Layer) must match with the applicant's name as it appears on their corresponding School Board qualifying certificates; similarly their parents' names must match in both sets of certificates.
- All the copies of the certificates must be self-attested by the candidate.
- Candidates having passed qualifying examination in a year other than 2019 (Gap year Students) may be considered for admission in accordance with the existing rules of University of Delhi. They will be required to produce a gap year affidavit to the

following effect as per the specimen available in the prospectus.

- Candidate along with his/her parent or Guardian will be required to submit affidavit to anti-ragging as per the prescribed format available in the prospectus.
- Candidates have to fill the Form for mentioning their choices of General Elective-I (GE-1) paper at the time of admission. They are required to refer the syllabus before opting for any paper. The link of the syllabus is provided on the page containing information about the Departments.
- All the admissions are provisional, subject to the verifications of documents submitted and approval of University of Delhi.
- An applicant can take admission only in one programme in one college at any given time. In case an admitted student wishes to withdraw/cancel the admission in any programme/college, she/he may cancel her/his admission online (cancellation fee will be charged as per the University Cancellation Policy), and approach the college to collect her/his certificates where the admission was taken. The applicant can proceed to take admission in another programme /college. Admission fee will be adjusted automatically and the applicant will need to pay only the balance, if the fee is more in the new college/programme in which the admission is being sought. In case the fee is less in the new college/programme, the balance would be refunded to the applicant's account as per the College/University rules after the admissions are closed.

\*(If any false attestation / falsified records are detected, the student will be debarred from attending any course in the University or its college(s) for next five years and in addition, a criminal case under relevant section of IPC (viz. 470, 471, 474 IPC etc.) will be instituted against him, to subject him to the requisite criminal proceeding)

- Security Deposits/Caution money shall be refundable provided that the application for refund of the same should be submitted within a period of one year from the date of leaving the college.
- The College reserves the right to cancel admission of any student without assigning any reason thereof.
- Personal presence of the candidate is necessary at the time of admission and cancellation of admission. The form must be signed by the parent(s).
- Subject to availability of seats, admission will be made as per the University of Delhi guidelines only.

## *Discipline*

1. Students are responsible for their conduct within the college premises and are prohibited from doing anything, either inside or outside the College, which will amount to a breach of discipline or interference in the smooth functioning of the college. A student shall be liable to disciplinary action for any act of indiscipline. Disciplinary action may involve warning and/or suspension from classes, from the examinations, from the college library or even from the college. All the rules and norms as provided in Ordinance XV (B), XV (C) and XV (D) of the “Rules of Discipline of the University of Delhi” would be strictly adhered to in case of any act of indiscipline.
2. Students shall conduct themselves in a civil and dignified manner, and desist from offensive behaviour towards any section of the college community. Uncivilized behaviour and/or language shall be sternly dealt with.
3. A student who faces any disciplinary action shall not be eligible for any special recognition from the college. This includes all kind of participation in intra-college and inter-college activities, scholarships, financial assistance provided to students and participation in the college festival ‘Srijan’ and all other sports activities.
4. Students shall maintain silence and decorum in class rooms and desist from disorderly behaviour. They must not loiter in the corridors or in front of class rooms or office rooms and create noise. During their free periods, students are advised to work in the library or “reading room”, or spend time in the “common room”, without causing any disturbance whatsoever. Verbal abuses will also be considered as violation of the discipline.
5. Playing any sports in the college corridors is strictly not allowed. Students are advised to avoid playing cards in the college campus.
6. Smoking in the college premises is an offence and is strictly prohibited under the law.
7. Possession or the consumption of alcohol/ drug or any other addictive/illegal material is strictly prohibited in the college premises and will lead to termination from the

college.

8. Ragging in any form is strictly prohibited and is a punishable offense. Anyone involved in such cases will be dealt strictly with according to the rules of University of Delhi.
9. Students shall take proper care of the college furniture and fixtures. They must not cause any damage to the college property. It could attract disciplinary action against them.
10. Students are notified to not litter, lay or throw any kind of garbage in and around the campus.
11. A designated parking space is provided for all students to park their vehicles with the valid sticker issued to them for the same. No vehicle would be allowed to be parked in any other part of the college premises.
12. Students cannot form any society/club in the college without the prior permission of the Principal, nor shall any person can be invited to address a meeting in the college without the formal consent of the Principal.
13. Students suffering from any contagious or infectious disease are suggested to not attend college during the phase of illness.
14. Students who regularly are absent from the college for no valid reasons can be removed from the college rolls.
15. All notices/circulars issued time to time will be binding on all students without exception.
16. The college has a zero- tolerance to ragging and very strict anti-ragging policy. Kindly go through the document provided in the following link:

