

ANNUAL QUALITY ASSURANCE REPORT 2016-17

Name of the College : **Bhaskaracharya College of Applied Sciences**

Name of the Affiliating University : **University of Delhi**

Year of Report : **2016-17**

Section A : Plan of action chalked out by the IQAC in the beginning of the year towards quality enhancement (Attach separate Sheet if required):

The vision and mission envisaged in NAAC is reiterated below:

VISION:

“A commitment to mentor the students to achieve excellence through holistic education”

MISSION:

The mission of the College is to create and sustain the conditions that enable students to experience an unparalleled educational journey that is intellectually, socially, and personally transformative. We aim to support and promote both the academic as well as personal development of the learners. The diverse profiles of the learners are valued and encouraged through various academic and co-curricular activities. The college firmly believes in the transformative power of education. We strive to educate the young citizens and create citizen-leaders for the society, who will also contribute to the nation building. The college prepares its students for not only successful careers but also a fulfilling life.

Objectives:

The main objective of the institution is to excel at imparting curricular, co-curricular and extra-curricular education and training to its students. The goals of the college are as follows:

- To provide holistic education and allow each student to realize his/her potential through academics and extra-curricular activities and thereby transforming them into thinkers and researchers.
- To excel in imparting co-curricular and extra-curricular education and training to the students.
- To motivate students to become value-oriented individuals and be sensitive to the needs of the society.

- To motivate the faculty and the learners to take quality initiatives in academic, research and extension activities and help to generate suitable human resources for the development of our nation.
- To foster a scientific temperament and encourage students to adopt a rational approach to solve problems.
- To mentor students through continuous assessment.

The IQAC of the College chalked the following Plan for achieving our objectives:

1. The Committee feels growth and development of College is synonymous with academic and curricular activities. Keeping this in mind the faculty development programmes and student enrichment programmes should be conducted on regular basis. Not only the faculty but the students should be encouraged to participate in various workshops/seminars/conference for the updation of the technology in respective fields, so that they are in touch with recent developments.
2. Regular and continuous up-gradation of College website which should be more user friendly and interactive.
3. Setting of procedures for all the activities/processes of the College including the admission, purchase, and write off etc. It should be printed in a booklet form and should be available on demand. Anyone can download the same from the College website.
4. For spreading awareness of various procedures, flow charts should be drawn and displayed in all the departments, laboratories, administration, accounts, library and Office of the Principal.
5. It should be highlighted in the College sign board, stationary etc. that the College is Star Funded/Star Status.
6. Generating BAR CODE /QR Code system should be followed for stock verification.
7. Interaction with the industries may be prioritized.
8. Installing the compost/manure generating machines.
9. Paper recycling should be done more frequently. Workshops on paper recycling may be organized.
10. College should promote automation in spheres of College activities.
11. The College has **Star College Scheme for Biological Sciences**. On similar lines, it is our endeavor to get the same for the Physical Sciences Departments.
12. Seating capacity of the Library may be enhanced.
13. To initiate the process for introduction of some new courses in the College.

Section B: Details in respect of the following (attach separate sheet).

1. Activities reflecting the Goals and objectives of the College

A. Department of Biology

- Dr. Anil K. Bali, Co-Coordinator, National Workshop on "**Intellectual Properties Rights: Culmination of Research**" from 23rd to 24th September, 2016 in association with Ministry of Micro, Small and Medium Enterprises, Government of India.

B. Department of Biochemistry

- Organized talk on "**Genetically Modified Organisms**" on 30th March, 2017 by Prof Arun Jaganathan, Department of Botany, University of Delhi.
- Organized students' visit to the **Department of Biotechnology, Jawaharlal National University** on 14th March, 2017.

C. Department of Biomedical Sciences

- Organized lecture on "**Vaccine Delivery and Tissue Engineering using Biodegradable Polymer Particles**" on 21st April, 2016 by Dr. Amulya Panda, Scientist, National Institute of Immunology.
- Organized lecture on "**Introduction to Nanotechnology – Future to Every Disease**" on 21st April, 2016 by Dr. Avinash Bajaj, Associate Professor Regional Centre for Biotechnology.
- Organized lecture on "**Increasing Drug Resistance in Acinetobacter Baumannii**" on 3rd June, 2016 by Dr. Anshu Bharadwaj, CSIR-Open Source Drug.
- Organized Invited Lecture on "**Gene, Genomics and Cancer**" on 31st January, 2017 by Prof. B C Das, Amity University.
- Organized popular lecture on the topic "**Current Challenges in Science and Society: Opportunities for fresh graduates**" on 7th February, 2017 in collaboration with the Career Counseling and Placement Cell of the College.
- Organized a talk on "**Career Prospects in Biomedical Science**" by Dr. Deepak K Saini, Associate Professor at Indian Institute of Science, Bangalore, on 16th February 2017.
- Organized Collage Making competition on the topic "**Recent Advances in Biotechnology**" held on 27th February 2017.
- Organized lecture on "**Entrepreneurship Opportunities in Life Sciences**" on 24th March 2017. By Dr. S. Lakshmi Devi, Hony. Director Centre for Entrepreneurship and Career Oriented Program, University of Delhi.
- Organized lecture on "**Entrepreneurship Opportunities in Life Sciences**" on 24th March 2017 by Prof S K Palhan, Founder Director,

Great Lakes Institute of Management Gurgaon and Sri Sringeri Sharada Institute of Management.

- Organized lecture on **“Integrating Chemistry with Biology and Information Technology: Towards a disease-free Planet Genomes to Hit Molecules *in silico*: A country path today, A highway tomorrow”** on 27th March 2017 by Prof. Jayaram, Supercomputing faculty for Bioinformatics and Computational Biology, Indian Institute of Technology, Delhi.
- Organized lecture on **“Bioreactor Design and Scale-up Problems”** on 28th March 2017 by Prof. U. C. Banerjee, Professor and Head Department of Pharmaceutical Technology, National Institute of Pharmaceutical Education & Research (NIPER), Mohali, Punjab.

D. Department of Chemistry

- Organized two days National Conference titled **“Clean & Green Energy: The Chemical & Environmental Aspects”** on 16th and 17th February 2017 in the College. There were 180 participants including 16 eminent scientists who delivered their thoughts, 32 oral presentations from young research scholars and 80 poster presentations.

E. Department of Electronics

- Organized two days workshop on **“ROBOTICS”** in collaboration with Croma Campus, Noida on 05th and 06th October, 2016.
- Organized Technical Presentation by Students on **“Science and Technology for Specially Abled Persons”** on the occasion of National Science Day on February 28th February 2017.
- Organized Skill Development Workshop for Laboratory staff of various departments under IQAC on 27th March 2017.

F. Department of Food Technology

- Organized lecture on **“Quality Management in Life Sciences”** in collaboration with AFST (I), Delhi chapter on 27th July, 2016 by Dr Pedram Dehdari, Managing Director, Ensymm.
- Organized workshop on **“Reuse of Plastics”** for class IV to class VI at K.D. Senior Secondary School, Rohini on 10th October, 2016.
- Organized Inter Collegiate workshop on **“Total Analytical Solutions for Cereal Technologists”** on 28th October 2016 by Ms. Ragini, Technical Manager, SDS, Delhi.
- Organized one day Industrial Visit to **Delhi Milk Scheme**, Shadipur under AMBROSIA, on 8th December, 2016.
- Organized one day Industrial Visit for students of B.Sc. III (H) to **Recycling Industry** at Bawana on 11th January, 2017.
- Organized lecture series on **“Codex: Principles and Practices”** from 12th to 14th January, 2017.

- Organized workshop for students “**Emphasizing on the need of Cleaning in Place of the Dairy Plant (Dairy CIP)**” on 24th January 2017 by Mr. Anand, Formerly Service Engineer with GOMA.
- Organized workshop on “**Startup Schemes for Budding Women Entrepreneurs**” on 4th February 2017 by Mr. Nitin Mishra, Senior Manager, Knowledge Management and Communication at Futor.
- Organized workshop on “**Organic Food Products**” (interdepartmental) on 21st February 2017 by Dr. PVSM Gouri, Vice President, Organics, Round Glass Partner, New Delhi.
- Organized workshop on “**Nano Technology: Development of Nano films and its Applications in Food Packaging**” from 20th to 22nd February 2017 by Dr. Geeta Sheshadri, Assistant Director, Shriram Institute for Industrial Research, Delhi.
- Organized one day Industrial Visit to **Modern Flour Mills**, Lawrence Road, New Delhi on 07th March, 2017.
- Organized Skill Enhancement workshop “**Development of New Bakery Product with Modified Recipes**” in New Product Development (NPD) on 8th March 2017 in collaboration with Ms. Renu Thomas, self-employed and working for NGO and Nestle for developing new recipes.
- Organized workshop on “**Demonstration of Rapid Detection Methods of Adulterants present in Milk and Milk Products**” on 21st March, 2016.

