



# **Bhaskaracharya College of Applied Sciences (University of Delhi)**

**NAAC Accredited 'A' Grade.**

**Star College Status by DBT**

## **PROSPECTUS 2020**

*“Celebrating 25 years of Excellence in Education”*



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## *From the Principal's Desk*

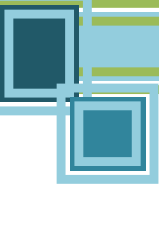


***‘LIFE IS NOT ABOUT FINDING YOUR SELF BUT ABOUT CREATING YOURSELF’***  
— *Paulo Coelho*

Bhaskaracharya College of Applied Sciences is one of the premier college of University of Delhi which was established in 1995, and this college will celebrate its silver jubilee this year. In this college, the students are not only taught but they are also inspired to absorb facts and to acquire understanding. We make an endeavour to provide holistic education to students and they are encouraged to be innovative and to 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 have been validated by its A grade NAAC accreditation.

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 attract many students to this college. Six new courses namely, Biochemistry, Mathematics, Operational research, Psychology, Environmental Sciences and Geology are also going to be introduced soon. The curriculum is rich and our students get 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 induces lateral thinking amongst 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 given to our students to work in Innovation Projects, extramural projects, summer trainings, and workshops to keep our students in step with the world.

‘In a fit and healthy body resides a healthy mind’. Working towards this we have added a very well quipped open air multi Gymn in our college last year. We now also have a multipurpose synthetic field where the students can play different games like badminton, volleyball, skating etc and indoor sports activities are also available .Our students have been doing exceptionally well.

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 would lead to scientific excellence, collaborative and project based learning in students and facilitate 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.

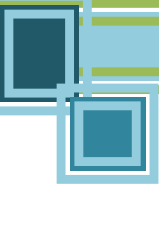
As you all know we have been living in very difficult times as the world is facing a pandemic called Covid-19. As they say “when the going gets tough, the tough gets going”,we all stood united to face the challenge and contributed our best to keep the system moving . All the faculty members were very active and continuously interacting with their respective students and mentored them by making use of various ICT tools. This went a very long way in not only removing their doubts but also kept them enthused during lockdown.

In this academic session we will soon have ICT facility in partnership with Microsoft where the whole college will be able to participate together in one go. Deliberation are also going on with TCS to provide digital classroom solutions.

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. This comprehensive style of education not only focuses on learning but also on implementing what is learnt.

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. These interactions were more active during the pandemic when the students were reaching out for their academic and psychological needs. Our Students are a confident lot now!



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 saying '*The difference between ordinary and extraordinary is that little "extra"*'. I would like to assure you that we will provide you ample opportunities to be The extraordinary. As they say education is the passport to the future, tomorrow belongs to those who prepare for it today. We strive and hope to give a beautiful future to all those joining BCAS family.

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

All the best

Dr. Balaram Pani

BCAS, DU (2020)

## *General Introduction*

1. All Undergraduate degree courses are being taught in Choice Based Credit System (CBCS) semester mode.
2. 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.
3. 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).
4. 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.
5. 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.
6. There is no minimum age bar for admission to undergraduate courses.
7. 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.
8. 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.

9. Applicants are advised to read carefully the College Prospectus and the Information Bulletin issued by the University of Delhi.
10. 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.
11. **The College is a “No Smoking Zone” of the University of Delhi.**

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**Every attempt has been made to verify the authenticity of the contents of the College Prospectus, 2020. 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 *Grahananiti*(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. The faculty also proved their mettle during the Corona virus pandemic! They worked closely with the students to finish the syllabus and mentored them in these difficult times.

## *Admission Schedule*

### **Schedule for UG Merit Based Admission Process**

<b><u>Process</u></b>	<b><u>Date</u></b>
Admission against 1 <sup>st</sup> Cut-Off	10:00 am 12 <sup>th</sup> Oct (Mon)-5:00 pm 14 <sup>th</sup> Oct 2020 (Wed)
Last Day of payment against 1 <sup>st</sup> Cut-off	11:59 pm 16 <sup>th</sup> Oct 2020 (Fri)
Admission against 2 <sup>nd</sup> Cut-Off	10:00 am 19 <sup>th</sup> Oct (Mon)-5:00 pm 21 <sup>st</sup> Oct 2020 (Wed)
Last Day of payment against 2 <sup>nd</sup> Cut-off	11:59 pm 23 <sup>rd</sup> Oct 2020 (Fri)
Admission against 3 <sup>rd</sup> Cut-Off	10:00 am 26 <sup>th</sup> Oct (Mon)-5:00 pm 28 <sup>th</sup> Oct 2020 (Wed)
Last Day of payment against 3 <sup>rd</sup> Cut-off	11:59 pm 30 <sup>th</sup> Oct 2020 (Fri)
Admission against 4 <sup>th</sup> Cut-Off	10:00 am 2 <sup>nd</sup> Nov (Mon)-5:00 pm 4 <sup>th</sup> Nov 2020 (Wed)
Last Day of payment against 4 <sup>th</sup> Cut-off	11:59 pm 6 <sup>th</sup> Nov 2020 (Fri)
Admission against 5 <sup>th</sup> Cut-Off	10:00 am 9 <sup>th</sup> Nov (Mon)-5:00 pm 11 <sup>th</sup> Nov 2020 (Wed)
Last Day of payment against 5 <sup>th</sup> Cut-off	11:59 pm 13 <sup>th</sup> Nov 2020 (Fri)
Session commences	18 <sup>th</sup> Nov 2020 (Wed)
Admission against special cut-off	10:00 am 18 <sup>th</sup> Nov (Wed)-5:00 pm 20 <sup>th</sup> Nov 2020 (Fri)
Last day of payment against special cut-off	11:59 pm 22 <sup>nd</sup> Nov 2020 (Sun)

- In case vacant seats are left, further Cut-offs may be announced by the university to fill the vacant seats.

## *Courses Offered*

### List of B.Sc. (Hons.) Courses, 2020-2021

<b>S.No</b>	<b>Courses offered</b>
1	Biomedical Science
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\*

Course	(No. of Seats) **Gen/SC/ST/OBC/EWS	First Cutoff (for General Category) % in 2019
B.Sc.(H)Biomedical Science	(59) 24/9/4/16/6	95% PCB/ PCBt
B.Sc.(H)Botany	(40) 16/6/3/11/4	91% PCB/ PCBt
B.Sc.(H)Chemistry	(40) 16/6/3/11/4	92.66% PCM
B.Sc.(H)Computer Science	(59) 24/9/4/16/6	93.5% (PCM+ language)
B.Sc.(H)Electronics	(59) 24/9/4/16/6	92% PCM
B.Sc.(H) Food Technology	(59) 24/9/4/16/6	93% PCM/PCB/PCBt(which ever is higher)
B.Sc.(H)Instrumentation	(59) 24/9/4/16/6	90% PCM
B.Sc.(H) Microbiology	(40) 16/6/3/11/4	92% PCB/PCBt
B.Sc.(H) Physics	(40) 16/6/3/11/4	92% PCM
B.Sc.(H) Polymer Science	(59) 24/9/4/16/6	90% PCM
B.Sc.(H) Zoology	(40) 16/6/3/11/4	91% PCB/ PCBt

**\* Subject to any change as per guidelines of University of Delhi as and when received. For details on eligibility criteria, refer to University of Delhi, Bulletin of Information (2020- 2021).**

**\*\*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. Anil K. Bali
<b>Assistant Public Information Officer</b>	Ms. Ira Sharma

<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. Anil K. Bali
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)
	Dr. Purnima Anand (Convener : Annual Report)
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. Swachhata & 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 (Offg.)</b>	Ms. Ira Sharma
<b>Section Officer, Accounts</b>	Mr. Rajiv Dawar
<b>Sr. P. A. to Principal</b>	Ms. Ritu Sareen

## *Choice Based Credit System (CBCS) with Learning Outcome Based Curriculum Framework*

The new Choice Based Credit System (CBCS) syllabus that is being followed now is designed based on the Learning outcomes-based curriculum framework.(LOCF). The fundamental premise underlying the learning outcomes-based approach to curriculum planning and development is that higher education qualifications such as a Bachelor's Degree programmes are awarded on the basis of demonstrated achievement of outcomes (expressed in terms of knowledge, understanding, skills, attitudes and values) and academic standards expected from graduates of a particular programme of study.

The LOCF for an undergraduate course intends to provide a comprehensive foundation in the subject and to prepare students to pursue higher studies and research in their respective subject. The curriculum designed in this framework ensures that global competitive standards of knowledge and skills are maintained and helps in developing a scientific temper, inquisitive approach and problem-solving skills which are all the requisites for pursuing varied careers.

The LOCF for each programme is prepared on the contours and curricular structure of CBCS provided by the University Grants Commission (UGC). The Choice Based Credit System was introduced based 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 categories 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 in total 14 core papers distributed among 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):** An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure to another discipline/subject is called a Generic Elective. A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also be referred to as Generic Elective. The Generic Elective has equal credit as that of core paper. The student has to study one GE each in first four semesters of the course. These GEs are named as GE-1, GE-2, GE-3 and GE-4 referring to the corresponding semester only.

The advantages of studying a Generic Elective course are:-

- Exposure to a new discipline/subject.

- Prepare the students to look for inter-disciplinary research.
- Provides the students with an alternative option for Masters/Post Graduate(PG) degree. Two GEs in any other discipline/ subject are required to pursue PG in the corresponding discipline.
- Many courses have minimum requirement of having studied minimum 2 semester papers in a specific discipline in which they are offering Masters Program. If a student wants to pursue masters in a discipline other than the one in which they are currently pursuing their bachelors, this GE can fulfil that limitation to pursue master's study in desired field.

### ***Generic Elective (GE) Course Selection/Allotment***

The college offers GE based on **Merit cum Preference** basis. Here *Merit* refers to previous exam result available. Also *Preference* refers to the order of subject filled.

Based on your interest, you have to choose 4-5 papers in order of your preference. These papers will be selected amongst different papers floated by all the departments other than your parent department (where you are enrolled in the college for studies) e.g. If you are enrolled for B.Sc.(H) Electronics, Department of Electronics will be your parent department. GE can be selected by any course offered by Departments other than Electronics like Mathematics, Chemistry, Computer Science, Polymer Science etc.

The students will be ranked based on their normalised marks in the class. One such higher rank student will be allotted GE first. Highest preference/rank for one student will be exhausted first, as per number of seats offered by each department. If the need arises then only one's lower preference will be explored sequentially. The student will be allotted one such paper, in each semester with the highest preference possible.

Keeping the constraints of subjects to pursue PG in specific fields the college has fixed GE option for maximum 2 semesters w.e.f. 2020-21 for few courses. For such courses, remaining 2 semester papers may be explored as per your interest (merit cum preference only), if not fixed for other stream students and seats are available.

The Table I given below explains the same.

- The students admitted through Sports Quota will be given Physical Education unless he/ she opt out from the same.
- Filled cells of Table I shows fixed GE as mentioned above. The student will be given the fixed GE for the defined semester unless he/ she opt out from the same. The student will not be allowed to take the subject in the semester they are not entitled for as per the details in the Table I.

Table I: GE option matrix

Course. B.Sc.(H)	GE-1	GE-2	GE-3	GE-4	Option
Biomedical Sciences					PCB
Food Technology					Options from BC/ BMS/ MB/ Bot/ Zoo/ FT/ HC/ Chem/ Phy Ed only*
Microbiology					
Botany	Chemistry		Zoology		
Zoology		Chemistry	Botany		
Electronics					PCM
Instrumentation					Options from Elec/ Inst/ CS/ Phy/ PS/ Chem/ Phy Ed/ HC / Maths only*
Computer Science	Other than Maths	Maths	Other than Maths	Maths	
Physics	Other than Maths	Maths	Other than Maths	Maths	
Polymer Science	Maths	Other than Maths	Maths	Other than Maths	
Chemistry	Maths	Other than Maths	Maths	Other than Maths	

\*PCM/ PCB options may be taken if opted by a student and seats are available.

- All blank cells will allow them to get GE based on Merit cum Preference basis.

## *Online Allotment of Generic Elective (GE) Course*

Following norms will be adopted for the online GE allotment.

- I. Preferences will be taken from each student for GE-1/ GE-2/ GE-3/ GE-4 through Google<sup>R</sup> form at the beginning of each semester, if not fixed as per Table I above.
- II. Allotment is purely based on Merit cum Preference basis as per the number of seats offered by a Department concerned. Remember this allotment will only be semester based and not fixed in all semester.
- III. Last available normalized result will be used for deciding the merit of the student with a penalty of 5% in case of Essential Repeat/ Compartment (ER), if any.
- IV. The result of XII class (Four subjects viz Course Eligibility Criteria + One Best Language) will be considered for GE-1 and GE-2.
- V. Online preferences will be considered for GE-1 only upto Fifth cutoff.
- VI. To avoid any further fluctuations in the already allotted GE-1, the GE option will be allotted manually for the students admitting later based on the vacant seats only.
- VII. Total result of I Semester exams will be used for GE-3 respectively.
- VIII. Total result of I year exams will be used for GE-4 respectively.
- IX. In case of result on the CGPA basis, available result will be multiplied by a factor of 9.5 to fill the result in percentage or total marks.
- X. For students whose result is not available or declared by the University, for whatever reasons, at the time of filling GE form, the result of last annual examination passed will be considered.
- XI. The allotted GE will be visible on the college website and in no case it will be changed after allotment.

DEPARTMENT	PAPER
Biochemistry	Biomolecules
Biomedical Science	Biostatistics
Botany	Biodiversity
Chemistry	Atomic structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons
Computer Science	Programming using Python
Electronics	Digital System Design
Food Technology	Food Processing and Preservation
Human Communication	General Psychology
Instrumentation	Sensors and its applications
Mathematics	Calculus
Microbiology	Introduction and Scope of Microbiology
Physics	Electricity and Magnetism
Physical Education	Yoga and Stress Management
Polymer Science	Chemistry of Polymers
Zoology	Insect Vectors and Diseases

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

- 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.
- 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:

SYLLABUS STRUCTURE		
SEMESTER-I	SEMESTER-III	SEMESTER-V
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
SEMESTER-II	SEMESTER-IV	SEMESTER-VI
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 the University of Delhi. The new Learning Outcome-based Curriculum Framework (LOCF) curriculum of the course offers comprehensive skills and a knowledge base for the students keeping their employability in mind. The Biomedical Science course has been meticulously structured to cover a wide spectrum of subjects. Papers are classified as Core, Skill Enhancement Courses (SEC), Discipline Selective Courses (DSE). The first year of this course is designed to give a basic knowledge of the course followed by a further step-wise introduction of specialized papers in subsequent years. The Generic elective (GE) courses are designed to give students the essential exposure to the interdisciplinary nature of Biomedical Science. This gradual increase in the knowledge base provides a platform for students in their future endeavors in academics, research, or industry.

The theoretical classroom experience of Biomedical Science is supplemented with well-designed laboratory practices. Besides regular lectures wherein there is a close interaction with all the faculty members; 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, students are encouraged to work on a project under the supervision of distinguished scientists in reputed institutions, hospitals, or with in house faculty. This rigorous training not only gives an early exposure to 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 innovations/minor projects of the faculty and other events organized under the aegis of Star College Scheme of Department of Biotechnology (DBT), Government of India.