[http://www.du.ac.in/du/uploads/anti\\_ragging/11072017\\_antiragging\\_guidelines.pdf](http://www.du.ac.in/du/uploads/anti_ragging/11072017_antiragging_guidelines.pdf)



## *Admission under ECA Category*

The following categories and sub-categories will be considered for admission under ECA:

S.No.	ECA Activity	Subcategory	ECA Seats in	
			Figures	Words
1	<b>Creative Writing</b>	Creative Writing Hindi	1	ONE
2	<b>Dance</b>	Indian Classical	1	ONE
		Western	1	ONE
3	<b>Debate</b>	Hindi	1	ONE
		English	1	ONE
4	<b>Digital Media</b>	Photography	1	ONE
5	<b>Fine Arts</b>	Sketching & Painting	1	ONE
6	<b>Music (Vocal)</b>	Indian	1	ONE
		Western	1	ONE
7	<b>Western Instruments</b>	<i>Keyboard</i>	1	ONE
8	<b>NSS</b>		1	ONE

## *Admission under Sports Category*

### Position/Event/Weight category for Team Games/Sport for Admission on the basis of Sports in Undergraduate Programmes 2019

Game/Sport	Position/Event/ Weight category	Seats in Sports Quota	
		In Figures	In Words
Athletics	<b>Women</b>		
	100 Mtrs.	1	One
	200 Mtrs.	1	One
	400 Mtrs.	1	One
	<b>Men</b>		
	100 Mtrs.	1	One
Badminton	<b>Women</b>		
	Elite Player	2	Two
Basketball	<b>Men</b>		
	Guard	1	One
	Forward	1	One
Chess	<b>Men</b>		
	Elite Player	1	One
	<b>Women</b>		
	Elite Player	1	One
Cricket	<b>Men</b>		
	Wicket keeper	1	One
	Mediun Pacer	1	One
Football	<b>Men</b>		

Game/Sport	Position/Event/ Weight category	Seats in Sports Quota	
		In Figures	In Words
	Striker	1	One
	Right Mid	1	One
	Back	1	One
	Left Mid	1	One
Volleyball	<b>Men</b>		
	Spiker	1	One

## ***Relaxation and Reservation***

Admission in the reserved category will be done as per the University of Delhi norms.

**SC/ST:** The minimum eligibility requirement for SC/ST candidates will be that they must have passed the qualifying examination. 22.5% of the total seats are reserved for candidates belonging to Scheduled Caste/ Scheduled Tribes, of which 15% seats are reserved for Scheduled Caste and 7.5% for Scheduled Tribe candidates (interchangeable, if necessary). Relaxation to the extent of 5% in the minimum marks will be given to candidates under this category to determine their eligibility and merit for admission to the course concerned.

**OBC:** To the extent of 10% relaxation in the minimum eligibility as prescribed for the general category candidates shall be given to OBC students in the qualifying examination. 27% of the total seats are reserved for candidates belonging to **OBC Non-Creamy Layer**.

The OBC status is to be determined on the basis of the Central list of OBCs. Students are required to submit the OBC (Non-Creamy layer) certificate (in the name of the candidate).

**Person with Disability (PWD) (Supernumerary seats):** As per the provisions of Rights of Persons with Disabilities Act 2016, not less than five percent (5%) seats are reserved for candidates having minimum 40% disabilities. Modalities of Delhi University will be followed in this regard. Students are also required to submit a disability certificate issued by Chief Medical Officer of a district/civil surgeon or any Govt. Hospital in the format as per Govt. of India guidelines.

*a) The certificate should be recent and valid on the date of admission. Diagnosis should be written clearly in the certificate.*

*b) It should be signed by a board of 3 doctors with legible stamp indicating the name & designation of the doctors.*

*c) The certificate should be counter signed by CMO/Medical Superintendent with stamp under the signature. Certificate should have photograph of candidate.*

### **Reservation policy for Economically Weaker Sections (EWS)**

As per the University of Delhi notifications, Reference No. Aca. I / Reservation of EWSs / 2019 / 63 Dated 28th March 2019 and Reference No. Aca. I / Reservation of EWSs / 2019 / 101 Dated 15th May 2019, for the reservation for Economically Weaker Sections (EWSs) Category, the University Departments / Centres / Colleges have reserved 10% seats for admission for the same from this Academic Year, 2019-20. The eligibility of such applicants

will be decided on the basis of fulfilling criteria prescribed in the above notifications, and subject to submission of documents, issued by the competent authority, in the format provided in Annexure IV.