G. Department of Instrumentation

- Organized Quiz Competition on “**Science and Technology (Quiz Bitz)**” on the occasion of National Science Day, on 28th February 2017.
- Organized lecture series on the topics “**Digital India, VLSI and Entrepreneurship**” on 26th August 2016. The following were the Speakers:
 - ✓ Mr. Partha P. Adhikari: Deputy Director, National Institute of Electronics and Information Technology delivered a lecture on “**Importance of Digitization in India and its role in development and growth of Nation**”.
 - ✓ Mr. Manish Upadhyay: Senior Design Engineer in Intel Technologies, Bangalore, India, delivered lecture on “**VLSI Technology**”.
 - ✓ Mr. Robin Ladwal: Director, Araham Solutions Pvt. Ltd. delivered lecture on “**Essential Requirements to become an Entrepreneur**”.
- Organized **Skill Development Workshop** for Laboratory staff of various departments under IQAC on 27th March, 2017.

H. Department of Microbiology

- Organized workshop on **“Spectrophotometry: Principles and Applications”** on 30th August 2016.
- Organized Poster making Competition on “Timeline of Advancements in Microscopy” on 6th September 2016.
- Organized one day Industrial Visit of B.Sc. (H) III year students to **National Institute of Immunology** on 20th October, 2016.
- Organized Collage Making Competition on **“Career Prospects in Microbiology”** on 27th January, 2017.
- Organized workshop on **“Immunodiagnostic Techniques: Rapid Diagnosis of Microbial Pathogens”** on 17th February 2017.
- Organized workshop on **“Organic Food Products”** on 21st February 2017 by Dr. PVSM Gouri, Vice President, Organics, Round Glass Partner, New Delhi
- Organized “Advance Lecture Series in Microbiology: An Interdisciplinary Approach”, Part 1: **“Protein Engineering”** on 20th February, 2017 by Dr. I. Krishna Kishore and Dr. Ethayathulla A.S. of Department of Biophysics, All India Institute of Medical Sciences, Delhi. Part 2: **“Microbial Genomics”** on 8th March, 2017 by Prof. J.S. Viridi, Department of Microbiology and Dr. Amita Gupta, Department of Biochemistry; University of Delhi South Campus. Part 3: **“Industrial Microbiology”** on 27th March, 2017 by Prof. Rani Gupta, Department of Microbiology, University of Delhi South Campus, and Prof Saroj Mishra, Department of Biochemical Engineering and Biotechnology, Indian Institute of Technology, Delhi
- Organized Doodle Art Competition on **“Microbes: Invisible Invaders Amazing Allies”** on 28th February 2017.
- Organized Skill Development Workshop on **“Operation and Maintenance of Laboratory Instruments”** on 2nd March, 2017.
- Organized MICROQUEST 2017 and a Symposium on **“Science Empowering Women---Women Empowering Science”** on 27th March, 2017.
- Released Departmental Society “Sukshmjeev”, Annual Magazine “Life under Lens” Special Issue: **“Celebrating the Noble Women of Science”** on 27th March 2017.
- Organized one day Industrial Visit of B.Sc. (H) II year students to **Star Path Labs**, Tilak Nagar on 29th March, 2017.

I Department of Physics

- Organized Lecture on **“Current Trends and Single Crystal Growth and Various Fellowship scheme for the students”** on 20th January 2017 by Dr. N. Vijayan from National Physical Laboratory, Delhi.
- Organized one day visit of students to **National Physical Laboratory**, Delhi on 21st September. 2016.
- Students attended one day workshop at IUAC on 18-02-2017.

- Organized lecture on “Embedded Systems” on 20th September, 2016 by Prof. Dhananjay Gadre from Netaji Subhash Institute of Technology, New Delhi.
- Organized one day visit of students at IUAC on 28-02-2017, on occasion of National Science Day.
- Organized one day workshop in collaboration with Department of Polymer Science on “**Software Training Program**” organized by DU Innovation Project (302) on July 29, 2016.
- Organized Skill Development Workshop for Laboratory staff of various departments under IQAC on 27th March, 2017.

J Department of Polymer Science

- Organized one day seminar on “**Career Opportunities for Polymer Engineers**” in association with IPI Delhi on 12th August 2016. The lectures were delivered by the following speakers:
 - ✓ Prof. A.K Ghosh, Head, Centre for Polymer Science & Engineering, Indian Institute of Technology, Delhi
 - ✓ Dr. G. S. Kapoor, General Manager, Petrochemicals, Indian Oil Corporation Ltd.
 - ✓ Mr. Samit Jain, Pluss Polymers Advanced Technologies Gurgaon
 - ✓ Ms. Ish Walia, Chairman, IPI Delhi Chapter &
 - ✓ Mr. D.K. Jain, Director- R&D, Pluss Advanced Technologies
- Organized one day Industrial Visit of Polymer Science students to **University Science Instrumentation Centre**, University of Delhi on 16th September, 2016 in which hands on training of various Polymer Characterization instruments was given.
- Organized National Workshop on “**Intellectual Properties Rights: Culmination of Research**” from 23rd to 24th September, 2016 in association with Ministry of Micro, Small and Medium Enterprises, Government of India.
- Students of Polymer Science along with faculty members participated in the launch meet of Plastivision-17, organized by All India Plastics Manufacturing Association (AIPMA) on 29th September, 2016 at Leela Palace, Gurugaon and Faculty and students participated in the launch meet of Plastivision-2017, organized by All India Plastics Manufacturing Association (AIPMA) on December 17, 2016 at Mayur Vihar, Delhi.
- Organized lecture on “Catalysis by Nanoparticles” on 14th December, 2016 by Dr. D. Parida, University of Bordeaux, France.
- Organized one day Industrial Visit of 3rd Year students to **Nidhi Enterprises** at Bawana on 11th January, 2017 and were given exposure to polymer recycling process.

The vision of the College focuses on the holistic development of the students. In pursuit of this the following activities were undertaken:

L Extra Curricular Activities

- **Independence Day Celebration:** The theme was **AZADI '70 -YAAD KARO KURBANI**. It was a fortnight celebration from (09th August, 2016 to 23rd August, 2016). Various events like Quiz competition, Poster Making Competition and Stage Play were organized to commemorate the celebrations. The celebrations culminated by mass singing of National Anthem on 23.08.2016.
- **Songs of India** (07th October, 2016): Inter college group and solo singing competition was hosted yet again very successfully in collaboration with Cultural Council of University of Delhi. This event saw a very large participation from various colleges of University of Delhi.
- **Rashtriya Ekta Saptah:** (31st October to 6th November, 2016) This was held to commemorate the birth anniversary of Sardar Vallabh Bhai Patel in recognition of his sustained efforts to unify India. A Play, Unity Run, Extempore, Declamation Competition, Essay Writing, Solo singing, Group singing, Film Screening and Dance competition was organized in the College. The clubs organized activities like Cap and T-shirt painting, Quiz etc. (Details reflected under club activities).
- **Vigilance Awareness Week:** (31st October to 6th November, 2016). The theme was **“Public Participation in Promoting Integrity and Eradicating Corruption”**. The weeklong celebrations also saw the BCAS family taking **“Citizen Integrity Pledge”**.
- **Constitution Day** (25th November, 2016): To create and spread awareness about our Constitution this day was celebrated. The Preamble to the Constitution and Fundamental Duties enshrined in Article 51A of the Constitution were read by all.
- **SRIJAN-2017:** An Inter Collegiate College Festival. This festival is a crowd puller and students of different Delhi University Colleges participated. The response was overwhelming. This year it was a greater show as we had a celebrity singer Akhil Pasrija performed in the college.

The Extra Curricular Activity Committee of the College through various clubs organized the following activities:

- **Dramatics Club**
 - ❖ The club presented a play **“Gumnaam”** on theme of forgotten heroes of war of Independence on 17th August, 2016 on the occasion of celebration of AZADI'70-YAAD KARO KURBANI from 9th to 23rd August, 2016.