Capacity building and manpower development is a formidable task, both from an educational and infrastructural perspective. The department has highly qualified faculty members devoted to making 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 for completing their higher studies.

Theoretical knowledge coupled with planned co-curricular activities help students to gain insight into the course. Students are given extensive hands-on experience in the form of well-structured experiments, which is part of their curriculum and beyond. These experiments require properly maintained Laboratories with state of the art facilities. Needless, to say, laboratories of the department are well-equipped with various sophisticated instruments that are required for the smooth conduct of these experiments. Some of the instruments include computer-based UV-Visible spectrophotometers, carbon dioxide incubator, digital viscometer, PCR machines, gel documentation systems, refrigerated high-speed centrifuges, orbital shaker incubator, microtomes, UV transilluminator, 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.

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, the departmental society conducts events and activities to promote academic, extra-curricular, and socio-cultural linkages with peers in other colleges and institutions. To promote ‘Learning beyond the classroom’ we also encourage our students and faculty to attend lectures, workshops, symposiums, conferences, etc. The following were the events and activities, including the departmental festival, lecture, quiz, and outreach programs, visits, conducted in the academic year 2019-20.

- ‘Genesis 2020’, the annual inter-college festival of DNAmics, was held on February 06, 2020 wherein invited talks by **Prof. K. Natarajan**, Professor, Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi and **Prof. Vibha Tandon**, Professor & Chairperson, Special Centre for Molecular Medicine, Jawaharlal Nehru University, New Delhi were organized which helped students understand the latest developments in biomedical research. The lectures were followed by an Alumni meet where eight distinguished Alumni of the department shared their experiences with the students. Innovative science activities such as Vaigyanik Pictionary, Treasure Hunt (D.E.C.O.D.E.D), Gravity Flip, and Collage making on the topic “Genetics: Past, Present, and Future” were also held. Students from various colleges across Delhi actively took part in these activities.
- Department in collaboration with Manipal Hospitals, Dwarka, New Delhi arranged a “Cardiac talk and Bone Mineral Density (BMD) test” for the students and faculty members of the college on September 24, 2019. Dr. Salil Garg, a Senior Consultant and HOD of the Cardiology Department presented a talk on the topic entitled “Cardiovascular Health” and enlightened the audience.
- Students of the department are encouraged to attend events that have a direct impact on their studies and grooming. To name a few, students attended the 10<sup>th</sup> edition of the TNQ Distinguished Lectures in the Life Sciences 2020 by Dr. Venkatraman Ramakrishnan, Nobel Laureate and President of the Royal Society, London on January 24, 2020 and a lecture on “Science Popularization” by UNESCO Kalinga Prize Awardee Eric Jacquemyn on December 02, 2019.

- Faculty members and students actively participated in the International Summit on Women in STEM- “Visualizing the Future-New Skylines” organized by the Department of Biotechnology and International Centre of Genetic Engineering and Biotechnology New Delhi, on January 23-24, 2020 at India Habitat Centre New Delhi.
- National Science Day is celebrated on 28 February each year across the country. Several research institutes showcase their research activities for undergraduate students. Students of the department participated in the programs conducted by the Department of Science and Technology at Vigyan Bhawan and Regional Centre for Biotechnology, Faridabad on February 28, 2020.
- Students were sensitized towards their environment by encouraging them to attend related programs. Students attended a lecture on “Trees of Life, Trees of Death and Everything in Between: a search for iconic trees of India” by Dr. S Natesh, Senior Advisor, DBT, which was organized by Indian National Science Academy (INSA) as a part of INSA Popular Science Lecture Series on February 26, 2020. Students also participated in a workshop entitled “Train for Clean Air: Youth Workshop” organized by Clean Air Asia India Team on September 26, 2019 held at India International Centre, Delhi.
- The star attraction was an educational trip of the third-year students to Bundelkhand University, Jhansi to attend the 3<sup>rd</sup> National Conference on Emerging Synergistic Trends in Ayurvedic and Biomedical Sciences from February 19-21, 2020. Samarth Dhole, Drishti Sikdar, and Deepti Roy brought laurels to the department by winning the “Best Poster” award for their poster entitled “How Epigenetics Orchestrates Cellular Ageing” at the conference.
- Students of the department are doing exceedingly well in academics and other co-curricular activities.
  - Students of B. Sc. (Hons) Biomedical Science III year participated as Foldscope Trainers in the Lecture-cum-workshop on ‘Foldscope Assembly and Usage’ organized by Shivaji College, University of Delhi on September 20, 2019.

Ashima Jha, a student of Biomedical Sciences (I year), is the proud recipient of several awards during Model United Nations (MUNs) organized by different countries. She is the only Indian to be awarded the most outstanding delegate awardee 2019 at Asia MUN Malaysia. She was also awarded as a ‘Best Delegate’ by the \*UNITED NATION HUMAN RIGHT COUNCILS\* at \*Turkey Istanbul\* from February 21-23, 2020. Her prize-winning event was followed by our Jan Gan Man National Anthem.

**Department of Biomedical Science would be offering following GE papers in the current academic year (2020-2021; ODD SEMESTER):**

**GE paper to be offered in the first semester is 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. The 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-501: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/RevisedSyllabi1/Annexure-112.%20\(B.Sc.%20\(H\)%20Biomedical%20Science.pdf](http://www.du.ac.in/du/uploads/RevisedSyllabi1/Annexure-112.%20(B.Sc.%20(H)%20Biomedical%20Science.pdf)

## Department of Botany

### Faculty

Name	Qualification	Specialization
Dr. N. S. Abbas (Teacher-In-Charge)	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 where it supported the requirement of the Biology Department. It elevated itself to offer B.Sc. (H) Botany since the year 2017. The emphasis on UG program at present is to give a comprehensive professional training in the field of Plant biology and Plant biotechnology. Botany is the branch of biology which deals with 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, uses, and processes of plant life- their evolution, aging, decaying and death. The plants which range from the smallest bacterium to the largest Sequoia tree, provide food, clothing and shelter to mankind. Considering the current scenario, various factors like urbanisation, population explosion, pollution etc. are affecting the flora worldwide. Therefore, apart from in-depth study of flora, a botanist is needed to explore all the possible ways to deal with issues related to agriculture, horticulture and environment. 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 an extensive research enterprise that now it is not only restricted to single discipline, but it encompasses 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, food, 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.

Careers in botany are vast and variable because of its interdisciplinary nature. 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 a 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 medicinal plant research, plant diseases, plant breeding and plant genetics, molecular biology, plant biotechnology, etc. Some botanists work in administration

and also in marketing for biological supply in and from companies viz., 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”. The objectives of the Department are to bring forth disciplined, competent, spiritually and socially committed, morally upright students through quality education and research. The department trains the students to face challenges with best teaching methods and strives to shape and mould students as worthy citizens, to build self-confidence in the students, to infuse ethics, values and responsibilities in them, to provide academic excellence, to develop an exemplary Department in the University and Country & to make the Department a centre of excellence in thrust areas of Biological Science. Additional inputs are inserted in curriculum with student centric thought provoking teaching aids with modern gadgets, modular course content, intensive field work for collection of local flora which help them to know about the area and familiarize them with distribution and other patterns of flora.

The Department of Botany has well equipped instruments and infrastructure for this course. The laboratories are designed in such a manner that it is well-illuminated and aerated with projector facility, latest instruments particularly PCR machine, 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 well maintained tissue culture room facility.

The faculties and students are exposed to advanced learning techniques and research opportunities through various events organized under **the aegis of Star College Scheme of Department of Biotechnology (DBT), Government of India.**

### **BOTANICAL SOCIETY - PHYTOMICS**

The department has a botanical society “PHYTOMICS” which aims to organize lectures, seminars, workshops, conferences to provide information on up-to-date development in the field of science and technology. Under the botanical society, students were given exposure to visit various research institutions (JNU, IARI, NBPGR, NIPGR, NISCAIR, etc.) to enlighten them about the current instrumentation techniques used in biological sciences as a part of their curriculum and widen their perspective and thoughts on the present scenarios in biological research. Field exposure to Aravalli Biodiversity Park was also conducted to generate awareness among students about the importance of their surrounding nature, environment and proper functioning of the society as a whole. Students were allowed to participate in National conferences/seminars/symposia/workshops/invited lectures organized in and out of the college to update their knowledge in the subject. This year the botanical society “PHYTOMICS” organized the annual departmental fest “**BLOSSOM-II**” on February 18, 2020. Two eminent intellectuals, **Prof. K. S. Rao** (Head of the Department) and **Prof. Arun Jagannath** from Department of Botany, University of Delhi delivered an interactive and informative talk on climate change and plant science without boundaries, respectively, during the inauguration of annual departmental fest. The lectures were followed by various events viz. poster making, science quiz, test your senses, slogan writing, plantastic, BCAS got talent and many fun activities. The annual departmental fest provides

intra and inter-college interactions among students and helps students to engage in various extra-curricular activities that give them a platform to show-case their talents.

## **VARIOUS ACTIVITIES ORGANIZED BY THE DEPARTMENT IN 2019-20**

### **Visit to Rashtrapati Bhawan and Mughal Garden**

- Faculties and students visited Rashtrapati Bhawan and Mughal Garden on March 06, 2020. The trip started with a tour of the Rashtrapati Bhawan and proceeded towards Mughal Garden, which is a historical garden within the Rashtrapati Bhawan Complex and is well known for its wide variety of flowers. Major attractions of the garden remain to be the Rose Garden, Bonsai Garden and Herbal Garden. The Rose Garden grows more than hundred different varieties of roses. The trip ended with the visit to the Herbal Garden where different species of medicinal plants are grown.

### **National Science Day celebration on February 28, 2020**

- Faculties and students participated in an outreach program “**Aarohan: RCB Open Day**” on National Science Day organized by Regional Centre for Biotechnology on February 28, 2020. Ritu Kshatriya, a third year student of Botany Department, won **First Prize** in biotechnological innovations sketching competition.
- Faculties and students attended National Science Day Function held at Vigyan Bhavan on February 28, 2020 organized by Ministry of Science and Technology, where **The President of India** was the chief guest.
- Faculties and students attended a lecture series on “**A Search for Iconic Trees of India**” organized by Indian National Science Academy (INSA) as a part of National Science Day on February 26, 2020 held at India International Centre, Lodhi Road, New Delhi.

### **Swachhata’s pledge ceremony**

- Faculties and students took Swachhata’s pledge on January 16, 2020 at Department of Botany During Swachhata Pakhwada.

### **DBT International Summit**

- Faculties and students participated in “**International Summit on Women in STEM- Visualizing the Future: New Skylines**” organized by Department of Biotechnology, held at India Habitat Centre, Lodhi Road, Delhi on January 23-24, 2020.

### **Educational Visit to various Research Institutes**

- Faculty members organized an educational visit to **National Bureau of Plant Genetic Resources (NBPGR)** and **National Institute of Science Communication and Information Resources (NISCAIR)**, New Delhi on October 20, 2019. Students visited the museum of NBPGR and NISCAIR where they learned about various indigenous crops and forest plant species.
- An educational visit was organized to “**Advanced Instrumentation Research Facility**” (AIRF), Jawaharlal Nehru University (JNU) on September 24, 2019. Students acquired knowledge on various analytical techniques employed in plant sciences.

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

- An educational visit was organized by faculty members to “**Aravalli Biodiversity Park**”, Vasant Kunj on October 24, 2019. The aim behind the trip was to bring students abreast with the natural environment, flora, fauna and to understand interactions and processes of the ecosystem.

### **International Ozone Day Celebration (Department of Environment, Government of**

### NCT of Delhi)

- Students gave oral presentation on the theme “**32 Years and Healing**” on **International Ozone Day Celebration** held at Delhi Secretariat, Delhi organized by Department of Environment on September 16, 2019. Students also presented a play related to the theme.
- Department of Environment, Government of NCT of Delhi invited our students to present a play in an awareness workshop on “**River Yamuna**” held on October 4, 2019 at Delhi Secretariat. Students were facilitated with mementos and cash prize of **Rs. 2000/-** for their outstanding performance.

### Central Placement Cell (CPC) program

- A faculty and students participated in the Central Placement Cell (CPC) program, held at conference centre, University of Delhi (North Campus) on September 16, 2019. The meeting provided important information about the recruitment drive from various organizations and companies.

### Workshop and hands-on-training on “Intellectual Property Rights”

- One day Inter-college workshop and hands-on-training on “**Intellectual Property Rights**” was organized by The Botanical Society, PHYTOMICS on August 26, 2019. Two eminent speakers **Dr. Arun Kumar Maurya** and **Ms. Prity Khastgir** delivered an informative talk in their respective fields. Students learned the basic concepts of IPR, patents, copyrights, trademark, and protection of plant varieties, traditional knowledge and their claims.

### Event Organized by the Department for the Betterment of Students’ Personal Life

- **Mentee-Mentorship Program**

The mentor and mentee program is received very well among the Botanical Society of the department of Botany. Mechanism is being adopted by the department to pay individual attention to each mentee. The mentor acts as a local guardian and interacts with each student personally and tries to resolve issues as far as possible. The mentor’s guidance encourages mentees to continue progressing in personal as well as educational arenas in a stress free environment. Furthermore, it is felt that mentoring improves motivation and strengthens their bonding with their peers as well.

### GE PAPER OF THE DEPARTMENT (2020-2021)

The Department of Botany is offering following GE paper in the academic session 2020-2021:

**For Semester I: GE-I paper is “BIODIVERSITY (MICROBES, ALGAE, FUNGI AND ARCHEGONIATAE)”**

The department offers GE-I paper on **Biodiversity** (Microbes, Algae, Fungi and Archegoniatae). Biodiversity refers to the variety and variability of life forms (terrestrial, marine and other aquatic ecosystems) on earth and essential interdependence of all living things. This course familiarizes the students with theoretical and practical knowledge of microorganisms (Bacteria, Viruses) and plants (algae, fungi, bryophytes, pteridophytes, gymnosperms), their forms, structures, life cycles and roles in maintaining biodiversity.

The study of biodiversity helps in assessment of ecological and economic importance of lower plants to higher plants through lectures, research projects, seminars and supervisions.

The richer the diversity the greater is the natural sustainability of all life forms including ecosystem productivity, climate stability, medicinal resources and pharmaceutical drugs, nutrient storage and recycling etc. 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 education.

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://du.ac.in/du/uploads/Revi\\_syll\\_19082019/19082019\\_B.Sc.\(H\)%20Botany.pdf](http://du.ac.in/du/uploads/Revi_syll_19082019/19082019_B.Sc.(H)%20Botany.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 undergraduate 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 the Board of Research in Nuclear Sciences, Science and Engineering Research Board, and the University of Delhi. Currently, two students are pursuing a 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 the hands-on experience of the 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 the Chemistry course commenced from the year 2017-18. In all 69 students were enrolled. The result was overwhelmingly 100%. The chemical society 'ALCHEMY' was inaugurated on September 06, 2017. The society organized many events viz. Seminars, invited lectures/ talks, excursion, and a One-day chemistry fest 'Colors of Chemistry'.