For further details applicants can visit:

<http://www.du.ac.in/du/uploads/Notifications/04042019-Notification-EWS.pdf> and  
<http://www.du.ac.in/du/index.php?mact=News,cntnt01,detail,0&cntnt01articleid=23723&cntnt01returnid=83>

**Foreign Applicants (Supernumerary seats):** 5% seats are reserved for Foreign Applicants in first year of each course. Foreign students seeking admission to various courses are required to register themselves on foreign students registry portal <http://fsr.du.ac.in>

**Kashmiri Migrants (KM) (Supernumerary seats):** Up to 5% seats are reserved course-wise in all colleges for wards of Kashmiri Migrants. They are required to register centrally with University of Delhi as per their norms. A concession of maximum 10% in last cut-off marks fixed for general category candidates shall be extended to candidates under this category.

**Prime Minister's Special Scholarship Scheme for J&K students:** The applicants selected under Prime Minister's special scholarship scheme for J&K students will be admitted directly to the college.

**Armed Forces (Supernumerary seats):** Five percent (5%) of seats are reserved for applicants under this category, course-wise in all colleges.

Admission may be offered to the Children/Widows of Personnel of the Armed Forces (**Priority I to IX**) including Para-Military Personnel (**only Priority I to V**), in the following order of preference:

<b>Priority I</b>	Widows/Wards of Defence personnel killed in action;
<b>Priority II</b>	Wards of Defence Personnel disabled in action and boarded out from service with disability attributable to military service.
<b>Priority III</b>	Widows/Wards of Defence Personnel who died while in peace time with death attributable to military service



**Priority IV**

Wards of Defence Personnel disabled in service and boarded out with disability attributable to military service;

**Priority V**

Wards of Serving/Ex-servicemen including personnel of police forces who are in receipt of Gallantry Awards; i. ParamVir Chakra ii. Ashok Chakra iii. MahaVir Chakra iv. Kirti Chakra v. Vir Chakra vi. Shaurya Chakra vii. President's Police Medal for Gallantry viii. Sena Medal (Gallantry), Nau Sena Medal (Gallantry), Vayu Sena Medal (Gallantry) ix. Mention-in-Despatches x. Police Medal for Gallantry  
Wards of Ex-Servicemen.

**Priority VI**

**Priority VII**

Wives of: i. Defence personnel disabled in action and boarded out from service. ii. Defence personnel disabled in service and boarded out with disability attributable to military service iii. Ex-servicemen and serving personnel who are in receipt of Gallantry Awards.

**Priority VIII**

Wards of Serving Personnel

**Priority IX**

Wives of Serving Personnel

**Sports/ECA (Supernumerary seats):** Not more than 5% of sports/ECA quota (subject-wise) may be filled on the basis of sports and extra-curricular activities. Admissions under sports/ECA categories will be done in accordance with the guidelines notified by the University from time to time.

**The admissions under these categories will be done as per University of Delhi norms. Admissions under reserved categories will be carried in accordance with the guidelines notified by the University of Delhi from time to time. For further information, please refer to the website of University of Delhi i.e. [www.du.ac.in](http://www.du.ac.in)**

## *Financial Aid and Awards*

**Fee Concession:** Limited Number of fellowships are available for needy and deserving students as per the Delhi University rules. A student in need of financial assistance can contact the Convener, Students Advisory and Public Relations Committee of the College.

**Scholarship:** Meritorious students are awarded scholarships by the Delhi Government. Exact details can be obtained from the College Office.

**Deepika Wanganoo Memorial Prize:** A prize is given every year to the topper of B.Sc.(Hons.) Electronics (III) year in the memory of Deepika Wanganoo, student of B.Sc.(Hons.) Electronics.

**Saurabh Grover Memorial Prize:** A prize is given every year to the topper of B.Sc.(Hons.) Physics (III) year in the memory of Saurabh Grover, student of B.Sc.(Hons.) Physics.