- ❖ The club presented a series of two plays “**Baghiya Baacharam**” and “**Dusk**” in the College on 5th October, 2016.
- **ECO Club**
 - ❖ International Ozone Day was celebrated on 14th September, 2016. Dr. B.C. Sabata, Senior Scientific Officer, Department of Environment, Government of NCT of Delhi gave a lecture on “**Ozone Protection**”. Students presented posters and collages on Ozone Protection and Environment Conservation.
 - ❖ Students of Eco Club presented play on “**Ozone Protection**” in Ministry of Environment Govt. of Delhi on 16th September; 2016. The play was highly appreciated. All students were awarded with certificates.
 - ❖ Greeting Card Making Competition (Intra College) using waste material was organized on 29th August, 2016. (Theme of Greeting Card-Teacher's Day).
 - ❖ Candle and Diya Decoration Competition (Intra College) was organized on 8th October, 2016 as an initiative towards Eco Friendly Diwali Celebration.
 - ❖ Paper recycling is a regular exercise in the College. Recycled sheets were used for making posters and collages. Ms. Deepshikha Singh Tomer of BMS Ist yr. has made new year Table Calendar using recycled sheets.
 - ❖ Best out of waste competition (Intra College) was organized on 8th January, 2017 to promote the idea of reuse and recycle.
 - ❖ Plantation Drive of Herbal Plants was initiated in the college.
- **North East Cell (NEC)**
 - ❖ Students of North East interacted with Deputy Commissioner of Police on 12th January, 2017 and 31st January, 2017, regarding safety and protection issues of North East students.
 - ❖ An essay writing competition on “**Women Entrepreneurship in North-East India**” was conducted. Furthermore, poster competition on “**Beauty and Culture of North-East India.**” also took place on 28th October, 2016.
 - ❖ NEC also celebrated Bihu festival by conducting Extempore Competition on Bihu festival on 16th January, 2017.
 - ❖ NEC in collaboration with Bhaskaracharya Cell of the College organized the following events:
 - ✓ One day workshop on “**Application of Vedic Mathematics in Aptitude Tests**” on 25th January, 2017.
 - ✓ “**Traditional and North East Food Competition**” on 25th January, 2017.
 - ❖ Students of North East Cell attended Inter College North East Cultural Extravaganza on 27th January, 2017 organized by Daulat Ram

College, University of Delhi in collaboration with North East Council (NEC), Government of India.

- ❖ NEC organized a competition on 11.03.2017 “Hunt for Traditional Recipe Using Indigenous Crops”.

➤ **Astronomy Club**

Organized one day event “**Astrophilia**” on 30th September, 2016 and the following activities were carried out:

- ❖ Dr. S.K. Dhaka; Associate Professor, Rajdhani College, University of Delhi gave lecture on “**Remote Sensing of Earth’s Atmosphere and Space**”.
- ❖ A documentary movie “**Mangalyan**” was screened.
- ❖ Intra-College Quiz Competition was organized based on lecture delivered by Dr. S.K. Dhaka and documentary screened on “Mangalyan”.

➤ **Music Club**

- ❖ Students of "Music Club" participated in Independence Day program: "AZADI '70 -YAAD KARO KURBANI" on 14th August, 2016.
- ❖ Organized Intra College Solo and Duet Singing Competition on 22nd September, 2017.
- ❖ Organized “Songs of India” competition in collaboration with Cultural Council, University of Delhi, on 07th October, 2016.
- ❖ Organized the following Inter College competitions during Srijan 2017:
 - ✓ Solo Singing competition.
 - ✓ Duet Karaoke
 - ✓ Instrumental Clash
 - ✓ Rap faceoff
 - ✓ Battle of bands

➤ **Dance Club**

- ❖ Training Program was organized under renowned choreographer Mr. Harsh Kumar (Mr. Harsh Kumar represented India at the “Inchon at Kpop - 2014” festival at South Korea and won the Dance Competition named “Kpop Contest” with a Hip-hop based crew; he was finalist at “Experience the stage” All India Dance Competition in 2016; He is a senior choreographer at “Dance Fun Company”).
- ❖ An Inter-Departmental Dance Competition “Dance with Props” was organized on 28th September, 2016.
- ❖ Organized Inter College Western Dance Competition during Srijan 2017.

➤ **Literary Club**

- ❖ Organized Intra College Content Writing Competition “**AS YOU SEE IT**” on 26th October, 2016.
- ❖ Organized Intra College Essay Writing Competition on “**Character and Contribution of Sardar Vallabhbhai Patel**” on 3rd November,

2016 celebrating Rashtriya Ekta Saptah in commemoration of Iron Man of India.

- ❖ Organized the following Inter College events during SRIJAN 2017
 - ✓ Coin Flip
 - ✓ Character Sketch - writing competition for the given swapped personalities
 - ✓ Between The Lines
 - ✓ A story writing competition with the given fixed start and ending.
- **Equal Opportunity Cell**
 - ❖ Organized a Debate Competition on "**Demonetization in Creating Equal Opportunities**" on 13th January, 2017.
 - ❖ The following activities were organized on National Science Day i.e. 28th February, 2017:
 - ✓ Dr Jyoti Sharma, PHFI, INDIA delivered a lecture on "**Growing Awareness of Public Health in Creating Equal Opportunities**".
 - ✓ A Pitch Talk Competition on "**Novel Scientific Ideas for Enabling People with Special Needs**".
 - ✓ A poster making competition on "**Science and Technology in the Lives of People with Special Needs**".
- **Gender Sensitization**
 - ❖ Selected Gender Champion for the year 2016-17 under the scheme initiated by Ministry of Child and Development and Ministry of Human Resource Development.
 - ❖ Organized Poster making competition on the theme "**Zero Tolerance to Sexual Harassment**" in February 2017.
 - ❖ Organized Poem Writing Competition on the theme "**Equality**" in February 2017.
 - ❖ Organized Article Writing Competition on the topic "**Should Gender Equality Start At Home?**" in February 2017.
 - ❖ Organized Slogan writing competition on the theme "**Women Empowerment**" on 8th March, 2017.
 - ❖ Organized Signature Campaign and Oath Ceremony for promotion of Gender Equality in association with Sukshmjeev Society of Department of Microbiology on the related topic "**Science Empowering Women...Women Empowering Science**" on 27th March 2017.
- **Film Club**
 - ❖ Students of the film club participated in "**UDAAN UTSAV- FILM FESTIVAL**" held from 15th to 17th February, 2017 and screened a documentary made on "**Demonetization**".
 - ❖ Club celebrated "Azadi'70- Yaad Karo Kurban" festival on the occasion of Independence Day celebration. A documentary "**The Flame Burns**

Bright-Shaheed Bhagat Singh” was screened on 17th August, 2016 in the College A.V. room.

- ❖ Film club also screened a movie **“Nil Battey Sanata”** in the college on 19th October, 2016.
- ❖ The club also made and screened a short clip on **“Rastriya Ekta Saptah”** to celebrate the birth anniversary of Sardar Vallabhbhai Patel on 4th November, 2016.

➤ **Photography Club**

- ❖ Organized Photography Exhibition on 13th August 2016, on theme **“Atulya Bharat- Incredible India”** on occasion of Independence Day celebrations.
- ❖ Organized Workshop on **“Basic Photography Skills”** on 16th January, 2017 by Mr. Ashish Bhattacharjee from National Bal Bhavan.
- ❖ Organized Photography Competition on theme **“Republic Day”** on 25th January, 2017.
- ❖ Organized **“On the Spot Photography Competition”** and **“Photography Exhibition”** during Annual Cultural Festival Srijan on 14th and 15th February, 2017.
- ❖ Organized **“Photo Walks”** to strategic locations in Delhi like Lodhi Gardens, Qutub Minar, Chandni Chowk and Yamuna Biodiversity Park in September and October 2016.

➤ **Yoga Club**

- ❖ Organized **“International Day of Yoga”** on 21st June, 2016. Sh. Suresh Vij, Prantiya Mantri of Delhi State of Bhartiya Yog Sansthan was invited. Participative session on various yoga asanas and pranayams were held. An enthusiastic participation by the students, teaching and non-teaching staff was seen.
- ❖ Organized Lecture-cum-demonstration on the **“Benefits of Pranayama and Yog Mudras”** on 5th October, 2016 by Sh. B.R. Malik and Sh. Balkrishna Grover from Bhartiya Yog Sansthan.
- ❖ Organized an Inter-College Competition on **“Yog Asanas”** on 15th February, 2017 during Annual College Cultural Festival SRIJAN 2017. Sh. Ramesh Lal Bhatia, Sh. Balkrishna Grover and Sh. B.R. Malik were invited as judge(s) from Bhartiya Yog Sansthan.

➤ **Anti-Smoking Cell**

- ❖ Organized Anti-Smoking Awareness Program on 31st August, 2016 for College students and staff. The following activities were conducted during this program:
 - ✓ Around one hundred copies of the **ANTI-TOBACCO PLEDGE** were prepared and distributed to all the participants of this event for taking pledge.
 - ✓ Mr. N.K. Singh, Senior TV Journalist shared his informative views on the risk of tobacco usage.

- ✓ Dr. Balaram Pani, Principal, BCAS also delivered a lecture about harmful effects of tobacco consumption.
- ✓ Students made various posters with the theme **“Say No To Tobacco”**.
- ✓ Prescribed signages were placed at the prominent places in the College.