The Department has its Blog (<http://bcaschem.blogspot.com>) and at present 5869 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 to achieve a healthier environment.

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

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

- It provides an insight into the subject thereby encouraging inter-disciplinary activities.

- b) The knowledge obtained by studying GE enables them to a better understanding of their elective subjects.
- c) For post-graduation in certain disciplines, the study of Chemistry in undergraduate is mandatory.

**The below-mentioned papers will be floated by the Department of Chemistry for the coming academic semester (2020-21):**

**GE I: Atomic Structure, Bonding, General Organic Chemistry & Aliphatic Hydrocarbons**

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#	
GE-1*		SEC-1#		DSE-2#	
		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#	
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 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	Novel Inorganic Solids
SEC-2	Basic Analytical Chemistry	DSE-2	Inorganic Materials of Industrial Importance
SEC-3	Chemical Technology & Society		
SEC-4	Chemoinformatics	DSE-3	Applications of Computers in Chemistry
SEC-5	Business Skills for Chemists	DSE-4	Analytical Methods in Chemistry
SEC-6	Intellectual Property Rights	DSE-5	Molecular Modelling & Drug Design
SEC-7	Analytical Clinical Biochemistry	DSE-6	Polymer Chemistry
SEC-8	Green Methods in Chemistry	DSE-7	Research Methodology for Chemistry
SEC-9	Pharmaceutical Chemistry	DSE-8	Green Chemistry
SEC-10	Chemistry of Cosmetics & Perfumes	DSE-9	Industrial Chemicals & Environment
SEC-11	Pesticide Chemistry	DSE-10	Instrumental Methods of Analysis
SEC-12	Fuel Chemistry	DSE-11	Nanoscale Materials and their Applications
		DSE-12	Dissertation

*To acquire a B.Sc. (Hons) Chemistry degree, the student will study fourteen Core Courses, two Ability Enhancement compulsory courses, two Skill Enhancement Courses, four Discipline Specific Elective Courses and four Generic Elective Courses.*

*Different Generic Elective courses are offered to students of B.Sc. (Hons) Chemistry Program by other Departments of the College and the student will have the option to choose one GE course each in Semesters I, II, III, and IV. At least two papers of Mathematics are compulsory for admission to M.Sc. Chemistry in University of Delhi, thus students are advised to opt for the same*





For more details regarding syllabus and scheme please refer to:

[http://www.du.ac.in/du/uploads/Revi\\_syll\\_19082019/19082019\\_B.%20Sc%20Hons%20Chemistry%20%2023July%202019.pdf](http://www.du.ac.in/du/uploads/Revi_syll_19082019/19082019_B.%20Sc%20Hons%20Chemistry%20%2023July%202019.pdf)

## Department of Computer Science

### Faculty

Name	Qualification	Specialization
<b>Mr. Bhavya Deep</b> ( <i>Teacher-In-Charge</i> )	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. Arti Dua	MCA (GGSIPU,Delhi)	Computer Networks

The Department of Computer Science was set up to provide high-quality education to undergraduate students and instilling in them strong theoretical, intellectual and analytical skills that are important in this ever-changing and highly competitive environment. The Department of Computer Science offers a B.Sc. (H) Computer Science course, a prestigious graduation program of the University of Delhi and aims to provide students a thorough foundation in theory and hands-on experience of software development. 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 open-source software platforms and curriculum recommended software such as C++, Java, SQL Server, Ubuntu, Android Studio, Oracle, etc. The college offers access to the Internet for faculty and students on their computers via a Wi-Fi network and e-Journal services at different locations of the college. A mini departmental library is also there for the use of faculty members as well as students. The Faculty of the Department encourages students to engage in research projects. The Department focuses on comprehensive student growth. The Department also organizes various workshops and seminars on a regular basis to make students technically competent in an ever-growing IT industry.

During the last academic session, a workshop on “Machine Learning using Python” was organized at the CS Department by DUCAT, Noida on 20<sup>th</sup> September 2019 under the aegis of DBT star college scheme and IQAC of the college. Seminar on “Careers in IT after Graduation” was organized in computer department by Landmark Institute, Delhi on 25<sup>th</sup> September 2019. The Department also organized an outreach activity, especially for girl students of neighbouring schools on 23<sup>rd</sup> January 2020 in collaboration with ICT Academy on “Internet of Things”. The event was attended by around Fifty Girl Students of Vandana International School, Dwarka. On 6<sup>th</sup> February 2020, a talk on “Importance of Higher Education and Career Prospects” by Sunstone Eduversity was organized in the Department for computer science students. The talk focused on management opportunities and encouraged students to choose MBA as their career.

The Department of Computer Science has its own society “CS.Net” - A society by the students, of the students and for the students. CS.Net aims to enhance the student’s IT awareness, technical knowledge, and personality development. It also provides a platform to

highlight the skills and talent of students through the Annual Departmental fest “INTERFACE”. In the year 2019-20, CS.Net organized an inter-college annual techno-cultural festival “INTERFACE 20” on 12<sup>th</sup> and 13<sup>th</sup> February 2020 with a fusion of technical and cultural events like Code war, PUBG, FIFA, Sac Race, Beg Borrow Steal, Fast typing, Mr. and Ms. Interface, and many others.

Faculty, students, and staff of the department have participated actively in the cleanliness drive as a part of the Swachhta Pakhwada in January 2020 and pledged to Swachhta Campaign. Concerted efforts are being made to maintain hygiene and clean surroundings inside and outside the college regularly.

**The Department is offering following GE paper (2020-2021; First Semester):**

**Programming using Python**

**Course Objective**

This course is designed as the first course that introduces computers and programming to students of other disciplines in the college. The course focuses on the use of computer and programming to solve problems of different domains. It also introduces the concept of object-oriented programming.

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
SEC-2	PHP Programming		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





For more details regarding syllabus and scheme please refer to:

[http://du.ac.in/du/uploads/RevisedSyllabi1/Annexure-86.%20\(Comp-Sc-GE\).pdf](http://du.ac.in/du/uploads/RevisedSyllabi1/Annexure-86.%20(Comp-Sc-GE).pdf) and  
[http://www.du.ac.in/du/uploads/RevisedSyllabi1/Annexure-83.%20\(BSc\(H\)-  
Computer%20Science\).pdf](http://www.du.ac.in/du/uploads/RevisedSyllabi1/Annexure-83.%20(BSc(H)-Computer%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, JamiaMillia University, Kurukshetra University, Devi Ahilya University, BanasthaliVidyapeeth 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 lecture on "Embedded Systems" by Dr. Dhananjay V. Gadre, Netaji Subhas University of Technology, which was organised on September 9, 2019. A lecture was also organized in which D. S. Rawal, Scientist- 'G', Solid State Physics Laboratory was invited to deliver a talk on "High Electron Mobility Transistors" on February 6, 2020. The lecture was followed by an enthusiastic Alumni Interaction. An educational visit to Vigyan Samagam at National Science Centre, Pragati Maidan was organised on February 14, 2020 where the students got an opportunity to get an exposure of various research projects. The visit also included the lectures by the eminent speakers from renowned organizations and universities. The Annual Intercollegiate Departmental Fest "TECHMANIA" was organized on February 20, 2020, including many technical events like Creation and Innovation, Circuit Making etc. and fun games.

Generic Elective (GE-1) offered to First Semester Students of other Courses in the College:

**Title: Digital System Design**

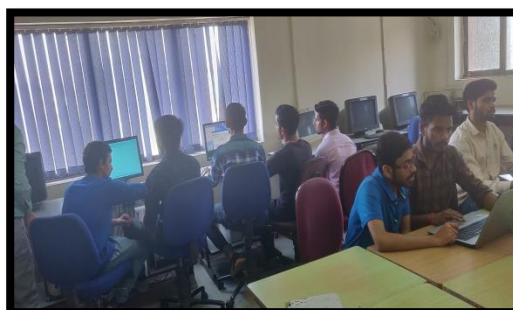
Electronics industry is ever-growing involving technological advances for new era. The above mentioned GE paper equips the learners about the designing of the digital circuits along with their simulation. The inclusion of the VHDL language in the curriculum not only enhances the skill of the students 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	<b><u>Semester V</u></b>	
SEC-2	Robotics	DSE-1	Power Electronics
SEC-3	Mobile Applications Development	DSE-2	Numerical Analysis
SEC-4	Internet and Java Programming	DSE-3	Digital Signal Processing
SEC-5	Programming with LabVIEW	DSE-4	Basic VLSI Design
SEC-6	Artificial Intelligence	DSE-5	Semiconductor Fabrication and Characterization
SEC-7	Internet of Things	DSE-6	Computer Networks
SEC-8	Data Sciences	DSE-7	Biomedical Instrumentation
SEC-9	Cyber Security	<b><u>Semester VI</u></b>	
SEC-10	3D Printing and Design	DSE-8	Electrical Machines
SEC-11	Virtual Reality	DSE-9	Modern Communication systems
		DSE-10	Control system
		DSE-11	Transmission Lines, Antenna and Wave Propagation
		DSE-12	Nano-electronics
		DSE-13	Embedded Systems
		DSE-14	Dissertation/project work



For more details regarding syllabus and scheme please refer to:

[http://du.ac.in/du/uploads/RevisedSyllabi1/Annexure-124.%20\(B.Sc\(H%20\)Electronics\).pdf](http://du.ac.in/du/uploads/RevisedSyllabi1/Annexure-124.%20(B.Sc(H%20)Electronics).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 offers a B.Sc. (Hons.) degree in Food Technology. Food Technology is the application of food science to the selection, preservation, processing, packaging, distribution, and use of safe, nutritious and wholesome food. It deals with the science and technology of processing and preserving food. Food Science is the discipline in which biology, physical sciences, and engineering are used to study the nature of foods, the causes of their deterioration, and the principles underlying food processing. Therefore, Food Science and Technology is a multidisciplinary subject, which includes subjects such as Chemistry, Biology, Engineering, Nutrition, Microbiology, etc. and is not a program to enhance the culinary skills.

The importance of food processing and technology cannot be over emphasised as it has the ability and competence to be the food bowl of the world. This can be accomplished through scientific know how, conserving food losses and wastages while providing well-balanced, nutritious food for all in a sustainable way. With the growing challenges of climate change, global warming, receding natural resources and recent biological threats the Food processing Industry, is still recognized as a dynamic and sunrise industry.

Therefore, this niche course offers a unique blend of subjects which empowers the students with professional competence and expertise in Food Processing, Packaging, Engineering with hands on training in various Animal and Plant Food Technologies. Emphasis on the importance of Food Safety and Quality Assurance, National and International laws and regulations with thrust on Food Quality Management which is imperative in the retail food value supply chain. The students are encouraged to appreciate the discipline of food science and technology holistically with its physicochemical, nutritional, microbiological and sensory aspects.

The course contents have been so designed that it can keep pace with the rapidly growing food industry. Since, it is an interdisciplinary science it is recommended that subjects like Biochemistry, Biology, Chemistry, Maths, Statistics, Microbiology, Biostatistics, Physics etc be preferably chosen as the Generic elective (GE) by the students as they are synergistic to the curriculum. However, students are free to pick up any of the Generic Elective Courses offered by other departments.

The Learning Outcome-based Curriculum Framework (LOCF) of the University of Delhi aims to structure the teaching-learning experiences in a more student-centric manner. The

curriculum focuses to enhance the students' knowledge, skills and aptitude in the field of food technology. Efforts are made to measure cognitive as well as applied learning. Students are not only trained in the core components but also in areas which are need based, innovative and relevant keeping in pace with the fast-growing food industry. It helps the students in making informed choices which empowers them to pursue their passion for lifelong learning. The course is internationally competitive.

The various laboratories of the Food Technology Department are equipped with the state of art infrastructure and boasts of a Pilot Plant (mini food processing facility) which is a unique accomplishment for an undergraduate program. This includes a fruits and vegetable processing Unit- Canning Unit, Automatic Milk Processing Plant, Bakery Unit, various Packaging machines such as Modified Atmosphere Packaging, Inert gas packaging, Vacuum Packaging Machine, Form Fill and Seal Machine etc. Besides, a research laboratory which is equipped with sophisticated instruments such Gas Chromatography, Texture Analyzer, Bomb Calorimeter to name a few. These are used to impart hands on training to the students in order to make them industry ready. The students also participate in various inter disciplinary mini research projects as well as collaborative industry academia projects which propels them to build scientific aptitude for research, harness entrepreneurship skills and nurture innovation. This is done under the supervision of experienced faculty members. The department also undertakes educational tours, conducts seminars and encourages industrial training. Students are encouraged to undertake summer projects in research laboratories of national repute and Food Industries.

#### **Activities organized in the academic year 2019-20**

- The department in association with Food Fortification Resource Center, FSSAI and Network of Professionals of Food and Nutrition (NetProFAN), FSSAI organized a seminar on “Significance of Fortified Food in Daily Life” on February 21, 2020. Experts from FSSAI conducted an interactive session on fortification with the students. An industry expert from GSK Consumer Healthcare Ltd. India also gave a talk on ‘Food fortification- An Industry’s Perspective’.
- A skill enhancement and entrepreneurship management initiative were undertaken by the department of Food Technology for the final year students from the month of February 2020. Walnut brownies, chocolate truffles and eggless muffins were prepared, packaged, labeled and marketed by the students within the college.
- The first year Food Technology students visited Ambassador Skychef on January 28, 2020 to have an overview of the processing operations.
- A workshop on ‘Sensory Science’ was conducted on January 22, 2020 in the department by ‘TagTaste’, a firm that provides consultancy on ‘Sensory Evaluation’. Students from 1<sup>st</sup> year and final year Food Technology along with faculty members of the department enthusiastically participated in the workshop.
- National Nutrition Week was celebrated in the department on September 9, 2019 in collaboration with PepsiCo, India Holdings Pvt. Ltd. Dr. Rekha Sharma, Nutritionist at All India Institute of Medical Sciences and Ms. Ankita Marwaha, Associate

Director, R&D PepsiCo were the resource persons for the event.

- Shri. Sanjay Dave, Fr. Chairperson of CODEX Alimentarius and Advisor to FSSAI delivered a lecture on 'Food Safety' to the students of Food Technology on August 26, 2019. An inter-collegiate 'Food Safety Quiz' was also organized by the department in association with AFST(I), Delhi chapter and Confederation of Indian Industry. The quiz was held as a part of 'Surakshit Khadya Abhiyan' initiative of CII. Students from Delhi University colleges, Amity University (Noida), Manav Rachna International Institute of Research and Technology (Faridabad) and National Institute of Food Technology Entrepreneurship and Management (Sonepat) participated in the quiz.
- A Nutrition Awareness Activity with the theme 'Good Food for Healthy Life' was organized by the department in collaboration with Protein Foods & Nutrition Development Association of India and AFST (I) Delhi Chapter on March 15, 2019. All the students of the department and faculty members participated in the event. Speakers invited for the technical session were from Marico, Coca Cola, Indian Dietetic Association, Delhi Chapter and DuPont.