**The Best Student Award:** The College gives this award for the all-round performance of the final year student, based on good academic record and active participation in co-curricular and extracurricular activities of the College.

**Distinguished Alumnus Award:** The College announces an award for distinguished alumni each year amongst various Departments.

## *Fee Structure*

Details of the annual fees to be paid by the candidate seeking admission to various courses are as per the details given below. The fee is required to be submitted online. The fee structure given does not include the examination fee which is to be submitted separately as per the University norms. Some changes may occur in the fee structure so students should see the college Notice Board before payment of fee, if offered admission.

### Fees Schedule 1st Year Students

(A)	<b><u>COURSE FEE (Computer Science)</u></b>	15000.00
(B)	<b><u>COURSE FEE (Polymer &amp; Biomedical)</u></b>	10000.00
(C)	<b><u>COLLEGE FEE (All B. Sc. (H) Courses)</u></b>	
1	Admission Fee	15.00
2	Tuition Fee	200.00
3	Magazine Fee	150.00
4	Library Development & Reading Room Fee	600.00
5	Identity Card Fee	150.00
6	Garden Fee	250.00
7	Water & Electricity Fee	185.00
8	Laboratory Fee	850.00
9	Computer Laboratory Fee	300.00
	<b>Total</b>	<b>2700.00</b>
(D)	<b><u>UNIVERSITY FEE</u></b>	
1	University Enrolment Fee	200.00
2	University Athletic Association Fee	50.00
3	University Cultural Activity Fee	5.00
4	University Development Fee	600.00
5	Prevention of Sexual Harassment Fee	10.00
6	N.S.S. Fee	20.00
7	World University Service Fee	5.00
8	Student Union (DUSU) Fee (If Formed)	20.00
	<b>Total</b>	<b>910.00</b>
(E)	<b><u>STUDENTS FUND FEE</u></b>	
1	Placement Cell Fee	150.00
2	Games & Sports Fee	500.00
3	Function, Cultural Activity, Seminar & Founder's	1000.00
	Day/Annual Day/Prizes Fee	
4	Alumni Fund Fee	10.00
5	Students Aid Fund Fee	100.00
6	College Security Fee (Refundable)	2500.00
7	Library Security Fee (Refundable)	2500.00
8	Development Fund Fee	1000.00

9	Picnic/Excursion & Educational/Industrial Trip Fee	250.00
10	Establishment/Maintenance Fee	100.00
11	Internet Facility Fee	200.00
12	Medical Fee/First Aid Fund Fee	50.00
13	General Amenities Fund Fee	25.00
14	Professional Development Fund Fee	10.00
15	Women Dev. Cell Fee	10.00
16	Student Advisory Fee	100.00
17	Career Counselling Fee	50.00
18	Swachta Fee	50.00
19	Student Social Activity Fee	15.00
20	BCAS Students Association Fee	150.00
21	E-Publication of the College	50.00
22	Department Society Fee	200.00
23	Club Fee (for two clubs from per student)	300.00
	<b>Total</b>	<b>9410.00</b>

<b>Total Fees to be revised for the following courses :</b> (All other existing and Proposed B. Sc. (H.) Courses) (C+D+E)	13020.00
<b>Total Fees to be revised for the following courses :</b> (Computer Sciences) (A+C+D+E)	28020.00
<b>Total Fees to be revised for the following courses :</b> (Polymer Sciences & Biomedical Sciences)(B+C+D+E)	23020.00

\*All the figures are in Indian Rupees.

\*Fee is tentative and any deviation should be settled by the student seeking admission.