➤ **Fine Arts**

- ❖ Organized Intra College Poster Making Competition on 14th August, 2016 on the theme **“Your Meaning of Freedom”** on the occasion of Independence Day.
- ❖ Organized Intra College Tattoo Making Competition on 28th September, 2016 on theme **“Wonder Wildlife & Crazy Culture of India”**.
- ❖ Organized Intra College T-shirt and Cap Designing on 4th November, 2016 on the theme **“Unity & Strength”**.
- ❖ Organized Intra College T-shirt Designing on 24th January, 2017 on theme **“Digital India”**.
- ❖ Organized the following Inter College Competition(s) during SRIJAN'17:
 - ✓ Rangoli Making on theme **“Food Security”**
 - ✓ Mehendi Designing on theme **“Wildlife”**
 - ✓ Cartoon Making on theme **“Cartoons”**.

➤ **Debate Club**

- ❖ Organized Inter-College Asian Parliamentary Debate on 26th October, 2016 on **“Euthanasia”**. The following judges were invited:
 - ✓ Dr. Anita Srivastava, Associate Professor, Dr. Bhim Rao Ambedkar College, University of Delhi
 - ✓ Dr. Tarun Rawat, Associate Professor, Netaji Subhash Institute of Technology, Dwarka.
- ❖ Organized Quiz Competition on 9th August, 2016 on **“Icons of Freedom Struggle”** during AZADI '70 -YAAD KARO KURBANI.
- ❖ Organized Intra College Debate Competition on 5th September, 2016 on **“Should We Digitize Education?”**.
- ❖ Organized Extempore on 2nd November, 2016 during week celebrations of Vigilance Week. The topics were:
 - ✓ Unity in Diversity
 - ✓ Sardar Patel role in Indian Unity
 - ✓ Are cricket and war the only unifying factor in our nation?
 - ✓ Has the nation become intolerant or are we still unifying as ever?
- ❖ Organized Inter Departmental Debate on 13th January, 2017 with Equal Opportunity Cell on **“Is Demonetization A Step Towards Social And Economic Equality?”**.
- ❖ Organized Intra College Parliamentary Debate Competition 28th February, 2017 along with Biomedical Science Department under the

Star College Scheme on **“Are Space Mission a Wastage of Capital for a Resource Starved Nation Like India?”**

- ❖ Organized Inter College event ENCOUNTER (The Debating Face Off) during SRIJAN 2017.
- ❖ Organized Inter Departmental Extempore competition on 16th January, 2017 with North-East Cell on “The Culture and Festivals of North-East”.

➤ **Bhaskaracharya Cell**

- ❖ Organized Poster making Competition on 7th November 2016 on **“Pracheen Bharat Ki Vaigyanik Sampada”** and an Essay writing Competition on **“Bhaskaracharya: Ek Parichay”**.
- ❖ Organized Sudoku Competition on 19th January 2017.
- ❖ Organized workshop on 25th January, 2017 on “Application of Vedic Mathematics in Aptitude Tests” during the celebration of **“Bhaskaracharya Day”**. A power point presentation was given on the life and work of Bhaskaracharya, which was collected from numerous sources.

N National Service Scheme (NSS)

- Conducted Matdata awareness Campaign on 6th & 20th October, 2016.
- Celebrated National Harmony Day on 25th November, 2016 for fostering communal harmony, National Integration and Fraternity in the country.
- Celebrated National Youth Day on 12th January, 2017 and a lecture in association with Vivekananda Vichar Manch on **“Vivekananda Aur Aaj Ka Yuva”** by Sh. Kishor Tokekar, Jt. Gen. Secretary Vivekananda Kendra, Kanyakumari,
- Celebrated Republic day and organized a lecture in association with Vivekananda Vichar Manch on 25th January, 2017 on **“Jammu & Kashmir: Myth and Reality”** by Sh. Ashutosh Bhatnagar, Director, Jammu Kashmir Study Centre, Delhi.
- Organized a Cloth distribution drive on 9th February, 2017 at Rain Basera, Dwarka, Sector-10, Metro Station in which clothes were distributed to more than 35 needy people.

P Sports

- Students participated in various Inter-college sports competitions viz. Cricket, Football, Volley ball, Kabaddi, Table tennis, Badminton, Chess, Basketball, shooting and Athletics.
- Organized Mini Marathon “Sadbhawana Race” on 11th November, 2016 for College Students and Staff members.
- Organized awareness drive on 31st August, 2016 **“To Educate People about Benefits of Sports with regard to Elderly People”** during AZADI '70 -YAAD KARO KURBANI.
- Sports day was celebrated on 22nd February, 2017. The following events were organized and prizes were distributed to students for all the interdepartmental games and sports activities organised throughout the year:

- ✓ 100m, 200m, 400m, shotput, long jump
- ✓ 4x200m Relay Race (both for boys and girls)
- ✓ 800m Race for girls
- ✓ 1500m Race for boys
- ✓ 100m race, 400m race, long jump and shotput for the staff members
- Organized Inter-Departmental Sports tournaments throughout the year for cricket, basketball, volleyball, football, table tennis, badminton, chess, kabaddi, and athletics for boys and girls. Inter staff events for badminton, table tennis and few athletic events viz. 100m, 400m, shot-put, long jump events were organized for both male and female. Few fun games like tug of war were also organized. More than 300 students and staff member participated.
- Organized 4th Bhaskaracharya Inter College Cricket Tournament from 16th January to 7th February, 2017. Twelve (12) teams from University of Delhi affiliated Colleges participated in the tournament. Our college was semifinalist among the 12 colleges. Sri Venketshwara College won the trophy and Delhi College of Arts and Commerce was runner-up.

2. New Academic Programmes Initiated by the Department (UG and PG):

- The following three (03) Academic Programmes have been approved by the University of Delhi and the Government of NCT of Delhi. These courses shall be introduced from the Academic Session 2017-18.
 - ❖ B.Sc. (H) Botany
 - ❖ B.Sc. (H) Zoology
 - ❖ B.Sc. (H) Chemistry
- The process for the introduction of following academic courses in the College has been initiated
 - ❖ B.Sc.(H) Biochemistry
 - ❖ B.Sc.(H) Mathematics
 - ❖ B.Sc.(H) Geology
 - ❖ B.Sc.(H) Economics
 - ❖ B.A.(H) Psychology

3. Innovations in Curriculum Design and Transaction

- A. In consonance to our vision and mission each department organizes Academic as well as other Co-curricular activities. A brief description of the same is given below:**
- Seminar/workshop/conferences/talks etc. are conducted regularly in which experts enlighten the students and teachers on various aspects of teaching, learning and communication.

- Well organized and easily accessible library is available for students and teachers.
- Detail information of the available books is on the library software (OPAC). Books recommended by teachers for curriculum are purchased on the priority basis.
- Availability of Internet facility in the library facilitates students and faculty members to surf the latest scientific and technical literature.
- Wi-Fi enabled College campus (which is part of University LAN) allows easy access to all the journals/books subscribed by the University.
- The college is also a member of INFLIBNET and faculty can access the subscribed journals sitting at home.
- The College also has facility for “National Library and Information Services infrastructure for Scholarly Content (N-LIST)” College component of the UGC-INFONET Digital Library Consortium (formerly funded by the MHRD under its National Mission on Education through ICT). This N-LIST program provides access to more than 6000+ e-journals (with back files for 10 years) and 135000 + e-books. The resources are accessible from <http://nlist.inflibnet.ac.in>.
- Continuous evaluation of students through regular tests, assignments, presentations helps in the efficient curriculum delivery.
- Three virtual labs were set up under the Star College Scheme. These are uploaded on college website for wider access.
- Industrial training and industrial visits organized by departments helps students to get practical know-how.
- Department of Polymer Science has developed a blog “<http://polybcas.blogspot.in>” (bcas.du.ac.in/courses_ps.htm) to share the relevant information of the departmental events/activities, which is linked to the college website and being administrated by the department. The students can also give their feedback and alumni can share their experiences through this platform.
- The Department of Biochemistry, Biomedical Science, Food-Technology and Microbiology have organized various activities - talks, lectures, trips, hands on training under the DBT Star College Scheme which provides better understanding of various topics of curriculum.
- The Library of the college has developed a blog “bcaslib.blogspot.in” dedicated to the students, where students can get information about the library, policies and procedures, list of books, minutes of the library committee meetings, newspaper clippings, previous years’ question papers and some online tools.

4. Inter-Disciplinary Programmes started

- Under the CBCS system, the College offers to students Generic Elective Papers (Max. no. 4). This promotes interdisciplinary interaction.
- The purpose of this category of papers is to offer the students the option to explore disciplines of interest beyond the choices they make in core and discipline specific elective papers. Each student has complete freedom to opt paper of his choice.
- Each department has to offer at least one GE paper. Some departments have offered even more than one papers. Each department has complete freedom to suggest/opt paper of their choice.
- Twelve (12) Innovation projects undertaken by the College faculty members are also Inter-Disciplinary in nature.