### **Importance of GE-1 course**

The course **GE-I (Food Processing & Preservation)** offered by the Department of Food Technology have been developed to impart basic knowledge and skills in various methods of food processing and preservation. 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 wastewater 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/RevisedSyllabi1/24072019\\_B.Sc.%20\(Hons\)%20Food%20Technology.pdf](http://www.du.ac.in/du/uploads/RevisedSyllabi1/24072019_B.Sc.%20(Hons)%20Food%20Technology.pdf)

## Department of Instrumentation

Name	Qualification	Specialization
Dr. Geeta Bhatt (On leave and lien)	Ph.D. (Univ. of Mumbai)	Material Science (Semiconductor Thin Films)
<b>Dr. Avneesh Mittal*</b> <b>(Teacher-in-charge)</b>	M.Sc., M.Tech., Ph.D. University of Delhi	Genetic Algorithm based Adaptive Control

\*Faculty in the Department of Electronics

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. IT, 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. The laboratory also acquaints students with devices used in Process and Control Industries like ratio control trainer, differential pressure transmitter, circular chart recorder, various flowmeters 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. Students also find opportunity to do hands on power electronics equipments like induction motor and other drives.

The Instrumentation Department society “Sensors” has been organizing various academic activities outside the classroom to support the complete development of students. It provides them 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; help students in exploring and honing their creative, communication and problem solving skills. Department of Instrumentation organized an invited talk on September 25, 2019 by Shri Satish, Senior Scientist, Electrical and Electronics Metrology Division, CSIR, National Physical Laboratory (NPL). The topic of his talk was “Metrology and its role in improving quality of life. The workshop was attended in large numbers by students of all streams. Society also organized one day Technical Festival “Mnemonics 2020” on February 11, 2020. On this occasion Prof. Avinashi Kapoor (Head Dept. of Electronic Science, University of Delhi) delivered a motivational lecture. Various technical and cultural events like Circuit Making Competition, Debate Competition on “Artificial Intelligence”, Harry Potter Quiz, Alumni Meet, Photography Competition “Instrugraphy”, OpenMic Competition were also organized during the festival. The event witnessed a huge participation from students of the college as well as other colleges from all over Delhi. During this festival some of the very bright and talented alumni of the Department were also present and shared their experiences among the students. One of the Alumni of the department, Mr. Manish has recently joined leading Integrated Device Manufacturer ST Microelectronics.

### ***GE-1 offered : "Sensors and its applications"***

We use many equipments/devices in our daily lives without knowing about them. Sensors are the important part of our life. 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 available on college website and prospectus.

### **Special achievements of students graduating in 2020**

1. A placement drive was conducted by Tata Consultancy Services Limited for the profile of Graduate Trainee in which two students were selected.
2. In another placement drive conducted by Wipro Limited; seven students were selected in Wipro Work Integrated Learning Program, Talent Hunt 2020.

### **Admission Eligibility Criteria:-**

The overall percentage in Physics, Chemistry and Mathematics should be 55% and one compulsory language should be 50%.

## 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 Signal and Systems  
DSE-2 Advanced Analytical Instrumentation  
DSE-3 Communication System  
DSE-4 Advanced Biomedical Instrumentation  
DSE-5 Embedded System and Robotics  
DSE-6 Process Control Dynamics  
DSE-7 Reliability & Quality Control Techniques  
DSE-8 Artificial Intelligence.  
DSE-9 Dissertation



For more details regarding syllabus and scheme please refer to:  
[http://www.du.ac.in/du/uploads/RevisedSyllabi1/Annexure-125.%20B%20Sc.%20\(Instrumentation\).pdf](http://www.du.ac.in/du/uploads/RevisedSyllabi1/Annexure-125.%20B%20Sc.%20(Instrumentation).pdf)

# Department of Microbiology

## Faculty

Name	Qualification	Specialization
Dr. N. Vijaya Kumar	Ph.D. (DU)	Molecular Biology
<b>Dr. Purnima Anand</b> <i>(Teacher-In-Charge)</i>	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 a variety of industries ranging from Food, Dairy, Pharmaceuticals, and 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 pandemic of COVID 19 is once again a stark reminder of the fact that it is very important to study this discipline. Graduates of this discipline can use this knowledge to take up research in combating these deadly diseases, develop new technologies, drugs and vaccines and thus help in making our lives better.

The Department of Microbiology of our college is very well equipped to provide hands-on-training to our undergraduate students. The laboratories are well 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 also a member of the Star College Scheme of DBT, Government of India, and has been receiving grants since 2010 from the scheme. The Department was awarded **Star status** in **June 2017**. The grant helps us go beyond the curriculum in training our students.

## Activities organized in the academic year 2019-2020

“SUKSHMJEEV” our departmental society organizes a variety of academic and co-curricular activities in the form of conferences, seminars and lectures for the holistic development of students. Sukshmjeev provides a platform for interaction amongst students, faculty members and various academicians invited from renowned institutes.

The highlight of this year was one-day seminar on ‘Advancements in molecular microbiology in the revolutionary ‘Omics’ era’ and the annual festival of the Department, MicroQuest 2020 on February 20, 2020. The seminar included talks by distinguished speakers Dr. Syed Shamz Yazdani, ICGEB and Dr. Vikram Saini, AIIMS. Various co-curricular activities were organized like Streak Art, Doodle, MicroMeme, MicroExpedition, Poster presentation, Whisper-O-Charades, Microquizitive and Creative Writing competition.

The students are encouraged to participate in conferences, hands-on training and workshops organized by different colleges and universities. Thirteen students of second and third year participated in ‘आरोहण: RCB Open Day’, an outreach program on National Science Day held in Regional Centre for Biotechnology, Faridabad. Students also attended a talk on topic “My Adventures in the Ribosome” by Nobel Laureate Dr. Venkatraman Ramakrishnan in TNQ Distinguished Lectures series in the Life Sciences held at AIIMS, Delhi. Students also visited the Department of Biochemical Engineering and Biotechnology, IIT, Delhi and Regional Center for Biotechnology (RCB), Delhi. A workshop on ‘Biotechnology Start-Up Ecosystem in India’ organized by INSA and Hands-on training on ‘Molecular and Serological Assays of Plant Viruses’ organized by Amity University was attended by some students of the department.

The department has a strong network with our alumni both in India and abroad. Our distinguished alumni come to the college from time to time to deliver lectures to our students and keep them abreast about the latest developments in the field of microbiology and related areas. During the last academic year, six alumni (Ruchi Bhatnagar, Shubham Singh, Dr. Sanjana Mukherjee, Pooja Gupta, Dr. Sneha Chatterjee, and Udit Malik) visited the college and discussed various future career prospects with our students. On February 15, 2020, an Alumni Meet was organized in which many alumni participated.

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. Students of the Department are also encouraged to participate in various sports, ECA and NSS activities. Department also offers Generic Elective courses to the students of other Departments in the first four semesters.

#### **Special achievements of students in the year 2019-2020:**

- Saumein Sain of the batch 2016-2019 received a University gold medal in the 96th Annual Convocation of University of Delhi, held on November 04, 2019 for securing the highest marks in B.Sc. (Hons.) Microbiology. Consecutively from the last two years the Gold Medal has been awarded to a student of our department for the first position in the University of Delhi.
- Anirban Adhikary and Tanu Bansal of Batch 2016-19 under supervision of Dr. Ruchi Gulati Marwah presented poster entitled “A robust biofilm-forming strain of *Bacillus licheniformis* isolated from air: Studies related to colony morphology and antibiotic resistance patterns” in International Conference on Changing Environment:

Understanding the Emerging Challenges and their Management Strategies organized by Department of Zoology, Kalindi College on April 11-12, 2019.

- The sequence of the new bacterial isolate has also been published as Marwah, RG., Anand P., Adhikary A., Bansal T. *et al.* (2019). *Bacillus* sp. (in: Bacteria) strain bcasdu2018/01 16S Ribosomal RNA Gene. GenBank Accession number MK881510.

**The Department is offering the following GE paper to the students of other departments in the first semester (2020-2021):**

**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**	Environmental Microbiology	C-12**	Immunology
AEC-1^	Environmental Science	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**	Cell Biology	C-9**	Virology	C-14**	Recombinant DNA Technology
AEC-2^	English Communication	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	<b><u>Semester V</u></b>	
SEC-2	Microbial Diagnosis in Health Clinics	DSE-1	Bioinformatics
SEC-3	Biofertilizers and Biopesticides	DSE-2	Instrumentation and Biotechniques
SEC-4	Food Fermentation Techniques	DSE-3	Principle of Genetics
SEC-5	Management of Human Microbial Diseases	DSE-4	Biomathematics and Biostatistics
SEC-6	Microbiological Analysis of Air and Water	<b><u>Semester VI</u></b>	
SEC-7	Fundamentals of Bioinformatics	DSE-5	Microbial Biotechnology
SEC-8	Biostatistics	DSE-6	Advances in Microbiology
		DSE-7	Plant Pathology
		DSE-8	Biosafety and Intellectual Property Rights (IPR)
		DSE-9	Project Work



For more details regarding syllabus and scheme please refer to:

[http://du.ac.in/du/uploads/RevisedSyllabi1/Annexure-123.%20\(B.Sc.%20\(H\)%20Microbiology\).pdf](http://du.ac.in/du/uploads/RevisedSyllabi1/Annexure-123.%20(B.Sc.%20(H)%20Microbiology).pdf)

## Department of Physics

### Faculty

Name	Qualification	Specialization
Dr. Anand Bharadvaja	Ph.D. (D.U.)	Atomic and Molecular Physics
<b>Dr. Vandana Batra</b> ( <i>Teacher-In-Charge</i> )	Ph.D. (D.U.)	Astrophysics
Dr. Meetu Luthra	Ph.D. (D.U.)	Cosmology
Dr. Partha S. Pal (on leave)	Ph.D. (D.U.)	Computational Physics
Mr. Vikas Tyagi	M.Sc. (D.U.)	Quantum Field theory
Mr. Sandeep Kumar	M.Tech. (IIT Roorkee)	Solid State Materials
Mr. Ramesh Kumar	M.Tech. (IIT Delhi)	Applied Optics

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:

1. A students' visit was organized to CSIR-NPL on 30.09.2019 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.
2. Students visited the prestigious science exhibition "Vigyan Samagam" is being held at National Science Centre Delhi on Feb 14, 2020 during FAIR (Facility for Antiproton and Ion Research) week (11-15 Feb 2020) organized under the aegis of DAE, DST, and National Council of Science Museum. The exhibition had themed galleries consisting of info-graphics, working models, informative audio-visual content, electronic displays, and interactive kiosks for mega science projects like ITER (International Thermonuclear Experimental Reactor), LIGO (Laser Interferometer Gravitational Wave Observatory), INO(India based Neutrino Observatory), SKA (Square Kilometre Array) , TMT (Thirty Meter Telescope). The students gained knowledge about the significant amount of contribution India is making in successful operation of mega science projects.
3. Students participated in a one-day workshop organized by Inter University Accelerator Centre (IUAC) on the occasion of National Science day, February 28, 2020. During this event the students also got an opportunity to learn the working of particle and beam accelerators. The students also participated in a poster competition on the title "*Applications of particle accelerators for mankind: A futuristic view*" which was judged by former IUAC director and other eminent scientists.
4. A 2-days Annual Fest "EPISTEME" was organized on March 7-8, 2019.

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.

#### # GE-1: 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><u>Odd Semester (any 2)</u></b>	
SEC-2	Applied Optics		DSE-1	Advanced Mathematical Physics-I	
			DSE-2	Nuclear and Particle Physics	
			DSE-3	Physics of Devices and Communication	
			DSE-4	Astronomy and Astrophysics	
				<b><u>Even Semester (any 2)</u></b>	
			DSE-5	Advanced Mathematical Physics-II	
			DSE-6	Classical Dynamics	
			DSE-7	Nano Materials and Applications	
			DSE-8	Dissertation	



For more details regarding syllabus and scheme please refer to:

[http://du.ac.in/du/uploads/RevisedSyllabi1/24072019\\_BSc\\_hons\\_physics\\_2019July15.pdf](http://du.ac.in/du/uploads/RevisedSyllabi1/24072019_BSc_hons_physics_2019July15.pdf)

## Department of Polymer Science

### Faculty

Name	Qualification	Specialization
Dr. S.K. Shukla	Ph.D. (Gorakhpur Univ.)	Polymer Characterization
<b>Dr. Sidharth 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 was introduced in University of Delhi at Bhaskaracharya College of Applied Sciences during 2004-05 and the first batch obtained degree in 2007. 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. The Department of Polymer Science has well equipped laboratories to train the students with synthesis, processing and testing of different types of polymers. The course gives exposure of the latest developments in the field of polymeric materials to the students and therefore equips them to cater needs of the fast expanding polymer industry in India & abroad. Pass out students are being well placed in various polymer industries and academic institutions across India and abroad. The Department also organizes industrial visits and activities of polymer science students to nurture their talents.

The 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.

A few notable equipments of the department are:

- Injection Molding Machine
- Compression Molding Machine
- Two-Roll Mill
- Single Screw Extruder
- Heat Distortion Temperature & Vicat Softening Point Apparatus
- FTIR Spectrometer
- Rota evaporator
- TG-DTA

### **The broad objectives of the course are:**

- To understand the basics of polymer science and technology
- To characterize the chemical and physical properties of polymers
- To learn and train about new technologies & techniques.
- To explore more application areas of polymers.

Employment opportunities for polymer science students exists in several industries such as, Petroleum (IOCL, GAIL, Reliance), Polymer Processing (Finolex, Supreme, Moser Baer, Havells etc ), Rubber and Tyre (Bridgestone, MRF, JK Tyre), Textile (Aditya Birla, Arvind Mills, Vardhman Textiles) , Paints, coatings & Adhesives (Berger, Asian, Dupont, Pidilite), Packaging (Hindustan Liver, ITC, U-Flex etc ), Polymer Waste Management (Banyan Nation, Jet Polymer Recycling), Mold and Die Designing (Hivec, Rhino, Solid Works), etc.