## *Ordinances*

### **ORDINANCE XV-B: Maintenance of Discipline among Students of the University**

1. All powers relating to discipline and disciplinary action are vested in the Vice-Chancellor.
2. The Vice-Chancellor may delegate all or such powers as he/she deems proper to the Proctor and to such other persons as he/she may specify in this behalf.
3. Without prejudice to the generality of power to enforce discipline under the Ordinance, the following shall amount to acts of gross indiscipline:
  - (a) Physical assault, or threat to use physical force, against any member of the teaching and non-teaching staff of any Institution/Department and against any student within the University of Delhi;
  - (b) Carrying of, use of, or threat to use of any weapons;
  - (c) Any violation of the provisions of the Civil Rights Protection Act, 1976;
  - (d) Violation of the status, dignity and honour of students belonging to the scheduled castes and tribes;
  - (e) Any practice-whether verbal or otherwise-derogatory of women;
  - (f) Any attempt at bribing or corruption in any manner;
  - (g) Wilful destruction of institutional property;
  - (h) Creating ill-will or intolerance on religious or communal grounds;
  - (i) Causing disruption in any manner of the academic functioning of the University system;
  - (j) Ragging as per Ordinance XV-C.
4. Without prejudice to the generality of his/her powers relating to the maintenance of discipline and taking such action in the interest of maintaining discipline as may seem to him/her appropriate, the Vice-Chancellor, may in the exercise of his/her powers aforesaid order or direct that any student or students-
  - (a) be expelled; or
  - (b) be, for a stated period rusticated; or
  - (c) be not for a stated period, admitted to a course or courses of study in a College, Department or Institution of the University; or
  - (d) be fined with a sum of rupees that may be specified; or
  - (e) be debarred from taking a University or College or Departmental Examination or Examinations for one or more years; or
  - (f) the result of the student or students concerned in the Examination or Examinations in which he/she or



they have appeared be cancelled.

5. Institutions, Halls and teaching in the concerned Departments. They may exercise their authority through, or delegate authority to such of the teachers in their Colleges, Institutions or Departments as they may specify for these purposes.

6. Without prejudice to the powers of the Vice-Chancellor and the Proctor as aforesaid, detailed rules of discipline and proper conduct shall be framed. These rules may be supplemented, where necessary, by the Principals of Colleges, Heads of Halls, Deans of Faculties and Heads of Teaching Departments in this University. Each student shall be expected to provide himself / herself with a copy of these rules. At the time of admission, every student shall be required to sign a declaration that on admission he /she submits himself/herself to the disciplinary jurisdiction of the Vice-Chancellor and several authorities of the University who may be vested with the authority to exercise discipline under the Acts, the Statutes, the Ordinances and the rules that have been framed therein by the University.

#### **ORDINANCE XV-C: Prohibition and Punishment for Ragging**

1. Ragging in any form is strictly prohibited, within the premises of College/Department or Institution and any part of Delhi University system as well as on public transport.

2. Any individual or collective act or practice of ragging constitutes gross indiscipline and shall be dealt with under this Ordinance.

3. Ragging for the purposes of this Ordinance, ordinarily means any act, conduct or practice by which dominant power or status of senior students is brought to bear on students freshly enrolled or students who are in any way considered junior or inferior by other students and includes individual or collective acts or practices which-

(a) involve physical assault or threat to use of physical force;

(b) violate the status, dignity and honour of women students;

(c) violate the status, dignity and honour of students belonging to the scheduled castes and tribes;

(d) expose students to ridicule and contempt and affect their self-esteem;

(e) entail verbal abuse and aggression, indecent gestures and obscene behaviour.

4. The Principal of a College, the Head of the Department or an Institution, the authorities of College, of University Hostel or Halls of Residence shall take immediate action on any information of the occurrence of ragging.

5. Notwithstanding anything in Clause (4) above, the Proctor may also suo moto enquire into any incident of ragging and make a report to the Vice-Chancellor of the identity of those who have engaged in ragging and the nature of the incident.

6. The Proctor may also submit an initial report establishing the identity of the perpetrators of

ragging and the nature of the ragging incident.

7. If the Principal of a College or Head of the Department or Institution or the Proctor is satisfied that for some reason, to be recorded in writing, it is not reasonably practical to hold such an enquiry, he/she may so advise the Vice-Chancellor accordingly.

8. When the Vice-Chancellor is satisfied that it is not expedient to hold such an enquiry, his / her decision shall be final.

9. On the receipt of a report under Clause (5) or (6) or a determination by the relevant authority under Clause (7) disclosing the occurrence of ragging incidents described in Clause 3(a),(b) and (c) the Vice-Chancellor shall direct or order rustication of a student or students for a specific number of years.

10. The Vice-Chancellor may in other cases of ragging order or direct that any student or students be expelled or be not for a stated period, admitted to a course of study in a college, Departmental examination for one or more years or that the results of the student or students concerned in the examination or examinations in which they appeared be cancelled.

11. In case any students who have obtained degrees or diplomas of Delhi University are found guilty under this Ordinance appropriate action will be taken under Statute 15 for withdrawal of degrees or diploma conferred by the University.