Inter Departmental/Disciplinary Training Programs conducted/ organized under Star College Scheme

INTER-DEPARTMENTAL TRAINING PROGRAMS / WORKSHOPS etc.			
Name of the Event	Date	Title	Faculty Coordinators / Resource Persons
Plantation Drive: Eco-friendly drive for promoting use of indoor plants in order to improve indoor air quality AND Plantation drive of medicinal plants in the college premises (Biomedical Science and Microbiology)	During February and March 2017	30 students of Biomedical Science and Microbiology Department	Dr. Shivani G. Varmani Dr. Shvetambari Dr. Ruchi G. Marwah
Workshop on "Organic Food Products" (Food Technology and Microbiology)	21 st February 2017	B.Sc.(H) Food Technology III year and B. Tech Food Technology IV year and Microbiology students	Dr. Eram S Rao Dr. Ruchi Marwah Dr. PVSM Gouri, Vice President Organics, Round Glass Partners, New Delhi
Training Program titled 'Electrophoresis Equipment: Training Program and Guidelines for Safe Use' (Interdepartmental)	20 th February 2017	20 Non-teaching staff of the Life Science Departments of our college	Dr. Uma Chaudhry Dr. Avneesh Mittal Dr. Ranjeet Thakur Dr. Purnima Anand Dr. Neha Minocha

Workshop on Immunodiagnostic techniques: Rapid diagnosis of microbial pathogens (Microbiology and Biomedical Science)	17 th February 2017	30 students participated	Dr. Shivani Varmani Dr. Ruchi G. Marwah Dr. Purnima Anand Dr. Ratyakshi Dr. Shvetambri
Workshop on Spectrophotometry: principles and applications Interdepartmental workshop (Biochemistry and Microbiology)	30 th August 2016	30 students of Microbiology Department	Dr. Anita Sondhi Dr. Ruchi G. Marwah
Workshop on Immunodiagnostics: Rapid Detection Methods (Microbiology and Biomedical Science)	24 th May 2016	17 students and eight Non-Teaching members	Dr. Shivani G. Varmani Dr. Pawas Goswami
Workshop on Designing and Developing Database using PHP and MySQL Students were given a hands-on training on the creation of a database taking the example of obesity and biosimilars (Interdepartmental)	3 rd June 2016	10 students Rishi, Prerna and Akash of B. Tech. Electronics III year and Shruti, Suchita, Divya & Shriya of B.Sc.(H) Biomedical Science I year Juhi of B.Sc.(H) Microbiology III year	Dr. Purnima Anand Dr. Uma Chaudhry Dr. Neha Minocha Dr. Avneesh Mittal Dr. Ranjeet S. Thakur

5. Examination Reforms Implemented:

The College adheres to the policies and guidelines of the University of Delhi. Furthermore, the College has shifted to **On-Line System for Examination** related work viz. filing of examination forms, deposit of fee etc. All the information related to examination work is transmitted electronically.

6. Candidates qualified NET/SLET/GATE etc.

Department of Chemistry

- One of the Project Assistant Mr. Bholey Singh qualified NET in December 2016.

Most of our faculty members are NET/GATE/SLET qualified as per the eligibility criteria for appointment as Assistant Professor(s).

7. Initiative towards Faculty Development

- A Faculty Development Program on the topic “**Administrative Reforms to Raise the Quality of Educational Institution and e- Procurement**” was organized under IQAC on 28th March, 2017.

Under the programme the following eminent speakers were invited to deliver Lecture(s):

- ❖ Professor N.K. Kakkar, Director General, Maharaja Agrasen Institute of Management Studies talked about the Administrative Reforms, various Standardized Operating Procedures, required to be prepared by the Institution.
- ❖ Professor Sanjeev Kumar, Director, CIS, Jawaharlal Nehru University enlightened the faculty about E- Procurement and its significance.
- ❖ CA Vijay Kumar Goel, Director, Indian Bank gave an informative talk on Project Financing.
- The College had organized two days National workshop on the topic “**Intellectual Property Rights: Culmination of Research**” from 23rd to 24th September, 2016. The workshop was supported by Ministry of Micro, Small and Medium Enterprises (MSME), Government of India. Sh. Zakir Thomas, Additional Director General of Directorate of Income Tax (Risk Assessment) was the Chief Guest for Inaugural ceremony of the workshop. It was organized with an aim “to create awareness about patents and copyright laws and related information amongst executive and academic researchers on a platform for interaction between academia and industry”. The faculty and other delegates got an insight of patents, copyright laws and academic research which will help them in their development and growth.
The Organizing team of the workshop is: **Chairman:** Dr. Balaram Pani, Principal, BCAS; **Coordinator:** Dr. Sidharth Sirohi, Assistant Professor, Department of Polymer Science; **Co-Coordinator:** Dr. Anil K. Bali, Associate Professor, Department of Biology and Dr. Avneesh Mittal, Assistant Professor, Department of Electronics

- Apart from the above, regular seminar/workshop(s) were held. Faculty members are encouraged to attend conferences/workshops both at National and International level.

Training received by the faculty members of the participating departments of Star College Scheme:

Department of Biochemistry

Dr. Anita Sondhi

- Participated in the training program on **E-Learning and MOOCs in Higher Education**, on 29th March, 2017, organized by Guru Angad Dev- Teaching Learning Centre of MHRD at SGTB Khalsa College, University of Delhi.
- Participated in the STEM Teacher Training Workshop on **Research – Based Pedagogical Tools (Level 1)** from 26th February to 1st March, 2017 at Indian Institute of Science Education and Research (IISER) Pune. This workshop was jointly sponsored by the DBT, British Council and IISER. Work has started on developing RBPT for experiments dealing with the basic concepts of Biochemistry.

Department of Biomedical science

Dr. Shivani G. Varmani

- Attended Refresher Course in **Contemporary Studies** from 7th to 27th June, 2016 at CPDHE, University of Delhi.

Department of Food Technology

Dr. Rizwana

- Participated in the STEM Teachers Training Workshop on **Research – Based Pedagogical Tools (Level-1)** held from 26th February to 1st March, 2017 at IISER, Pune.
- Attended Training Program on 17th June, 2016 on “**DuPont Nutrition & Health’s**” India launch of 2016 campaign - Health and Wellness.

Dr. Shalini Sehgal

- Attended **Training of Trainers (TOT)** course of FSSAI from 26th to 28th December, 2016 at Delhi.
- Attended GIAN Course on **Predictive Microbiology and Food Safety** by GNDU, Amritsar from 19th to 23rd September, 2016.

Department of Microbiology

Dr. N. Vijay Kumar

- Attended three-week Refresher Course from from 3rd to 28th October, 2016 in Life Sciences and Biotechnology at Academic Staff College, JNU, New Delhi.

Dr. Ruchi Gulati Marwah

- Attended three-week Refresher Course from 7th to 27th June, 2016 in Contemporary Studies (Natural Sciences, Education, Biological

Science, Environmental, Demography and Sociology) held at University of Delhi.

8. Total number of seminars/workshops conducted

A. Department of Biochemistry

Total seminar/workshops conducted – 06

- Workshop on Spectrophotometry 30th August 2016.
- Protein Purification Workshop February- March, 2017.
- Workshop on Biomolecule Quantitation August- October, 2016.
- Workshop: Adopt an Instrument July- November, 2016.
- Workshop : Transforming Life Sciences into Business Ideas 17th to 23rd March, 2017.
- Good Laboratory Practice: Sensitivity , Accuracy , Calibration and preparation of SOP's for various Instruments, July- November, 2016.

B. Department of Biomedical Sciences

Total seminar/workshops conducted – 06

- Workshop 'Immunodiagnosics: Rapid Detection Methods' on 24th May, 2016 in association with Department of Microbiology.
- Workshop on "Biodiagnostics" on 8th February, 2017.
- Training program entitled "My Instrument My Buddy" on 13th February, 2017.
- Workshop on "Immunodiagnostic Techniques: Rapid Diagnosis of Microbial Pathogens" in association with Department of Microbiology on 17th February, 2017
- Training Program on "Electrophoresis Equipment: Training Program and Guidelines for Safe Use" on 20th February, 2017 for the laboratory staff of all the Life Science departments of the college.
- Workshop on "Molecular Docking" on 6th March, 2017.

C. Department of Biology & Chemistry

Total seminar/workshops conducted – 01

- Organized two days National Conference on from 16th to 17th February, 2017 on "Clean and Green Chemistry: The Chemical and Environmental Aspects". Dr. Anil K, Bali , Department of Biology and Dr. Lalit Kapur, Department of Chemistry, jointly worked as Member(s) , Advisory Committee. The Conference was sponsored by UGC and Ministry of Environment, Government of NCT of Delhi.

D. Department of Computer Science

Total workshops conducted – 02

- Organized Technical Talk cum Workshop in collaboration with Orange Business Services on "Infrastructure as a Service" on 23rd July, 2016. Mr. Bhavya Deep and Mr. Parveen Kumar were the organizers.