### **The Department organized several activities under the banner of PEARLS Society of Department.**

A few noteworthy activities of the department are as under:

- Students performed a street play on the theme “Single-use Plastics” on March 02, 2020 in the college campus in the event held by Swachhata Committee.
- Faculty & Students participation in celebrations of National Science Day 2020 on 28th February, 2020 organized by Govt of India at New Delhi.
- Faculty & Students attended special talk by Eminent scientist Prof. Gagandeep Kang, Director of the Translational Health Science and Technology Institute (THSTI), Faridabad on the theme of NSD-2020 on February 28, 2020
- Dr. Anju Srivastava, Principal, Hindu College (University of Delhi) and Dr. Suman Sharma, Principal, Lady Shri Ram College (University of Delhi) visited Polymer Science Department on February 25, 2020.
- Visit of 2nd Year students to Recycling Industry on February 18, 2020 to Nidhi Enterprises, Bawana, Delhi.
- Prof. Avinashi Kapoor (Head, Department of Electronic Science, University of Delhi) visited Polymer Science Department on February 11, 2020.
- Visit of 3rd Year students to Department of Textile and Fibre Engineering, I.I.T. Delhi on February 06, 2020.
- Organization of “Alumni Meet” on February 4, 2020.
- Organization of annual Tech Fest “CROSSLINK 2020” on February 3-4, 2020.
- Visit of 2<sup>nd</sup> and 3<sup>rd</sup> year students to World Book Fair-2020 organized at Pragati Maidan Delhi on January 4-12, 2020.
- Visit of 2<sup>nd</sup> & 3<sup>rd</sup> students to 5<sup>th</sup> International Footwear Fair 2019 on September 25, 2019 held at Pragati Maidan, New Delhi Visit of 3<sup>rd</sup> year students to Department of Textile Technology, IIT Delhi on March 06, 2019

## Outreach Programmes

### Industrial and Academic Visits

The department maintains active linkages with the polymer industries. Department organizes industrial visits for the students which not only help them to learn the latest technologies but also provide practical knowledge of theoretical concepts. Some of the prominent industries, where visits have been conducted, are Indian Oil Corporation, Gas Authority of India Limited (GAIL), U-Flex and Relaxo Footwears Limited etc. In addition to Industrial visits, the visits to prominent research and development organization (R&D), such as IIT Delhi, University Science Instrumentation Centre (USIC), Delhi Institute of Tool Engineering (DITE), Indian Institute of Packaging (IIP), etc. are also being organized.

### Alumni Interaction

The college has a very active alumni cell and alumni of each department are registered with this cell. The department has a regular and active interaction with its alumni spread across the globe. Department organizes alumni meet every year and give platform to the outgoing students to have fruitful interaction with them.

### Other extension activities

Workshops, seminars, summer/ winter internships and symposia are organized from time to time for the benefit of students.

The Department is offering following GE paper (2020-2021; First Semester):

**Chemistry of Polymers:** It gives the basic knowledge of polymer synthesis. Students will be able to learn mechanism of polymerization, kinetics of polymerization, polymerization techniques etc. Students of all streams may opt this paper.

### 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-3GE-3 SEC-1SEC-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 GE-2	C-401 PolymerProcessingandMold Design C-402 Polymer Testing C-403 Recycling and Waste Management GE-4 GE-4 SEC-2SEC-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 DSE-9 Dissertation



For more details regarding syllabus and scheme please refer to:

[http://du.ac.in/du/uploads/RevisedSyllabi1/Annexure-95.%20\(Polymer%20Science\).pdf](http://du.ac.in/du/uploads/RevisedSyllabi1/Annexure-95.%20(Polymer%20Science).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 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 2019-20:

- One-day visit to the Department of Entomology, Indian Agricultural Research Institute, Delhi on March 05, 2020
- One-day workshop on “Reproductive Biology” and visit to the Animal House Facility at Department of Zoology, University of Delhi on February 14, 2020
- An educational trip to Madhav National Park, Shivpuri, Madhya Pradesh on September 15, 2019

The Department has been actively involved in organizing workshops to provide practical experience to its students. The students are also encouraged to participate in various scientific and extra-curricular events, within and outside college. In the academic year 2018-19, the following events were organized/participated in:

- Actively participated in “आरोहण: RCB Open Day”, an outreach program on National Science Day held in Regional Centre for Biotechnology, Faridabad on February 28, 2020
- Organized annual zoological festival ‘ZOOSANGAM’ on February 07, 2020 under the umbrella of zoological society ‘ERANKO’.
- Organized one-day workshop on “Immunology” at Department of Zoology, University of Delhi on September 26, 2019

The involvement of the Department in students’ life does not end at the level of academics. To guide, counsel and prepare students in facing the current and future hurdles of life, especially related to career and mental health, is also the responsibility of the Department. In this regard, the Department of Zoology has carried out these steps:

- Organized a one-day seminar entitled “The Dilemma of Choosing a Career” on March 04, 2020 where speakers counseled the students about the career options available after graduation
- Regular mentorship program where each student is allotted a faculty member as a mentor and regular meetings are held to discuss the problems that are being faced by the student related to any aspect of his/her life

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.

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 “**Insect Vector and Diseases**” as the paper for **Generic Elective 1 (GE-1)** in the academic session 2020-2021. Diseases caused and transmitted by insects is a grave concern for the world, especially for developing countries. Through the paper of “Insect Vector and Diseases”, the Department aims at providing a thorough knowledge about these diseases, their causes, symptoms, risks, treatments and preventions.

### 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
SEC-6	Genetic Counselling		
SEC-7	Environmental Audit	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://www.du.ac.in/du/uploads/Revi\\_syll\\_19082019/19082019\\_B.%20Sc.%20\(Hons.\)%20Zoology.pdf](http://www.du.ac.in/du/uploads/Revi_syll_19082019/19082019_B.%20Sc.%20(Hons.)%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 endeavor 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 practical, new techniques, conducting workshops, seminars, Visits to Institutes, organizing minor projects for students with an aim of motivating the students to take up higher studies or career in Biological Sciences.

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, orbital Shaking Incubator, Quartz double- distillation Water purification system, Deep freezer, cooling Cabinets, Microscopes and the use of equipment like Vortex Shaker, Magnetic Stirrer, 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 (2020-21; First Semester):**

**General Elective Choice-based Paper:** For First semester students (2020-2021) batch the Department is offering the paper ‘**Biomolecules**’ which deals with the study of the molecules of life viz, Sugars and Polysaccharides, Amino acids and Peptides, Lipids, Vitamins and Coenzymes. The curriculum includes 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://www.du.ac.in/du/uploads/RevisedSyllabi1/Annexure-122.%20\(B.Sc.%20\(Hons\)%20Biochemistry\).pdf](http://www.du.ac.in/du/uploads/RevisedSyllabi1/Annexure-122.%20(B.Sc.%20(Hons)%20Biochemistry).pdf)

## Department of Human Communication

### Faculty

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

***“Like all science, psychology is knowledge; and like science again, it is knowledge of a definite thing, the mind” - James Mark Baldwin***

As the above quote suggests, Psychology is a study of human behavior and in the due course of learning, one tends to find more about oneself. The department deals with these aspects of human interaction at societal, organizational and most significantly individual contexts. Department offers different General Elective (GE) papers under the discipline of Psychology in the first four semesters. The Department has catered to various courses in the past with varied subjects to make our students confident, self-reliant and positioned to successfully take on further challenges in life. An emphasis is made to ascertain students’ holistic growth, especially in their capability to find their place 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 to not just enrich their learning but improve the quality of life as well. There is due emphasis on providing students an impetus and platform to be on the path of self-discovery and self-recovery.

**The Department is offering following GE paper (2020-21; First Semester):**

***General Elective:***

The Department currently offers general elective (GE) papers in Psychology for all the undergraduate students seeking admission to the college. This semester, an introductory paper, ***General Psychology*** is being offered. The paper enables understanding of the fundamental tenets of psychology for students who have no prior knowledge of the discipline. From fundamental ‘schools of thought’ to principles of ‘learning’, ‘intelligence’, ‘memory’, ‘emotion’, and ‘motivation along’ with an insight into the ‘human life-span 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, **William James**, ***“Man can alter his life by altering his thinking”...***



For more details regarding syllabus and scheme please refer to:  
[http://www.du.ac.in/du/uploads/RevisedSyllabi1/Annexure-159.%20\(B.A.%20\(H\)%20PSYCHOLOGY%20HONS%20\).pdf](http://www.du.ac.in/du/uploads/RevisedSyllabi1/Annexure-159.%20(B.A.%20(H)%20PSYCHOLOGY%20HONS%20).pdf) (pp.74-75)

## 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:

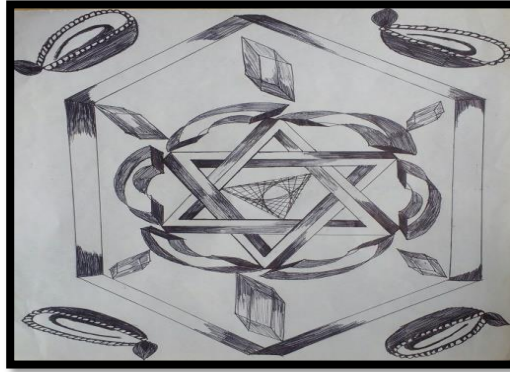
- Lecture by Prof. S.C Arora, ex-HOD, Department of Mathematics, University of Delhi and Dr Anuradha Gupta, Department of Mathematics, DCAC, University of Delhi.
- Remedial classes for several courses of the college were held to help students understand the subject better.
- ‘Click and Share’ Competition 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 (2020-21; 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: [http://du.ac.in/du/uploads/RevisedSyllabi/Annexure-74.%20\(B.Sc.\(Hons\)Maths%20\(REVISED\).pdf](http://du.ac.in/du/uploads/RevisedSyllabi/Annexure-74.%20(B.Sc.(Hons)Maths%20(REVISED).pdf)

# The Library

Name	Qualification
Ms. Geeta Papnei ( <i>Librarian (offg)</i> )	M.A., M.Lib

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 27068 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



## *Star College Scheme*

*As per the DBT norms, the scheme is smoothly conducted by various team leaders with great energy and enthusiasm, as mentioned below.*

- 1. Dr Balaram Pani, Principal, Chairman( Star College Scheme)*
- 2. Dr Anita Sondhi, Coordinator, Star College Scheme and Biochemistry Department  
Coordinator*
- 3. Dr Rizwana, Food Technology Department Coordinator*
- 4. Dr Uma Dhawan, Biomedical Science Department Coordinator*
- 5. Dr Pawas Goswami, Microbiology Department Coordinator*

Under the ongoing Star College Scheme of Department of Biotechnology in our college, several activities are planned by the participating departments. The foremost aim of the scheme is to strengthen science education and research at the undergraduate level. Keeping the objectives in mind, activities were conducted at the respective department levels and college at large. Many activities were conducted during **2019-2020** which include invited talks of eminent scientists from Academia and Industry, Seminars, Hands-on training and workshops were conducted to enhance interest in science.

The mandate of the scheme is also to have collaborations between the various departments and foster an interaction between faculty and students. The students were also given experiential learning through visits to various industries, institutes and research laboratories. These visits help them to understand applications of science in other institutes and also familiarizes them with various career options into their chosen scientific fields. Some of the prominent activities are listed below:

- Two day Inter- Departmental Workshop on ‘ Microbiological and Cell Culturing Techniques’ was conducted by the Department of Biochemistry and Department of Microbiology on **3<sup>rd</sup> and 4<sup>th</sup> March, 2020** for the Biochemistry(GE) students.
- Faculty members and students of the college participated at the ‘National Science day’ with the theme: ‘Women in Science’ organized by Department of Science and Technology (DST), Ministry of Science and Technology on **28<sup>th</sup> February, 2020** at Vigyan Bhawan, New Delhi
- Dr. Vikram Saini from AIIMS delivered a lecture on ‘Mycobacterium Tuberculosis’ and Dr Syed Shams Yazdani from ICgeb delivered a lecture on ‘Biofuels’ at ‘Microquest’, festival of Department of Microbiology on **20<sup>th</sup> February, 2020**.
- One-day seminar on “Significance of Fortified Food in Daily Life” along with an inter- collegiate competition on Healthy recipe formulation using fortified foods was organized by the Department of Food-Technology in association with Food Fortification Resource Centre, FSSAI and NETPROFAN on **February 21<sup>st</sup>, 2020**. Mr. Aareb Irshad, Coordinator, FFRC, FSSAI, introduced the theme as well as the mandate of FFRC. He highlighted the significance of “Micronutrient deficiency and

role of Food Fortification”. Ms. Veena Sharma, Country Manager, GSK Consumer Healthcare Ltd. India delivered a talk on the “Food Fortification: The industry Perspective”. Chef Sibal (IFRA) was the Honourable judge in Healthy Food Recipe Competition. Ms. Shivani Moghe, Consultant, FFRC, FSSAI judged the competition along with Mr Areeb. They also conducted a very interesting and engaging quiz on ‘fortification’ for the students from different colleges of Delhi University and Manav Rachna University, Faridabad

- Department of Microbiology organised a talk on “Introduction to Intellectual Property Rights with special focus on patent technology” by our distinguished alumni, Ms Ruchi Bhatnagar, in the Departmental Alumni meet held on **15<sup>th</sup> February, 2020**.
- Prof. K.Natarajan from BR Ambedkar Center for Biomedical Research, delivered his talk on Mycobacterium Tuberculosis Vs Host on **6<sup>th</sup> February, 2020** at the Intercollegiate Department fest organized by DNAmics, society of Department of Biomedical Sciences
- There was active participation by the college faculty and students at the International Summit organized by the Department of Biotechnology, Ministry of Science & Technology, Government of India titled "International Summit on Women in STEM, Visualizing the Future: New Skylines" held from **January 23-24, 2020** at India Habitat Centre, New Delhi.
- Faculty members and students of the college attended the Leadership lecture by Dr Trevor Mundel, President of Global Health, Bill and Melinda Gates foundation organized by Department of Biotechnology under DBT-BIRAC Leadership Dialogue Series in partnership with AIIMS - **29<sup>th</sup> July 2019**; titled “ Innovating for Impact: How India can lead in helping solve some of the world’s toughest health challenges”
- The college had a Poster Presentation at Pondicherry University at the DBT-Task Force to review ongoing programmes for annual review & Coordinators’ Meet under Star College scheme held from April 18-20, 2019 at Pondicherry (U.T.) and **the college was awarded ‘A’ Grade by the Department of Biotechnology, Govt. of India.**

Induction of new departments in the year 2019, viz., Department of Computer Science, Department of Electronics, Department of Instrumentation and Department of Physics has given a new lead to the college and the relevant departments are in the process of conducting several enrichment programs for students and training programs for teaching and non-teaching staff. Under this scheme, the college will purchase several equipment which will help our students to perform practical individually and to have hands on training. Various activities such as in-house projects, new experiments, workshops, trainings, lectures, and seminars / symposia, industrial and institutional visits are being planned to be organized under this scheme. These activities will be conducted at inter and intra-departmental, inter-college and inter-institutes levels. Several outreach programme are being initiated for the societal benefit under this scheme. The DBT Star College Scheme (for the additional courses) has the following faculty members:

1. Dr. Balaram Pani, 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. Avneesh Mittal, Coordinator, Department of Instrumentation (in place of

Dr.Geeta Bhatt)

6. Dr. Inderbir Kaur, 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 events 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 purpose of Alumni Committee is to develop a lifelong relationship with alumni through support, mutual respect and communication. The Alumni committee encourages the cooperation, participation and involvement of alumni by organizing an alumni meet every year which promotes a meaningful dialogue and exchange of ideas between the college and its alumni for development of institute and placement. A total of 106 alumni participated in Annual Alumni Meet in the last year.

The Alumni database is maintained, managed and updated using a portal on the college website through which alumni can register themselves and alumni committee gets to know where our alumni are placed and how they are progressing in different areas.

The significant contribution of an educational institution to the society and nation can be judged by the achievements of its alumni. The outstanding alumnus is felicitated by “**Distinguished Alumni Award**” which is reserved for those alumni who have attained and maintained extremely high standards in their chosen careers and in their service to society.