12. For the purpose of this Ordinance, abetment to ragging whether by way of any act, practice or incitement of ragging will also amount to ragging.

13. All institutions within the Delhi University system shall be obligated to carry out instructions/directions issued under this Ordinance, and to give aid and assistance to the Vice-Chancellor to achieve the effective implementation of the Ordinance.

**Note: Order of the Vice-Chancellor in pursuance of Ordinance XV-C:**

Where incident(s) of ragging are reported to the Vice-Chancellor by any authority under this Ordinance, the students(s) involved in ragging, shall be expelled for a specified term, designated in the order. Non-students involved in reports of ragging will be proceeded with under the criminal law of India; they will also be rendered ineligible for a period of five years from seeking enrolment in any of the institutions of the University of Delhi.

Students against whom necessary action is taken under this note, will be given post decisional hearing, with strict adherence to the rules of natural justice.

**The Sexual harassment of women at workplace (Prevention, prohibition and Redressal) Act, 2013 (MINISTRY OF LAW AND JUSTICE) Ordinance XV-D**

An Act to provide protection against sexual harassment of women at workplace and for the prevention and redressal of complaints of sexual harassment and for matters connected there with incidental thereto.

WHEREAS sexual harassment results in violation of the fundamental rights of a woman to equality under articles 14 and 15 of the Constitution of India and her right to life and to live with dignity under article 21 of the Constitution and right to practice any profession or to carry on any occupation, trade or business which includes a right to a safe environment free from sexual harassment;

AND WHEREAS the protection against sexual harassment and the right to work with dignity are universally recognized human rights by international conventions and instruments such as Convention on the Elimination of all forms of discrimination against Women, which has been ratified on the 25th June, 1993 by the Government of India.

AND WHEREAS it is expedient to make provisions for giving effect to the said Convention for protection of women against sexual harassment at workplace.