- Organized Technical Talk cum Workshop in collaboration with Orange Business Services on "Infrastructure as a service Continued" on 4th August, 2016. Mr. Bhavya Deep and Mr. Parveen Kumar were the organizers.

E. Department of Electronics

Total seminar/workshops conducted – 03

- Organized two days Workshop on "ROBOTICS" in collaboration with CROMA CAMPUS, Noida from 05th to 06th October, 2016.
- Organized Technical Presentation by Students on "Science and Technology for Specially Abled Persons" on the occasion of National Science Day on 28th February, 2017.
- Skill Development Workshop for Laboratory staff of various departments under IQAC on 27th March 2017.

F. Department of Food Technology

Total seminar/workshops conducted – 08

- Workshop for Skill Enhancement titled "Development of New Bakery Product with Modified Recipes" in New Product Development on 8th March 2017 by Ms. Renu Thomas, self-employed and working for NGO and Nestle for developing new recipes.
- Workshop on "Organic Food Products" (interdepartmental) on 21st February 2017 by Dr. PVSM Gouri, Vice President, Organics, Round Glass Partner, New Delhi.
- Workshop on the "Need of Cleaning Place of the Dairy Plant (Dairy CIP)" on 24th January, 2017 by Mr. Anand, Formerly Service Engineer with GOMA.
- Workshop on "Nano Technology: Development of Nano films and its Applications in Food Packaging" from 20th to 22nd February, 2017 by Dr. Geeta Sheshadri, Assistant Director, Shriram Institute for Industrial Research, Delhi.
- Workshop on "Startup Schemes for Budding Women Entrepreneurs" on 4th February, 2017 by Mr. Nitin Mishra, Senior Manager, Knowledge Management and Communication at Futor.
- Intercollegiate Workshop on "Total Analytical Solutions for Cereal Technologists" on 28th October, 2016 by Ms. Ragini, Technical Manager, SDS, Delhi.
- Organized lecture series on "Codex Principles and Practices" from 12th to 14th January, 2017. Resource Person: Mr. Sanjay Dave.
- Organized Skill Development Workshop in "Confectionary Technology" on 9th November, 2016. Resource Person: Chef Hemant Yadav, Hotel Park Inn (Radisson, Gurgaon).

G. Department of Instrumentation

Total seminar/workshops conducted – 02

- Lecture series on the topics “Digital India, VLSI and Entrepreneurship” on 26th August 2016.
- Skill Development Workshop for Laboratory staff of various departments under IQAC on 27th March 2017.

H. Department of Microbiology

Total seminar/workshops conducted – 10

- Alumni Interaction day: Charting a Career Path on 27th January, 2017.
- “Advanced Lecture Series in Microbiology: An Interdisciplinary Approach” Three parts were organized. Part 1: Protein engineering (20th February, 2017). Part 2: Microbial Genomics (8th March, 2017) Part 3: Industrial Microbiology (27th March, 2017)
- Skill Development Workshop on “Operation and Maintenance of Laboratory Instruments” on 2nd March, 2017.
- MICROQUEST 2017 and a Symposium on “Science Empowering Women--- Women Empowering Science” on 27th March, 2017.
- Interdepartmental Workshop on “Spectrophotometry: Principles and Applications:
- Workshop in collaboration with Department of Biomedical Science on “Immunodiagnosics: Rapid Detection Methods”.
- Workshop in collaboration with Department of Food Technology on “Organic Food Products”.
- Workshop in collaboration with Department of Biomedical Science on “Immunodiagnostic Techniques: Rapid Diagnosis of Microbial Pathogens“.

I. Department of Physics

Total seminar/workshops conducted – 01

- Skill Development Workshop for Laboratory staff of various departments under IQAC on 27th March 2017.

H. Under Innovation Projects

- One day workshop on Software Training Program organized by DU Innovation Project (302) on 29th July, 2016.

9. Research projects (a) Ongoing, (b) Completed

a) Ongoing Projects

S.No.	Funding Agency	Title of the Project	Faculty Involved
1.	BRNS	Spatial Distribution of Uranium and associated water quality parameters in ground water/ surface water of six districts (Agra, Mathura, Mahamaya Nagar, Kanshiram Nagar, Etah and Badaun) of Uttar Pradesh	1. Dr. Balaram Pani (Chemistry), Principal Investigator 2. Dr. Manjeet Singh Barwa (Polymer Science), Co-Principal Investigator
2.	SERB	Synthesis and Post Self Assembly Functionalization of Re and ru-based matallacycles and its Effects on the Photophysical and Electrochemical Properties	1. Dr. Balaram Pani (Chemistry), Mentor 2. Dr. Deepak Gupta (Chemistry), Principal Investigator
3.	UGC	"Detection, Identification and Analysis of the quality of fruits and vegetables".	1. Dr. Uma Chaudhry
4.	DST	"Safeguarding Immunity and Health versus Indiscriminate use of Antibiotics: Building Medical Awareness and capacity for informed choice through multi level orientation, exhibitions and demonstrations for students, paramedics, drug marketing systems and community"	1. Dr. Balaram Pani 2. Dr. Uma Chaudhry

b) Projects Completed

Innovation Projects: Innovation Projects an innovative approach to learning – initiative was started four years ago by the University of Delhi to encourage research among students at undergraduate level. Innovation projects for undergraduate students, where groups-of up to 10-for any project that they can conceive in any area of human endeavor and is trans-disciplinary, hands-on and has real-world application.

S.No	Project Code	Title of the Project	Principal Investigators
1.	BCAS-301	Development of Norms of Selected Autonomic Nervous System function, Lipid Profile, Electrolyte and Selected Respiratory Variables of College Students with and without Sports Background	Dr. Anil K. Bali (Biology) Dr. Lalit Kapur (Chemistry) Dr. Pawan Kumar (Physical Education)
2.	BCAS-302	Development of an Intelligent, Eco-Friendly multilayer package and nutritious snack from Fruits and Vegetable seeds and peels	Dr. Susmita Dey Sadhu (Polymer Science) Dr. Meenakshi Garg (Food Technology) Dr. Vandana Batra (Physics)
3.	BCAS-303	Development of Novel Eco-Friendly Printable Packaging Films for Industrial Applications	Dr. Sidhharth Sirohi (Polymer Science) Dr. Krishna Dutt (Polymer Science) Dr. Ratyakshi (Biomedical Science)
4.	BCAS-304	To understand the role of Maternal Factors in childhood obesity and promote metabolic fitness	Dr. Avneesh Mittal (Electronics) Dr. Purnima Anand (Microbiology) Dr. Neha Bansal (Microbiology)
5.	BCAS-305	To explore the potential of biosimilars as cost effective therapeutic products	Dr. Uma Chaudhry (Biomedical Sciences) Dr. Balaram Pani (Chemistry) Dr. Ranjeet S Thakur (Library)
6.	BCAS-306	Clean Electricity Generation from waste water samples collected from Delhi-NCR using Microbial Fuel Cell Technology- A Green Energy Initiative	Dr. Inderbir Kaur (Electronics) Dr. Ruchi Gulati (Microbiology) Mr. Pawan Kumar (Instrumentation)
7.	BCAS-307	Agro Waste based Green Nano Composite: Development and Applications	Dr. S.K. Shukla (Polymer Science) Dr. Rizwana (Food Technology) Dr. Anand Bharadvaja (Physics)
8.	BCAS-308	Exploring the Involvement of Mechanotransduction Network in Inter-individual differences through Ayurgenomics Approach	Dr. Uma Dhawan (Biomedical Science) Dr. N.S. Abbas (Biology) Dr. Pawas Goswami (Microbiology)
9.	BCAS-309	Identification of Genetic factors for Coronary Artery Disease and Its Association with other Atherogenic Risk Factors in Young Indians	Dr. Neha Singh (Biomedical Science) Dr. Neeru Sharma (Mathematics) Ms. Arti Dua (Computer Science)
10.	BCAS-310	Development of wireless sensor for detection and realtime monitoring of Micro-organisms	Dr. Jitender Kumar (Electronics) Dr. Amit Kumar (Electronics) Dr. Shalini Sehgal (Food Technology)
11.	BCAS-311	Study and Design of Framework for Cloud Implementation in Large University/ Higher Education	Mr. Bhavya Deep (Computer Science) Mr. Vikas Tyagi (Physics) Mr. Parveen Kumar (Computer Science)

12.	BCAS-312	Development of cookies with biodegradable packaging material for diabetics	Dr. Eram S Rao (Food Technology) Dr. Manjeet Singh Barwa (Polymer Science) Dr. Prem Lata Meena (polymer Science)
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10. Patents Generated, if any:

- Dr. Kulsum Jan, Assistant Professor, Department of Food Technology - Patent entitled "Moulding Pellets from Bio-Waste and Process Thereof" (111/DEL/2015 A). Issue 45/2016, dated 28/10/2016.
- Dr. Ratyakshi, Assistant Professor, Department of Biomedical Sciences patent entitled "Composite Fibres having Aligned Inorganic Nano Structures of High Aspect Ratio & Preparation Method" has been filed reference no. : PD015486PCT dated 20th October, 2016.