### Career Counselling Cell

The Career Counselling Cell has been constituted in college to provide guidance and motivation to students in exploring various career avenues through lectures and seminars by inviting eminent personalities from academia, industries and renowned organizations. This year, a lecture on 'Career options after graduation and how to build a strong profile' was organized on January 29, 2020 delivered by Mr. Aditya Bhardwaj, from IMS Institute, Dwarka. Another career counselling session in collaboration with the Department of Zoology was organized on March 04, 2020 on the topic 'The dilemma of choosing a career' by inviting distinguished speakers Mr. Sanjeev Prasad, Ex- IFS Officer and Mr. Ratneesh Roy from Target Success Institute.



### 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. The 73rd Independence Day was celebrated with high enthusiasm. On this occasion, Dr. Balaram Pani (Principal, BCAS) boosted the students with his encouraging words. Students gave the performance of solo dance, group dance, patriotic song, Poem recitation, and dramas etc. In continuation, 70th 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 25th-26th February 2020. In the inaugural ceremony chief guest Smt. Bhavna Gaur (Member of the Delhi Legislative Assembly, Palam) boosted the spirit of the students with her encouraging words. This year, the festival witnessed a huge participation from the various colleges and institutes from Delhi-NCR. The fest hosted various events and competitions such as singing, dancing, kavi sammelan, debate, photography, fashion shows, street play, quiz, battle of bands etc. Numerous students from different colleges of Delhi University participated in this fest with great enthusiasm. A stand-up comedian Anubhave Singh Bassi gave his performance on the Star Night of SRIJAN 2020. "Awaan Band" also gave their performance on the Star Night of SRIJAN 2020. There was an atmosphere of passion and energy around the campus. SRIJAN 2020 was also the witness of "Sparkling night" with DJ Karan, which forced people to dance.

Under the ECA committee, the elite National security Guard (NSG) team had conducted mock drill on 28<sup>th</sup> February 2020 at 8:00 PM in BCAS premises. The team was fully trained, equipped and keep in readiness every time in any adverse situation and same was capable of swiftly and effectively tackle combating terrorism, counter hijacking task on land, sea & air, bomb disposal and hostages rescue mission etc.

## Gandhian Study Centre

*The future depends on what we do in the present.*

*~ Mahatma Gandhi*

The Gandhian study centre of Bhaskaracharya College of Applied Sciences organises year round activities to inculcate Gandhian values among the students both at college and Inter collegiate. Numerous events like slogan writing, painting competition, essay writing and short poem writing competition 'HAIKU' were organised to hone the creative minds of the students and to broaden their horizons during the session of 2019-20 under Gandhi 150. Our active volunteers along with the convener also attended various events organised during the year at Gandhi Bhawan, University of Delhi. The college was appreciated by honourable vice chancellor of Delhi University for spreading Gandhain values. In order to inspire the students and teachers of the college from the life of Gandhiji, a film screening as well as skit was organized by the Study Centre. The skit took place on the occasion of Republic Day and showcased the dream India as envisaged by Gandhiji. Later in the year, the Centre also paid tribute to the Father of our Nation by organising a recital of some of his favourite Bhajans and making the audience mesmerized by the melodious tunes. Keeping in mind that Gandhiji was a nature curist, a Biotic talk was organized in the college. The talk was conducted by Dr. Salila Tewari, an internationally renowned naturopath with various accolades to her name and an appointment as the personal physician of Late Shri Atal Bihari Vajpayee Ji, the former Prime Minister of our country. Also in the time of this crisis of COVID-19, a list of simple actionable, which included doing regular exercise and maintaining an optimistic approach, in the form of e-material was also shared by the centre on various social media platforms.



### 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. A short talk was held on the topic “Need of Gender Sensitization” to select gender champions was held on October 1, 2019. 18 students attended the same. A slogan writing competition on Gender Equality was held on 3 October 2019 and almost 100 slogans were written. A Gender sensitization lecture was organized jointly with the NSS of the college on 18 October 2019 with the collaboration of Special Police Unit for Women and Children, PTS Malviya Nagar, New Delhi.



### Anti- Tobacco Cell

Anti-tobacco cell of our college aims to make college premises free from tobacco and smoking. In order to achieve our goal, a two-day lecture series on “ADDICTION FREE INDIA” was organized by the Anti-Tobacco cell of our college along with Bhaktivinode ISCKON, Delhi on 3<sup>rd</sup> and 4<sup>th</sup> October 2019. On 3<sup>rd</sup> October, the lecture was inaugurated by a traditional lamp-lightening ceremony by our guest, bursar, and all the faculty members present there. Then Dr. Anil Barak welcomed our guest H.G. Toshani Nimai Das by offering a sapling to him. Further, the Bursar of our college, Dr. Siddharth Sirohi, addressed the gathering. Afterwards, H.G. Toshani Nimai Das delivered a very informative and motivational speech. He shared his views on spiritual knowledge and motivated the audience to lead a good life and highlighted the path to rehabilitation from various kinds of addiction. At last, the closing remarks were given by Dr. Ranjeet Singh Thakur, Librarian of our college.





### **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 linkage. The NSS Cell of the college is very active and strives.



The cell had a triumphant year, ameliorating the environment around us by organizing a plethora of activities such as workshops, lectures and camp etc. throughout the year. The cell in association with the “Yoga Club” and “People Foundation” organized a yoga Workshop on “**Holistic Health & Refreshing Mind Space**” on International Yoga Day. The cell had a clear vision of making the society clean and healthy this year and the mission started with a Cleanliness Drive under the Swachh Bharat Mission. The members also undertook cleaning of a nearby old age home. Emphasizing its aim on a clean environment, the cell celebrated the 50<sup>th</sup> NSS day under the theme of ‘Plastic Pollution’. The expedition did not stop there, as the cell organized a “**Plog Run**” in the wake of nationwide celebration of **Mahatma Gandhi’s 150th Birth Anniversary** this year where students enthusiastically participated in picking up waste while jogging their way around the college campus.



The NSS cell organised a **Voter Verification Camp** and lectures on “**Gender Sensitization**” and “**Passport Seva**”. The Cell organized a “**POSHAN (Prime Minister Overarching Scheme for Holistic Nourishment) Abhiyan**”. It was a health awareness campaign organized by the NSS cell in collaboration with the Integrated District Health Society (IDHS). A blood test campaign and awareness talk was undertaken. The NSS volunteers celebrated Diwali with the students of MCD school near college and distributed dry sacks to them. Lastly for the

indigent, the cell organized a clothes distribution drive under the Palam flyover to protect under privileged from the chilling winds of Delhi. The NSS cell of our college has startlingly risen as a great contributor to the society by actively organizing various camps, lectures and spreading awareness in the society throughout the year.

### Sports

The college provides holistic development through sports in and out of the college. Sports are part and parcel of formal education in the college. Sports Committee put sincere efforts on physical, social and mental development through organization and participation in various intramurals and extramural sports events.

#### **Sports infrastructure**

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.

#### **Achievements:**

1. Mr. Shreya Sharma of B.Sc. (H) 3<sup>rd</sup> year, Department of Microbiology, won **Bronze Medal** in Inter College Judo (Women) Championship 2019-20 organized by University of Delhi and held at the Multi-purpose Hall on 5<sup>th</sup> & 6<sup>th</sup> November 2019.
2. Mr. Vikas Kumar of B.Sc. (H) 2<sup>nd</sup> year, Department of Physics, won **Bronze Medal** in National Football Championship (5<sup>th</sup> Small Side) 2019-20 held at Duler Stadium, Mupasa, Goa from 30<sup>th</sup> December 2019 to 1<sup>st</sup> January 2020.



## Courses Offered:

Generic Elective (GE) in Physical Education in first 4 semesters.

GE 1- Yoga and Stress Management

GE 2- Obesity Management

GE 3- Aerobics Training

GE 4- Fitness and Exercise Management



## Training and Placement Cell

The Training and Placement Cell of the college remains active throughout the year. A career Counselling talk titled “Let Talk Future” by Pearls Academy was held on 20<sup>th</sup> Jan 2020. Three speakers (Ms. Srishti Bajaj, Mr. Dinesh Abiram and Mr. Gopal Meena) from Pearls academy and discussed the various career opportunities for available for the students.

A Placement Drive by Trakinvest for Policy Bazar was held on 14<sup>th</sup> Jan 2020. This interview was open for all the final year students across all branches. Eight students were selected for the interview cum job opportunity.

Oswal Cables came for Campus placement for the final students of B.Sc (H) Polymer Science Department on 5th March 2020.

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 2-3rd Dec. 2019 on the college campus (Accenture, Aegis, Global, Microsign industries, National skill Development Corporation, Inclusive Divyangian Entrepreneur Association and many more). More than 100 visited the college to conduct interviews and offer jobs to handicapped



candidates.

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.

### *Vivekananda VicharManch*



Vivekanand Vichar Manch celebrated Universal Brotherhood Day and Birthday of Pandit Deendayal Upadhyay on 28th September 2018 . A speech on the topic “Vivekan and Deendayal aur Bharat” by Vivekananda Vichar Manch of the college organized celebration of 'Kargil Vijay Diwas' on the 2<sup>nd</sup> August 2019. A tribute was paid to the valiant Indian Martyrs of the 1999 Kargil War by the students, teachers and non-teaching staff of the college near Saraswati Idol. The program also included a lecture on "Role of Youth in New India" by distinguished social worker Shri Shriniwas. The lecture highlighted the importance of understanding India and all its intricacies and enlightened the students about their responsibilities towards the nation. The speaker underlined the importance of the youth who are the torchbearers of the nation and encouraged them to develop the mindset of Nation First. Birthday of Swami Vivekanand ji is celebrated as National Youth Day. This year Vivekanand Vichar Manch and BSA celebrated “**Yuva Diwas**” on 14<sup>th</sup> January 2020. Commander V.K.Jaitely was chief guest of the function .Impressive speech of commander V.K.Jaitely inspired many students and staff of the college to become disciplined , hardworking and responsible citizens of the country.

## 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-defense 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 Defense Training program from **2<sup>nd</sup> to 12<sup>th</sup> Jul 2019** for girls and women of neighbouring areas in collaboration with Delhi Police at our college lawns.



On **6<sup>th</sup> Nov 2019**, WDC celebrated Vigilance Awareness week in collaboration with NPL, CSIR by organizing a lecture on ‘Integrity: A Way of Life’ by Dr. Mahesh followed by on-the spot quiz as well as poster competition.

On **10<sup>th</sup> Jan 2020**, a workshop was organized on ‘Role of Women in Healthcare Industry’ in collaboration with International Institute of Health Management and Research (IIHMR).

On **27<sup>th</sup> Jan 2020**, a workshop was organized on ‘What after Graduation’ in collaboration with

Electronics society 'SPARKS'.

On **6<sup>th</sup> March 2020**, the cell celebrated International Women's Day 'नारीUtsav' to rejoice womanhood. The Cell invited many eminent personalities such as, Dr Rajul L Desai (Member, National Commission for Women) and Mrs. Nayna Sahasrabuddhe (Vice President, Bhartiya Stree Shakti). The program also includes a number of intercollegiate competitions for students such as Extempore, Rangoli making, Poster making events and slogan writing competition where students showcased their knowledge, talents, values, and skills. Large number of students from various colleges enthusiastically participated in the competitions. The program was grand success.



## 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***

“Universe- A mystery yet to unveil”. Who hasn't marveled at the celestial wonders and experienced a sense of awe at being a part of such an infinite expanse? Astronomy club seeks to build on this fascination and brings innovation and passion to its vision of spreading the awareness and knowledge of astronomy and space sciences to the students. The Club aims to arouse the inquisitiveness among students for studying and finding the answers to the various unresolved problems of mysterious Universe by organising various exciting events like Quiz Competition, Educational trips, lectures, documentary movies, etc. every year.

Astronomy club organized Quiz Competition on the topic “Marvel: X-MEN” during Episteme 2020, the festival of Physics Department on February 17, 2020. Students from various departments participated with great zeal and enthusiasm in the event.

Astronomy Club also organized a Debate competition on the topic “Was this universe created or it always existed this way?” during Srijan 2020 on February 25, 2020. Students from various colleges participated in the event.



### *Dance Club (Rage)*

“Dancing is surely the most basic and relevant of all forms of expression. Nothing else can so effectively give outward form to an inner experience”- Lyall Watson



The primary objective of the BCAS Dance Club ‘RAGE’ is to nurture talent, celebrate diversity and give expression to the creativity of young minds through dance. The club is actively involved in organizing dance events and competitions in the college during various festivities all throughout the year. In the year 2019-2020 RAGE had organized several mesmerizing dance performances at occasions like Independence Day and Republic Day. In both events, our talented group of dancers paid tribute to the indefatigable efforts of brave-hearted Indian soldiers who protect and serve our Nation. In addition to these, the college dance group performs in various colleges and Institutions from time to time and have several laurels to their credit. During the year 2019-2020 our team has participated and won in group dance competitions at various places in Delhi such as Indian Institute of Technology, Fore school of management, Apeejay Institute of Mass Communication and Dream Launcher Dance Academy. Srijan- the annual cultural fest of BCAS, also witnesses an active involvement of our dance team in making the fest a success. Apart from organizing inter-college dance competitions like western group and solo, RAGE presented various enthralling dance performances in Srijan held on February 25-26, 2020. In a nutshell, RAGE team boasts of a very energetic and talented group of students who always put their best foot forward and come out with flying colours.

### *The Debating Society*

Confianza is the debating society of Bhaskaracharya college of applied sciences which provides an innovative platform to students to present their views and exquisitely explain their perspectives on the current political and social scenarios in the country as well as world. As a society we try to inculcate democratic enthusiasm into the students and make them familiar with the various styles of debating. **An Intra college debate competition** was organised by the debating society to ignite the vigilante theme in students and evoke their active participation in promoting vigilance awareness among their peers and society as a whole. The debate was held on the topic: **“Is the current public participation playing a role in eradicating corruption and promoting integrity?”** on January 31, 2020. The debate witnessed enthusiastic participation from all the departments of college and covered the topics such as CAA, digital arenas , Right to information, etc. proving their vigilante values. Besides these, debate club organised another **Intercollege “Just a Minute (JAM)” debate competition during the annual cultural festival SRIJAN** where the participants were judged on the basis of fluency, topic justification and diction.



### *The Photography Society*

"Photography is the simplest thing in the world, but it is incredibly complicated to make it really work." - Martin Parr

Since photography being the only means of preserving the present moments and cherishing them later in life, the person who's performing this immense task should have a special title for doing this and that's "CLICKERATI".

Clickerati, the Photography Society, inspires the students and its members to capture the beauty of the world we live in. Being one of the most active society of the college, it regularly organizes workshops and photowalks around the city with the motive to learn something new every time.

In previous academic year, the photography club organized the events and competitions during annual fest "SRIJAN" held on February 25-26, 2020. On both the days we had our photography exhibition in which the photos of the society members and alumni were exhibited. On the second day that is 26 february 2020, There were three competitions in all- Online competition on themes - nostalgia and motion blur, Photo story competition on the theme trapped, On the spot competition on the theme minimalization. The club also organized a competition (online, offline and on-spot events) on November 8, 2019 in which many students participated from different colleges and the winners were awarded with cash prizes. The club organized the photo walk to Hauz Khas village and Archeological park on September 10, 2019 with club alumni.