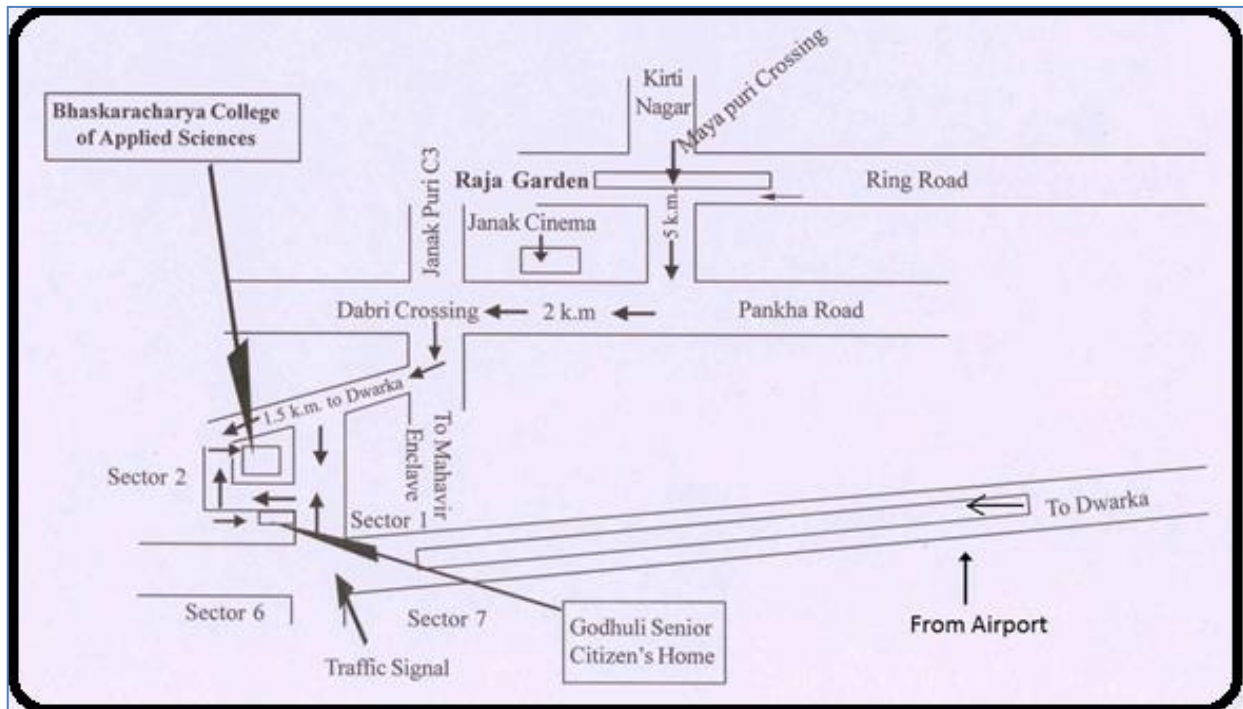
For details, please see the website

<http://indiacode.nic.in/acts-in-pdf/142013.pdf>

**The information provided here is to the best of our knowledge. For further information, please refer to the website of University of Delhi i.e. [www.du.ac.in](http://www.du.ac.in)**

## College Map

The College is well connected by public transport viz; Delhi Metro and road transport (761,778,721,801,764, 727, RL77, 813, etc.) from all parts of Delhi. The closest metro stations are Dwarka Mor or Dwarka Sec.11 (about 3 Km from the college) and connected through feeder and other transport means.



## ***General Format of Various Undertakings***

Various undertakings formats are given below which are required to be submitted by the student seeking admission at Bhaskaracharya College of Applied Sciences, at the time of admission on non-judicial stamp paper of **Rs. 10/-** duly attested by Notary Public/First Class Magistrate.

### **MANDATORY AFFIDAVIT TO BE PRODUCED AT THE TIME OF ADMISSIONS**

It is mandatory as per Hon. Supreme Court & UGC/AICTE Regulations that all students fill in an Anti-Ragging Affidavit each year. To make the process easy MHRD has developed an ONLINE facility.

Affidavits can be obtained from any of the two web-sites:

[WWW.ANTIRAGGING.IN](http://WWW.ANTIRAGGING.IN)

Or

[WWW.AMANMOVEMENT.ORG](http://WWW.AMANMOVEMENT.ORG)

### **GAP YEAR UNDERTAKING**

All students who did not pass the qualifying examination for admission to **I year** in April/May 2019 must submit an undertaking at the time of admission in the following format.

I, <Name of the Candidate>, son/daughter of Shri <Name of the Father/Mother/Guardian>, R/O <Permanent Address> do hereby solemnly affirm and declare on this day of <date> as under:-

1. That I passed the <Name of the qualifying examination> in <year> from <name of Institution With address>.
2. That I was preparing for <medical/engineering/other (provide detail)> competitive entrance Examination after passing the qualifying examination.
3. That I was not admitted to any course <name of the desired course seeking admission> in any College of Delhi University after passing the qualifying examination.
4. That I was not involved in any criminal case, Police custody and that no civil/criminal case is pending/contemplated against me in any police station/court in state.
5. That it is my true statement. If at any point of time, any of my above statements are found to be not true, my admission to <name of the desired course seeking admission> shall be cancelled.

Verification

Deponent

Verified at Delhi, on this day of <date> that the all contents of the above affidavit are true and correct to the best of my knowledge and belief.

Notary Public/First class Magistrate (Stamp) In the presence of:

(Witness details)

Deponent



### **OBC Non Creamy Layer Certificate**

1. I, \_\_\_\_\_ son/daughter of Shri \_\_\_\_\_ resident of village/ town/ city \_\_\_\_\_ district \_\_\_\_\_ state \_\_\_\_\_ hereby declare that I belong to the \_\_\_\_\_ community which is recognized as a backward class by the Government of India for purpose of reservation in services as per orders contained in Department of Personnel and Training Office Memorandum No. 36012/22/93-Estt.(SCT) dated 8.9.1993 (available at <http://ncbc.nic.in/creamy-layer.htm>). It is also declared that I do not belong to persons/sections (Creamy Layer) mentioned in Column 3 of the Schedule to the above referred Office Memorandum dated 8.9.1993 which is modified vide O.M. No. 36033/3/2004-Estt.(Res.) dated 14th October, 2008 and O.M. No. 36033/1/2013-Estt.(Res.) dated 27th May, 2013.
2. My family's gross annual income is not Rs.8.0 Lakh or above for a period of last three consecutive years as per mentioned in column 3 of the Schedule to the Government of India, Department of Personnel & Training O.M. No. 36012/22/93-Estt.(SCT) dated 8-9-1993 O.M. No. 36033/3/2004-Estt.(Res.) dated 9th March, 2004 and O.M. No. 36033/3/2004-Estt.(Res.) dated 14th October, 2008 and O.M. No. 36033/1/2013-Estt.(Res.) dated 27th May, 2013, and O.M. No. 36033/1/2013-Estt.(Res.) September 13, 2017.
3. I also understand that, my admission to the Bhaskaracharya College of Applied Sciences (hereinafter called the institute) is provisional and is subject to the community certificate being verified through the proper channels. If the verification reveals that my claim to belong to Other Backward Classes or not to belong to creamy layer is false, I will be rusticated from the institute hence forth without assigning any further reasons and without prejudice to such further action as may be taken under the provisions of Indian Panel Code for production of false certificates.