11. New Collaborative Research Programmes

- Dr. Saroj K Shukla, Assistant Professor, Department of Polymer Science collaborated with Mustafa M. Demir, Department of Material Science and Engineering, Izmir Institute of Technology, 35430 Izmir, Turkey and Penny P Govender, Department of Applied Chemistry, University of Johannesburg, PO Box 17011, Doornfontein 2028, Johannesburg, South Africa. They published a paper titled "Optical fibre based non-enzymatic glucose sensing over Cu²⁺ - doped polyaniline hybrid matrix".
- Dr. Saroj K Shukla, Assistant Professor, Department of Polymer Science collaborated with Penny P Govender, Department of Applied Chemistry, University of Johannesburg, PO Box 17011, Doornfontein 2028, and Johannesburg, South Africa. They published a paper titled "A resistive type humidity sensor based on crystalline tin oxide nanoparticles encapsulated in polyaniline matrix".
- Dr. Uma Dhawan, Associate Professor, Department of Biomedical Sciences has got UGC Raman Fellowship for pursuing Post-doctoral research at Department of Neurology, Boston University School of Medicine, USA (2016-17).
- Dr. Balaram Pani, Principal & Associate Professor Department of Chemistry collaborated with Board of Research in Nuclear Sciences under project titled "Spatial Distribution of uranium and associated water quality parameters in groundwater/surface water of six districts (Agra, Mathura, Mahamaya Nagar, Kanshiram Nagar, Etah and Badaun) of Uttar Pradesh".
- Dr. Balaram Pani, Principal & Associate Professor Department of Chemistry collaborated with Science and Engineering Research Board under project titled "Synthesis and Post self-assembly Functionalization of Re and Ru-

based Metallacycles and its Effects on the Photophysical and Electrochemical Properties”.

- Dr. Uma Chaudhry, Assistant Professor, Department of Biomedical Sciences collaborated with UGC under project “Detection, Identification and Analysis of the quality of fruits and vegetables”.
- Dr. Balaram Pani, Principal & Associate Professor Department of Chemistry and Dr. Uma Chaudhry, Assistant Professor, Department of Biomedical Sciences collaborated with DST under project “Safeguarding Immunity and Health versus Indiscriminate use of Antibiotics: Building Medical Awareness and capacity for informed choice through multi level orientation, exhibitions and demonstrations for students, paramedics, drug marketing systems and community”.

12. Research Grants received from various agencies

I Under Innovation Projects

A total of Rs.16,75,000/- (Rupees sixteen lakh seventy five thousand) was received from the University of Delhi under Innovation Projects.

S.No.	Project Code	Grant Received (in Rs.)	
		Phase I	Phase-II
1.	BCAS-301	4,50,000/-	1,50,000/-
2.	BCAS-302	4,50,000/-	1,50,000/-
3.	BCAS-303	3,50,000/-	1,50,000/-
4.	BCAS-304	4,00,000/-	1,50,000/-
5.	BCAS-305	4,50,000/-	2,50,000/-
6.	BCAS-306	3,50,000/-	1,50,000/-
7.	BCAS-307	3,50,000/-	1,50,000/-
8.	BCAS-308	4,50,000/-	2,50,000/-
9.	BCAS-309	4,50,000/-	1,50,000/-
10.	BCAS-310	3,00,000/-	1,50,000/-
11.	BCAS-311	2,50,000/-	1,00,000/-
12.	BCAS-312	4,00,000/-	60,000/-

II Under Star College Scheme

A total of **Rs.9,79,683/-** has been received under Star College Scheme during the year 2016-17.

III Grant Received from Other Agencies

S.No.	Name of Agency	Project	Amount Sanctioned (in Rs.)	Amount Received (in Rs.) in 2016-17
1.	Board of Research in Nuclear Sciences (BRNS)	"Spatial Distribution of uranium and associated water quality parameters in groundwater/surface water of six districts (Agra, Mathura, Mahamaya Nagar, Kanshiram Nagar, Etah and Badaun) of Uttar Pradesh"	26,94,300/-	6,97,200/-
2.	Science and Engineering Research Board (SERB)	"Synthesis and Post self-assembly Functionalization of Re and Ru-based Metallacycles and its Effects on the Photophysical and Electrochemical Properties"	23,29,000/-	11,08,000/-
3.	University Grants Commission (UGC)	"Detection, Identification and Analysis of the quality of fruits and vegetables"	3,00,000/-	1,50,000/-
4.	Department of Science and Technology (DST)	"Safeguarding Immunity and Health versus Indiscriminate use of Antibiotics: Building Medical Awareness and capacity for informed choice through multi level orientation, exhibitions and demonstrations for students, paramedics, drug marketing systems and community"	22,72,000/-	---

13. Details of Research Scholars

A. Department of Biomedical Science

- The following students' registered under Dr. Uma Chaudhry for Ph.D. in University of Delhi:
 - ✓ Mr. Rajnish Kumar thesis entitled: "High-throughput screening of food pathogens using PCR techniques'. Date of Registration: 30th August, 2016.

- ✓ Ms. Alka Pawar thesis entitled: "Identification and characterization of hidden drug targets present during the latent stages of infection caused by *Micobacterium tuberculosis*". Date of Registration : 4th June, 2015.
- The following students' registered under Dr. Uma Dhawan for Ph.D. in University of Delhi:
 - ✓ Ms. Priyanka Rani thesis entitled "Mechanism pathogenesis of Hypoxia Mediated Neuroinflammation and Memory Dysfunction", Date of registration: 26th August, 2016.
 - ✓ Ms. Meetali Girdhar thesis entitled "Role of PPAR Beta Delta in Neuroinflammation", date of registration 26th August, 2016.
- B. Department of Chemistry**
 - The following students registered under Dr. Balaram Pani, Principal for Ph.D. in University of Delhi:
 - ✓ Mr. Shwetank Pandey thesis entitled: "Environmental Science and Technology". Date of Registration: 07th December, 2016.
 - ✓ Mr. Bholey Singh thesis entitled: "Post Synthesis modification of metal complexes". Registration applied at University of Delhi joined the Bhaskaracharya College of Applied Sciences for research: 10th October, 2016.
- C. Department of Electronics**
 - The following students registered under Dr. Manoj K. Khanna for Ph.D. in Uttarakhand Technical University:
 - ✓ Mr. Dinesh Kumar thesis entitled "Techniques for voice recognition using Artificial Intelligence" has been submitted.
 - ✓ Mr. Vijay Raj Shokeen thesis entitled "Implementation of Local Exchange Network by incorporating optical burst switching" has been submitted.
- D. Department of Polymer Science**
 - The following students' registered under Dr. S.K. Shukla for Ph.D. in University of Delhi:
 - ✓ Ms. Pratibha Singh (UGC fellowship), thesis entitled "Synthesis and Characterization of Chemically Functionalise Conducting Polymer and their Applications", date of registration 07th September, 2016.
 - ✓ Mr. Chandra Sekhar Kushwaha (JRF, CSIR- Fellow), date of joining 13th October, 2016.
 - The following students' registered under Dr. Sidhharth Sirohi for Ph.D. in in Guru Gobind Singh Indraprastha University of Delhi:
 - ✓ Ms. Shivani thesis entitled : "Development of Tiatania Nanostructure for tailor made properties of Polymer Nano Composites" Date of Registration : September, 2015.