It gives the students an opportunity to learn, experience and grow to nurture their skills and widen their lens.



### **Dramatics Club (DARPAN)**

**"Art is not always about pretty things, it's about who we are, what happened to us, and how our lives are affected."**



DARPAN, the dramatic club of Bhaskaracharya College of Applied Sciences, tries to bring forth this face of art to life using theatre. We work to present the stickling realities of life in the forefront of the head. We use theatre to mirror the society of the day, how people think about it and what is the ground reality. In the annual cultural fest 'Srijan', DARPAN hosted the street play competition 'Zami Parasti'. The event was full of enthusiasm and more than 20 colleges participated in this two-day event hosted on 25th and 26th of Feb 2020. A play on 'E-Waste Management' was also performed by Darpan to educate people about E-Waste and its proper management. On the occasion of Republic Day celebrations, the team presented an act on the ongoing crucial issue of 'Voting' to spread awareness. At IITD's annual cultural fest, Rendezvous'19, the team performed their annual production on the topic of Euthanasia. Darpan team also performed at the National Brain Research Centre for their annual fest on the topic of Euthanasia on the 18th Sep 2019. We also Performed a skit play "Swachh Bharat" on the occasion of Independence Day celebrations this year.

### *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. In order to sensitize students and teachers towards the need to preserve our environment and ecology, Bhaskaracharya Environmental and Sustainability Taskforce (BEST) and Eco-Club jointly organised an outreach programs on 28-08-2019 on "Environmental Awareness" in the school on the vicinity of Bhaskaracharya College of Applied Sciences.

On September 13, 2019, Eco Club and BEST (Bhaskaracharya Environmental and Sustainability Taskforce) of Bhaskaracharya College of Applied Sciences organized a "Plastic free Campaign" in the college premises. The campaign focused on celebrating an environment-friendly campus.

The Club members were participated in the "International Ozone Day" celebration held at Delhi Secretarial Govt. of NCT of Delhi on 16th September 2019, and received a cash prize of Rs 2000/(Nukkad Natak) and Rs 1000/ (paper presentation) as Appreciation Award.





### **Film Club**

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

Films encourage ideas and social commentary within communities. They have the power to express a culture's ideas and shape them. Art, especially film, is important because it gives us the ability to form lasting human connections by letting us share our experiences. It can help us to better understand our own lives, the lives of those around us and even how our society and culture operate. The BCAS Film Club was constituted with the aim of entertaining, educating and encouraging the students from time to time with the screening of inspirational films related to various aspects like academic excellence, national pride, science and technology, and wildlife, etc. The 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, the film club organized a movie screening of the movies ‘GANDHI’ and ‘MISSION MANGAL’. The objective behind this screening was not only to refresh the students but also to light the fire of patriotism in them and inculcate the sense of national pride

### 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. Akriti, the fine arts society of BCAS, had organized: POSTER making competition on 13th August 2019, under the aegis of IQAC on “Historical episode of rebellion by Indian soldiers/freedom fighters. In college cultural fest Srijan-2020, Monochrome Painting Competition, Plate - o – Rama and Sketch- o – Mania competitions held on 25-26th Feb. 2020.



### Music club

*“Music is the shorthand of emotion. Where words fail, music speaks”. Leo Tolstoy*

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 70th Republic day, the students mesmerized the audience with their marvelous rendition of patriotic songs. On the occasion of 73rd Independence Day, the students from music club participated in the celebrations and aroused the feeling of motherhood among the audience through their heart-throb singing of patriotic songs as a tribute to the slain soldiers they also dedicated a song to the girl child. Saurabh Kishor (Department of Instrumentation) was shortlisted for



M.A.D'2.0(music, art and dance season 2) one of the India's best Singing and Dancing competition held on 25 August 2019. An Intra college competition titled "Bollywood Antakshri" was organized on 19<sup>th</sup> September 2019 where students participated enthusiastically and show cased their talent. The winners Manish Kumar (Microbiology Department) and Yogesh Kumar (Computer science Department) respectively were duly felicitated with certificates and cash prizes. Students of the music club participated in the International summit on women in STEM Visualising the Future : New Skylines organised by ICGEB New Delhi at India Habitat Centre on 23-24 January 2020. Their performance was well appreciated and they were duly felicitated with certificate of Appreciation and memento by DBT.

### 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.

Outreach Activity: 'Yoga Club' and NSS Cell celebrated '5th International Yoga Day' under the aegis of IQAC, in association with People's foundation on June 21, 2019 in the college premises with great enthusiasm. More than 40 people including students, teaching faculty, non-teaching staff members, people from neighbouring societies and guests, actively and enthusiastically. The two-hour long Yoga session commenced by Yogacharaya 'Ms Kanika Verma' for people of neighboring



areas. It was fused with Indian classical music by VYOM group headed by Pt. Shailendra Mishra which rejuvenated the souls and left a positive effect on mind, body and soul.

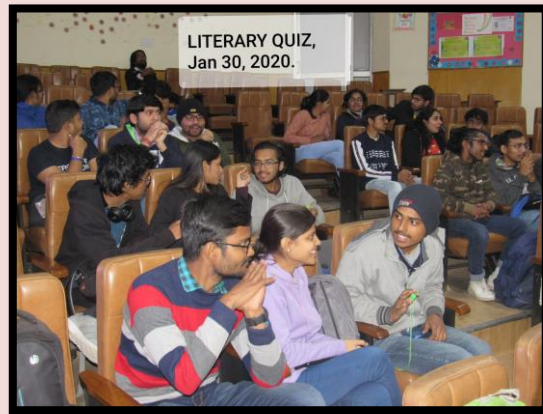
### Literary club

The literary club of BCAS is emblematic of a space where the ideas of life and writing are enmeshed together to give a meaningful direction. The club comprises a team of literary enthusiasts who act as enablers of various writing events and discussions in college. The society offers plethora of opportunity for discussions and events related but not limited to language, literature and cultural realms. Aiming towards spreading love for words and the passion for writing, the club every day strive to mobilize aspiring writers, and giving them the forum to express, explore and understand the words they can create and provides stage for the lovers of written words to come and discuss their opinions out of their convictions on various genres of literature and popular culture. The society often collaborates with other departments and societies for more interactive sessions. Seminars, presentations, symposiums, literary quiz, transcript readings, Kavi sammelan, poetry competitions, documentary writing etc. are few to name among the motives of this club.

The club organizes several events every year. Blackout poetry competition was held on September 25, 2019 in A.V room which happened to be one of the productive and interesting competitions. Keeping in mind the importance of tradition of reciting poem which can forge a lot of social awareness. The literary club on October 22, 2019 organised an event "Kavi ki kalpanaa" in AV room, where students gave funny,



humorous, witty and rational performances by thinking out of the box. On January 30, 2020 literary quiz was organised for inquisitive students who were divided into several teams. The club with the Gandhian study centre co-organised a bilingual essay writing competition on “Mother nature has enough for man's need but not for man's greed” and “My dream India”.



## *Research at BCAS*

The college has well experienced and dedicated faculty who are not only involved in classroom teaching and various co-curricular activities but are also engaged actively in research. The faculty members are also guiding students for their doctoral work.

S.No.	Title of the Project	Principal Investigator	Funding Agency	Sanctioned Amount (Rs)	Duration
1.	Exploring moonlight enzyme, glutamate racemase, of <i>Neisseria gonorrhoeae</i> as a target for anti-gonococcal drug discovery.	Dr. Uma Chaudhry and Dr. Bishwajit Kundu (IIT, Delhi)	ICMR	22.60 lakhs (For Dr. Uma Chaudhry)	2019-2022
2.	Significance of 5-Hydroxymethylcytosine in neurodegeneration associated with rapid eye movement sleep deprivation.	Dr. Uma Dhawan	SERB-DST	40.11 lakhs	2018-2021

## *Faculty Supervisors of Doctoral Program*

Name of the Faculty	Department	Number of Ph.D/PDF. Students enrolled/submitted till date
Dr. Balaram Pani	Chemistry	5
Dr. Geeta Bhatt (On leave and lien)	Instrumentation	3
Dr. Manoj Khanna (On leave and lien)	Electronics	4
Dr. Meenakshi Garg	Food Technology	2
Dr. N. S. Abbas	Botany	1
Dr. Rizwana	Food Technology	1
Dr. Sangeeta Srivastava	Computer Science	4
Dr. Saroj Kumar Shukla	Polymer Science	5
Dr. Sidharth Sirohi	Polymer Science	1
Dr. Uma Chaudhry	Biomedical Science	7
Dr. Uma Dhawan	Biomedical Science	4

## *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 their 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 block/ premises is 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.
- Library 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 seven days only.
- The rate of overdue charges will be Rs. 5/- per day per volume through Paytm only.
- 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 an 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 and cost of binding shall be charged from the borrower.
- Reference books and Not-to-be-issued books will not be issued.

- No book(s) shall be landed after the clearance certificate is issued.

### **Future Plans**

Installation of Air Conditioners for the entire library Space.

# Admission Procedure

## Step 1 Registration on UG Portal

The applicant uses the university UG Admissions portal (<https://ug.du.ac.in>) to create their personal user name and password, fills in their registration form, chooses their courses of interest, and uploads the required documents.

1. All the candidates seeking admission to the Undergraduate (UG) courses are required to register online (<https://ug.du.ac.in> )
2. Any first time user, in order to access UG Admission Portal, need to register on the with a valid e-mail ID.
3. The applicant needs to keep this e-mail ID handy because it will be required to access his /her account on the portal as well as for all the future correspondence throughout the admission process.
4. Utmost care must be exercised in uploading the documents. Applicants will need scanned copies of the following certificates on the basis of which they wish to claim admission
  - i. Class X Mark sheet
  - ii. Class X certificate
  - iii. Class XII Mark sheet
  - iv. Class XII certificate
  - v. Relevant reservation certificate SC/ST/OBC/EWS issued by competent authority
  - vi. Self-attested copies of requisite certificates for admission under sports/ ECA category
  - vii. Link of the uploaded clip for admission against music
  - viii. Photo identity card (Aadhar Card, Driving License, PAN Card, Voter Identity Card, Passport or School Identity Card)
5. Applicants will be responsible for all information they upload, including copies of certificates
6. They will also be responsible for the quality and authenticity of the files they upload. The applicant's will be able to see the preview of their form and the uploaded documents. The applicants are advised to take all care to avoid rejection on this basis during the admission process.

## Step II Payment of Admission fees

The application form will be deemed submitted only when the applicant has paid the relevant registration fee. This fee must be paid only through the link provided through the applicant's Dashboard. When the applicant has successfully submitted the registration fee online, they

are advised to keep records of the payment's transaction ID, Credit Card/ Debit card/ Net banking details and date of transaction as proof for future reference.

### **Step III Reopening of the portal**

The applicants will be allowed to update the marks and make minor corrections in the form during this window provided to them. This will only be a one- time process.

### **Step IV Declaration of cutoffs**

The University shall declare a minimum of **five Cut-Offs**. In case, there are still some vacant seats left, further Cut-Offs may be announced by the University

### **Step V Selection of Course and College**

Upon declaration of the *nth* Cut-Off list, applicants must log into their Dashboards on the UG admission portal to ***choose the course and college they wish to claim admission*** in from the list of colleges and courses they are eligible for. At a time, during a cut-off list, the ***applicant is allowed to choose only one course and one college.***

Selection of applicant's college and course can be made only online through their **own Dashboard** on the UG admissions portal. ***There will be no physical visit to the colleges at this point in the process.*** Within a cut-off the applicant will not be allowed to change his/ her choice of course and college

- **Multiple simultaneous admissions are not permitted**

### **Step VI Online verification of the Certificate by the college**

The College shall verify the documents uploaded by the applicant for eligibility and meeting the required Cut -Off.

**Step 1: Course in-charge (TIC)** to verify the minimum qualifications and cut-off requirement, else to decline

**Step 2: Convenor/admission committee** to recheck and approve the admission or decline.

**Step 3: Principal** to approve admission for cases approved in step 2 and to confirm declining admission for those declined by the Convenor

- **Note:** In case of lack of necessary documents, candidate to be contacted on email/phone so that the same may be provided. In case the candidate does not respond, or where documents remain insufficient, the admission to be declined citing reason.

- **No application will be left undecided. It will either be approved or declined**
- ✓ The applicant to be communicated the status of the application on their dashboard.
- ✓ Those approved are required to pay the fee and receive a confirmation of their admission.
- ✓ **Those declined admission are provided a link to raise any objection with the Grievance Committee**

#### **Step VII** Payment of fee to confirm admission

- Once the Principal of the College has approved their admission, the applicant will receive a link on their Dashboard on the UG Admissions portal through which they must submit the college/course fees due. **This fee can only be paid online through the portal.**
- The applicant is advised to *pay the fee without delay within 24 hours* of the approval of admission by the Principal of the College, and **save the acknowledgement slip** bearing transaction ID, Credit Card/ Debit card/ Net banking details and date of transaction as a proof for future reference. On successful payment of fees, the applicant is granted provisional admission to the said college.
- It is extremely important that applicants pay the fee within the timeframe allocated, failing which it will be concluded that the applicant is not interested in the course of study at the college, and the admission will be automatically cancelled.
- Once the applicant has gained admission, they will have to sign an online declaration stating, *“All the information provided by me are correct. In case any information provided by me is found to be false and/ or is not supported by the documents presented by me, I understand that the admission will be immediately cancelled and no fees will be refunded. I shall abide by all the rules and regulations laid down by the University and the College.”*

## Step VIII Physical verification of original documents

The uploaded documents will be verified by the college within the stipulated time period. *If at this stage it is found that the information given by the applicant is false and/ or is not supported by the documents presented, the admission will be immediately cancelled. No fees will be refunded in such cases.*

### Process for change of Course/College in subsequent Cut offs

If, in subsequent lists, the applicant finds themselves eligible for admission to any other colleges/courses, they should ensure their eligibility by carefully examining the eligibility requirements of the Course/College/ Department.

- I. **Applicants are advised to exercise extreme care to ensure that they meet the requirements for the Course/College.** Once they are certain they wish to cancel admission in the course/college they initially had gained admission to in the previous list, the applicant must log in to the UG Admissions portal to cancel their admission through their Dashboard.
- II. A cancellation fee will be levied, and they may now choose a new combination of course and college, subject to eligibility and meeting course-specific requirements. Once again, the applicant must complete steps V-VIII.
- III. . Only one cancellation is allowed per Cut-off list. Cancellation for readmission in another merit-based college/course will not be possible in the first Cut-off list. Such cancellations wherein the applicant seeks readmission in another merit-based college/ course option may be attempted only in subsequent list onwards. Within a cutoff the applicant will not be allowed to change his/ her choice of course and college. The total number of cancellations will be restricted to (n-1) where "n" is the total number of Cut-off Lists.
- IV. Once an applicant has cancelled his/ her admission, he/ she cannot be re-admitted to that course/college automatically, and must undergo the admission process a new, subject to availability of seats and the applicant meeting course-specific eligibility requirements.
- V. When the applicant cancels their previous admission in the subsequent Cut-Off List, the refunded fee amount will be visible in the “Wallet” section of the Dashboard. A cancellation fee of Rs.1,000 (Rupees One thousand only) will be deducted and this will be reflected in the refunded amount visible in the “Wallet”.