## *Admission Committee*

<b>Convener:</b>	<b>Dr. Jitender Kumar</b>	<b>9910941616</b>
<b>Co-Convener:</b>	<b>Dr. Ranjeet S. Thakur</b>	<b>9818001146</b>
<b>Department</b>	<b>Members</b>	<b>Contact Number</b>
<b>Biomedical Sciences</b>	Dr.Uma Chaudhary	9811746265
<b>Zoology</b>	Dr. Anil Kumar Bali	9810696967
<b>Botany</b>	Dr. N. S. Abbas	9810861086
<b>Chemistry</b>	Dr. Lalit Kapur	9811211222
<b>Computer Science</b>	Sh. Bhavya Deep	7982465411
<b>Electronics</b>	Dr.Geeta Mongia	9810063022
<b>Food Technology</b>	Dr.Eram S Rao	9818881588
<b>Instrumentation</b>	Dr.Geeta Bhatt	9810897367
<b>Microbiology</b>	Dr.Purnima Anand	9818563729
<b>Physics</b>	Dr.Vandana Batra	9810428467
<b>Polymer Science</b>	Dr.Siddharth Sirohi	9868898270

## *Committee for Student Counselling System and Mentorship*

<b>Convener: Dr. Anand Bharadvaja</b>	<b>9810690359</b>
<b>Members</b>	<b>Contact Number</b>
Dr. Avneesh Mittal	9540758800
Ms. Manu Kataria	9311044179
Dr. Vandana Batra	9810428467
Ms. Shweta Gupta	9891163321
Dr.Susmita Dey Sadhu	9910028035

## *Proctorial & Anti-Ragging Committee*

<b>Convener- Mr. Bhavya Deep</b>	<b>9899075383</b>
<b>Members</b>	<b>Contact number</b>
Dr. Saroj K. Shukla	9911577997
Dr. Pawas Goswami	9899293335
Dr. Sandeep Kumar	9015864017
Dr. Susmita D Sadhu	9910028035
Dr. Shivani J. Virmani	9811328195
Ms. Shweta Gupta	9891163321

## *SC/ST Cell*

<b>Convener: Dr. Ramesh Kumar</b>	<b>9654271875</b>
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## *Special Categories Admission Enabling Committee*

<b>Convener: Dr. Ramesh Kumar</b>	<b>9654271875</b>
<b>Members</b>	<b>Contact Number</b>
Dr. N. Vijay Kumar	9968126699
Dr. Saroj K. Shukla	9911577997

## *College Helpdesk & Grievance Committee*

<b>Convener: Dr. Anil K. Bali</b>	<b>9810696967</b>
<b>Members</b>	<b>Contact Number</b>
Dr. Geeta Mongia	9810063022
Dr. Geeta Bhatt	9810897367
Dr. Rizwana	9810998663
Dr. Sangeeta Srivastava	9873027777
Ms. Ritu Sareen	9868814835

\*This committee will also look for grievances during admission.

## *Student Advisory & PR Committee*

<b>Convener: Dr. Sangeeta Srivastava</b> <b>Co-convener: Dr. Ragini Jindal</b>	<b>9873027777</b> <b>8826221626</b>
<b>Members</b>	<b>Contact Number</b>
Dr. Ranjeet S. Thakur	9818001146
Ms. Meenakshi Garg	9958415333
Dr. Ruchi G.Marwah	9871817295
Dr. Ramesh Kumar	9654271875

\*This committee will also look for grievances during admission.

**Bhaskaracharya College of Applied Sciences  
(University of Delhi)  
Sector-2, Phase-I, Dwarka, New Delhi-110075**



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Email: [bhaskaracharya.college@bcas.du.ac.in](mailto:bhaskaracharya.college@bcas.du.ac.in)