- VI. Through the Dashboard after the subsequent admission is approved, the admission fee will be adjusted automatically and the applicant will have to pay only the balance fee if it is more than the fees already paid at the previous college. If the fee in the latter college is less, the balance will be refunded to the applicant's account or to an account declared by the applicant as per the College/University rules after the admissions are closed.

### ***Additional Documents***

Few additional documents will also be required at the time of admission

- Candidates having passed qualifying examination in a year other than 2020 (Gap year Students) may be considered for admission in accordance with the existing rules of They will be required to produce a gap year affidavit, 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.

**\*For further information, please refer to the website of University of Delhi i.e. [www.du.ac.in](http://www.du.ac.in).**

## *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>	Keyboard	1	ONE
8	<b>NSS</b>		1	ONE

\*Refer to University Admission Bulletin (2020-21) for guidelines to admission through ECA

## *Admission under Sports Category\**

### Position/Event/Weight category for Team Games/Sport for Admission on the basis of Sports in Undergraduate Programmes 2020

S.No.	Category	No. of Seats for Men	No. of Seats for Women
1	Athletics	-	2
2	Badminton	-	2
3	Basketball	2	-
4	Chess	1	2
5	Cricket	3	-
6	Football	4	-
7	Volleyball	1	-
	<b>Total</b>	<b>11</b>	<b>6</b>

\*Refer to University Admission Bulletin (2020-21) for guidelines to admission on the basis of Sports

## *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, notified by the Ministry of Social Justice and Empowerment on the recommendations of the National Commission for Backward Classes available at the **website [http://ncbc.nic.in/backward classes/index.html](http://ncbc.nic.in/backward_classes/index.html)**.

The OBC applicants who belong to the '**Non-Creamy Layer**' and whose caste appears in the **Central List of the OBCs only, shall be eligible** to be considered for admission under the OBC category (Validity period of OBC certificate in respect of 'creamy layer' status of the applicants as per DOPT Office Memorandum No. 36036/2/2013-Estt.(Res-I) dated 31 March 2016). **The validity of the non-creamy layer certificate shall be for the financial year 2019-2020, issued after 31<sup>st</sup> March, 2020.**

**Person with Benchmark Disability (PwBD) (Supernumerary seats):** **Person with Benchmark Disability (PwBD) (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.

Applicants must furnish a valid disability certificate issued by a recognized Government hospital, bearing a photograph of the applicant

### **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 in the Academic Year 2020-21. 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 the Prospectus. For further details applicants can visit:

<http://www.du.ac.in/du/uploads/Notifications/04042019-Notification-EWS.pdf>

**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  |
| <b>Priority IV</b>  | Wards of Defence Personnel disabled in service and boarded out with disability attributable to military service;  |
| <b>Priority V</b>   | 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 |
| <b>Priority VI</b>  | Wards of Ex-Servicemen.   |

**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
Total fees to be paid by PWD student of any course: (All existing B.Sc.(H) Courses (E))	9410.00

\*All the figures are in Indian Rupees.

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

Note: If any change in fees, it will be intimated later.

# 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. Willful 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. Prohibition of 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 programme or programmes 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 that 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 caste and tribe.
  - d. Expose students to ridicule and contempt and affect their self-esteem.
  - e. Entail verbal abuse and aggression, indecent gestures and obscene behavior.
4. The Principal of a College, the Head of the Department or an Institution, the authorities of College, or University Hostel or Halls of Residence shall take immediate action on any information of the occurrence of ragging.
5. Notwithstanding anything in Clause above, the Proctor may also suo motu 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 programme 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 the University of Delhi 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.

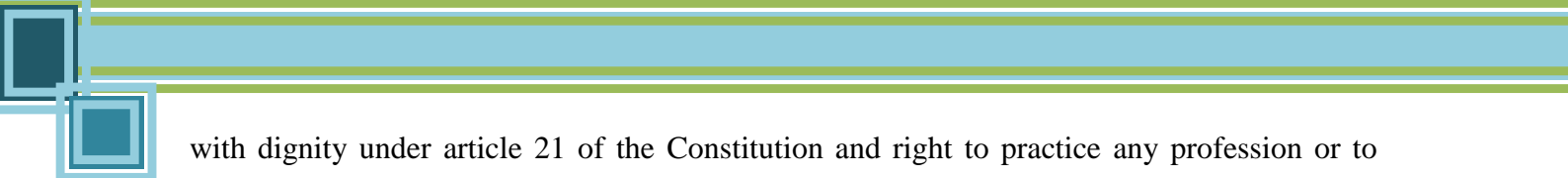
13. All Institutions within the Delhi University system shall be obligated to carry out instructions/directions issued under this Ordinance, and to give aid assistance to the Vice-Chancellor to achieve the effective implementation of the Ordinance.

**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.

**ORDINANCE XV-D/The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 (MINISTRY OF LAW AND JUSTICE)**

An Act to provide protection against sexual harassment of women at work place 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://www.shebox.nic.in/assets/site/main/images/Sexual-Harassment-at-Workplace-Act.pdf>.

## Admission Committee

<b>Convener</b>	<b>Dr. Jitender Kumar</b>	<b>9910941616</b>
<b>Co-Convener</b>	<b>Dr. Neeru Sharma</b>	<b>9811463962</b>
<b>Department</b>	<b>Members</b>	<b>Contact Number</b>
<b>Biomedical Sciences</b>	Dr.Uma Chaudhary	9811746265
<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. Avneesh Mittal	9540758800
<b>Microbiology</b>	Dr.Purnima Anand	9818563729
<b>Physics</b>	Dr.Vandana Batra	9810428467
<b>Polymer Science</b>	Dr.Siddharth Sirohi	9868898270
<b>Zoology</b>	Dr. Anil Kumar Bali	9810696967

### Grievance Sub-committee for SC/ST/OBC/EWS applicants for admission (2020-21)

<b>Name</b>	<b>Contact No.</b>	<b>e-mail id</b>
Sh. Ramesh Kumar (Liasion Officer)	9654271875	ramesh.kumar@bcas.du.ac.in
Dr. N. Vijay Kumar	9968126699	nallavijay.kumar@bcas.du.ac.in
Dr. S.K. Shukla	9818487997	saroj.shukla@bcas.du.ac.in

### Grievance Sub-committee for PwD applicants for admission (2020-21)

<b>Name</b>	<b>Contact No.</b>	<b>e-mail id</b>
Dr. N. Vijay Kumar	9968126699	nallavijay.kumar@bcas.du.ac.in
Dr. Anand Bharadvaja	9810690359	anand.bharadvaja@bcas.du.ac.in
Dr. Manu Kataria	9311044179	manu.kataria@bcas.du.ac.in

### Extra-Curricular Activity Committee for the academic session 2020-2021

<b>Name</b>	<b>Contact No.</b>	<b>e-mail id</b>
Sh. Ramesh Kumar	9654271875	ramesh.kumar@bcas.du.ac.in
Dr. N. Vijay Kumar	9968126699	nallavijay.kumar@bcas.du.ac.in

### Sports Committee for the academic session 2020-2021

<b>Name</b>	<b>Contact No.</b>	<b>e-mail id</b>
Dr. Sidhharth Sirohi (Convener)	9868898270	siddharth.sirohi@bcas.du.ac.in
Dr. Anand Bharadvaja	9810690359	anand.bharadvaja@bcas.du.ac.in
Dr. Sujata Bhardwaj	9810979868	sujata.bhardwaj@bcas.du.ac.in
Dr. Neeru Sharma	9811463962	neeru.sharma@bcas.du.ac.in

## *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	9717139275
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. Pawas Goswami	9899293335
Dr. Sandeep Kumar	9015864017
Dr. Susmita D Sadhu	9910028035
Dr.Shivani J.Virmanani	9811328195
Ms. Shweta Gupta	9717139275

## *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. Rizwana	9810998663
Dr. Sangeeta Srivastava	9873027777
Ms. Ritu Sareen	9868814835

\*This committee will look after the 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>
Ms. Meenakshi Garg	9958415333
Dr. Ruchi G.Marwah	9871817295
Dr. Ramesh Kumar	9654271875

\*This committee will look after the grievances during admission.

## 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)

### **GAPYEARUNDERTAKING**

All students who did not pass the qualifying examination for admission to **I year** in April/May 2020 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

## EWS Certificate format

Government of .....  
(Name & Address of the authority issuing the certificate)

### INCOME & ASSEST CERTIFICATE TO BE PRODUCED BY ECONOMICALLY WEAKER SECTIONS

Certificate No. \_\_\_\_\_

Date: \_\_\_\_\_

VALID FOR THE YEAR \_\_\_\_\_

This is to certify that Shri/Smt./Kumari \_\_\_\_\_ son/daughter/wife of \_\_\_\_\_ permanent resident of \_\_\_\_\_, Village/Street \_\_\_\_\_ Post Office \_\_\_\_\_ District \_\_\_\_\_ in the State/Union Territory \_\_\_\_\_ Pin Code \_\_\_\_\_ whose photograph is attested below belongs to Economically Weaker Sections, since the gross annual income\* of his/her 'family\*\*' is below Rs. 8 lakh (Rupees Eight Lakh only) for the financial year \_\_\_\_\_. His/her family does not own or possess any of the following assets\*\*\* :

- I. 5 acres of agricultural land and above;
  - II. Residential flat of 1000 sq. ft. and above;
  - III. Residential plot of 100 sq. yards and above in notified municipalities;
  - IV. Residential plot of 200 sq. yards and above in areas other than the notified municipalities.
2. Shri/Smt./Kumari \_\_\_\_\_ belongs to the \_\_\_\_\_ caste which is not recognized as a Scheduled Caste, Scheduled Tribe and Other Backward Classes (Central List)

Signature with seal of Office \_\_\_\_\_  
Name \_\_\_\_\_  
Designation \_\_\_\_\_

Recent Passport size  
attested photograph of  
the applicant

\*Note1: Income covered all sources i.e. salary, agriculture, business, profession, etc.

\*\*Note 2: The term "Family" for this purpose include the person, who seeks benefit of reservation, his/her parents and siblings below the age of 18 years as also his/her spouse and children below the age of 18 years

\*\*\*Note 3: The property held by a "Family" in different locations or different places/cities have been clubbed while applying the land or property holding test to determine EWS status.

*G. Srinivasan*

### EWS declaration/ undertaking format

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 Economically weaker Section (EWS) by the Government of India for purpose of reservation in services as per orders contained in Department of Personnel and Training Office Memorandum No.36039/1/2019 - Estt.(Res.) dated 31.01.2019(available at <https://dopt.gov.in/sites/default/files/ewsf28fT.PDF>).

2. My family's gross annual income is not Rs.8.0 Lakh or above for the financial year 2018-19. My family does not own or possess any of the following assets:

- i.) 5 acres of agricultural land and above;
- ii.) Residential at of 1000 sq ft. and above;
- iii.) Residential plot of 100 sq. yards and above in notified municipalities;
- iv.) Residential, plot of 200 sq. yards and above in areas other than the notified

municipalities.

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 EWS 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.

Signature of the Candidate

Place:

Date:

Contact Details:

**Note: Declaration/undertaking not signed by Candidate will be rejected**

### Declaration/Undertaking for OBC Candidates

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/creamyayer.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-Estts(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.

Signature of the Candidate

Place:

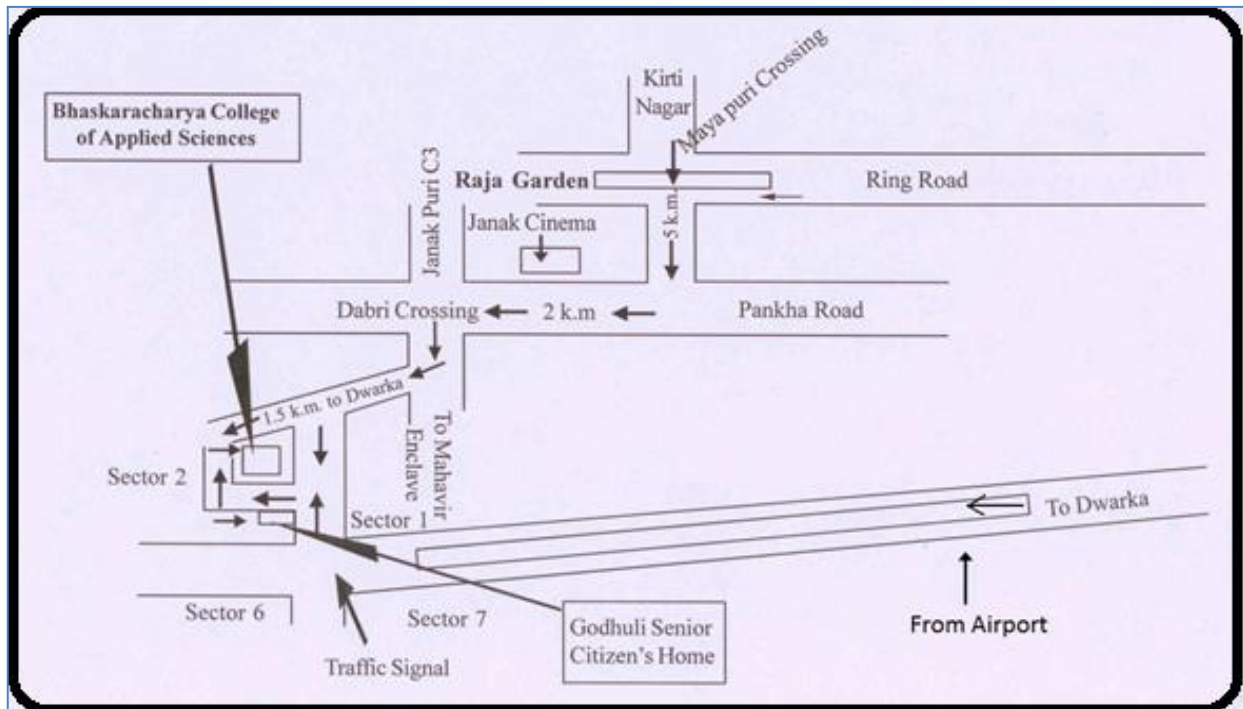
Date:

Contact Details:

**Note: Declaration/undertaking not signed by Candidate will be rejected**

## 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.



**Bhaskaracharya College of Applied Sciences  
(University of Delhi)  
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**Prospectus Committee:**

Dr. Inderbir Kaur (Convener), Dr. Rizwana, Dr. Sujata Bhardwaj, Dr. Meetu Luthra, Dr. Purnima Anand, Dr. Ruchi Gulati Marwah, Dr. Neha Singh, Ms. Gurkiran Kaur, Ms. Seema, Dr. Umesh, Dr. Shailja Singh, Mr. Shani Kumar, Dr. Sakshi Khurana, Dr. Julie Thakur, Dr. Herendra Kumar, Dr. Reetuparna Basak, Dr. Neeru Bhagat,