14. Citation index of faculty members and impact factor

S.No	Name of faculty	Journal	Title	Citation No.	Impact Factor
1.	Dr. Balaram Pani and Dr. Uma Chaudhry (Department of Chemistry & Biomedical Science)	Journal of Bioanalysis & Biomedicine, vol8, iss. 5 (Suppl.) 2016	Systematic Shortlisting of candidate Molecules and Biosimilar/biobetter Product Development: an Undergraduate Research Effort	---	3.49
2.	Dr. Anita Sondhi Associate Professor, Department of Biochemistry	Lung	---	05	1.899
		Clinical Science	-----	12	4.317
		Indian Journal of Chest Diseases and Allied Sciences	-----	08	Nil
3.	Dr. Uma Dhawan Assistant Professor, Department of Biomedical Science	--	-----	562	---
4.	Dr. Shivani Varmani Assistant Professor, Department of Biomedical Science	---	-----	05	---
5.	Dr. Uma Chaudhry, Assistant Professor, Department of Biomedical Science	Theoretical Biology	In-silico Hierarchical Approach for the Identification of Potential Universal Vaccine Candidates (PUVCs) from Neisseria gonorrhoeae	--	2.049

		cerebral blood flow and metabolism 36, 599-599	Naringin reverses memory deficits and restores decreased phospho-gsk3b in the hippocampus in intracerebroventricular streptozotocin induced alzheimer's disease model	---	4.929
		Oxidative Medicine and Cellular Longevity. Volume 2016 (2016), Article ID 7580731, 10 pages. http://dx.doi.org/10.1155/2016/7580731	Kaempferol attenuates myocardial ischemic injury via inhibition of MAPK signaling pathway in experimental model of myocardial ischemia-reperfusion injury.	244	4.492 Cumulative impact factor: 14.96 (2016)
6.	Dr. Kapil Roy Assistant Professor, Department of Biomedical Science	Current Protein and Peptide Science (2016) Vol 17 PMID: 27455968 [Ahead of print]. doi: 10.2174/1389203717666160724203746	Peptide Biomarkers: Exploring the Diagnostic Aspect	---	2.441
		Molecular Recognition, 29(10): 499–503	Protein engineering and de novo designing of a biocatalyst	-----	2.16
		Biochemistry and Biophysics Reports (2016) 5: 388-395	A bouquet of DNA structures: Emerging diversity	-----	5
7.	Dr. Neha Singh Assistant Professor, Department of Biomedical Science	-----	-----	41	-----
8.	Dr. Ratyakshi Assistant Professor, Department of Biomedical Science	-----	-----	53	-----

9.	Dr. Shvetambri Assistant Professor, Department of Biomedical Science	European journal of pharmaceutical and medical research. ejpmr, 3(9), (2016) 558-570. ISSN 3294-3211	Guar gum based edible coating on cucumber (<i>Cucumis sativus</i> L.)	45	4.161
		Critical Reviews of Biotechnology (doi.org/10.1080/07388551.2017.1286449)	Natural gums of Plant origin as Edible coatings for Food Industry Applications	-----	7.5
10.	Dr. Anil K. Bali, Dr. Lalit Kapur & Dr. Pawan Kumar (Department of Biology, Chemistry and Physical Education)	<i>International Journal of Advances in Science Engineering and Technology</i> , December 2016, Volume-4, Spl. Issue-2, pp- 1-5, ISSN: 2321-9009	Frequency Domain Analysis of Selected Heart Rate Variability (HRV) and Respiratory Variables of Male Sports Students and Non-Sports students from Science Stream Background- A Comparative Analysis	-----	3.15
11.	Dr. Sangeeta Srivastava Associate Professor, Department of Computer Science	-----	-----	79	-----
		Int. Journal of Engineering Research and Application, ISSN : 2248-9622, Vol. 6, Issue 6, (Part -5) June 2016, pp.94-107	The EA00-H Design Model for Transformation of WebGRL based Web Applications	-----	5.09
12.	Mr. Bhavya Deep and Mr. Parveen Kumar (Assistant Professor(s), Department of Computer Science)	International Journal of Advanced Technology in Engineering and Science (IJATES), Volume 04, Issue No. 10, October 2016, PP 622 - 625, ISSN 2348-7550	Security and Data Transmission Techniques in Cloud Environment	-----	2.870

		International Journal of Electrical and Electronics Engineers (IJEEE), Volume 08, Issue No. 02, July- Dec 2016, PP 372-376, ISSN(O) 2321-2055, ISSN(P) 2321-2047	Overview of Data Centre in Cloud Based Environment	-----	2.7
		communicated to University of Delhi Journal of Undergraduate Research and Innovation, ISSN: 2395 – 2334	Comparative Study of Open Nebula, Cloud Stack, Eucalyptus and Open Stack	----	-----
13.	Mr. Bhavya Deep Assistant Professor, Department of Computer Science	International Journal of Distributed and Cloud Computing, Volume 4, Issue 1, PP 34-38, Year 2016. ISSN Number: 2321-6840	Resource Allocation for Cloud based E-Learning Systems	----	4.332
14.	Dr. Manoj K. Khanna Associate Professor, Department of Electronics	American Institute of Physics Advances, 7, 056027, February, 2017	One dimensional FexCo _{1-x} nanowires; ferromagnetic resonance and magnetization dynamics	-----	1.444
15.	Dr. Roshan Lal Assistant Professor, Department of Food Technology	-----	-----	63	-----
16.	Dr. Kulsum Jan Assistant Professor, Department of Food Technology	-----	-----	17	-----
17.	Ms. Tanya Assistant Professor, Department of Food Technology	-----	-----	4	-----

18.	Dr. Ruchi Gulati Marwah Assistant Professor, Department of Microbiology	-----	-----	1305	-----
19.	Dr. Purnima Anand Assistant Professor, Department of Microbiology	Journal of Bioanalysis & Biomedicine, vol. 8, iss. 5 (Suppl), 2016	Systematic Sortlisting of Candidate Molecules and Biosimilar/Biobetter Product Development: an Undergraduate Research Effort	133	3.49
19.	Dr. Vijay K. Nalla Assistant Professor, Department of Microbiology	-----	Synthesis of a Novel Microbial Consortium Useful in Treatment of Synthetic Polymers & Municipal Solid Wastes and its effect on the Plant Growth and Environmental Engineering	16	3.24
20.	Dr. Pawas Goswami Assistant Professor, Department of Microbiology	-----	-----	157	-----
21.	Dr. Neha Bansal Assistant Professor, Department of Microbiology	-----	-----	64	-----
22.	Dr. Anand Bharadvaja Associate Professor, Department of Physics	Accepted for publication in Pramana Journal of Physics	Low energy electron-impact cross sections and rate constant of NH ₂	74	H index- 3, impact factor 0.692
23.	Dr. Anand Bharadvaja, Dr. Rizwana & Dr. S.K. Shukla (Department of Physics, Food Technology and Polymer Science)	Accepted for publication in Indian Journal of Chemical Technology.	Development of egg packets and silica from rice husk	-----	0.491

24.	Dr. Meetu Luthra Associate Professor, Department of Physics	-----	-----	172	-----
25.	Dr. Vandan Batra Associate Professor, Department of Physics	-----	-----	07	-----
26.	Dr. Partha S. Pal Assistant Professor, Department of Physics	-----	-----	06	-----
27.	Dr. S.K. Shukla Assistant Professor, Department of Polymer Science	-----	-----	422	-----
28.	Dr. Susmita Dey Sadhu Assistant Professor, Department of Polymer Science	-----	-----	764	-----
29.	Dr. Sidhharth Sirohi Assistant Professor, Department of Polymer Science	-----	-----	06	-----
30.	Dr. Krishna Dutt Assistant Professor, Department of Polymer Science	-----	-----	102	-----
31.	Dr. Anil Barak Assistant Professor, Department of Polymer Science	-----	-----	08	H index: 02

32.	Dr. Prem Lata Meena Assistant Professor, Department of Polymer Science	-----	-----	30	H index: 03
33.	Dr. Manjeet Singh Barwa Assistant Professor, Department of Polymer Science	-----	-----	619	H index: 04
34.	Dr. Pawan Kumar Dabas Assistant Professor, Department of Physical Education	-----	-----	01	H index: 01

15. Honours/ Awards to the faculty: National and International

National

- *Dr. Anil K. Bali*, Associate Professor, Department of Biology was awarded **Meritorious Teacher Award**, 2015 by the Directorate of Higher Education, Government of NCT of Delhi.
- *Mr. Bhavya Deep*, Assistant Professor, Department of Computer Science and *Parveen Kumar*, Assistant Professor, Department of Computer Science won the **Best Paper Award** for the paper titled "Security and Data Transmission Techniques in Cloud Environment" at the 8th International Conference on Recent Innovations in Science, Engineering and Management (RISEM - 16), held at Indian Federation of United Nations Associations (IFUNA), New Delhi, India on 21st October, 2016.
- *Dr. Manoj Khanna*, Associate Professor, Department of Electronics has been selected as **Member to Sadharan Parishad** of Atal Bihari Vajpayee Hindi University, Bhopal (MP) from 14th October, 2016 to 13th October, 2020.
- *Dr. S. K. Shukla*, Assistant Professor, Department of Polymer Science has been **selected/ appointed as Reviewer** of Journal "Sensor and Actuators".
- *Dr. Shalini Sehgal*, Associate Professor, Department of Food Technology has been **appointed as the Member** of the National Steering Committee of the CII-HUL Initiative on Food Safety Sciences (CHIFSS) from March 2016 to March 2017.
- *Dr. Shalini Sehgal*, Associate Professor, Department of Food Technology and *Dr. Eram S. Rao*, Associate Professor, Department of Food Technology has

been **appointed as the Member** of Steering Committee of Surakshit Khadya Abhiyan –a CII initiative from 7th June 2016 till March 2017.

- *Dr. Shalini Sehgal*, Associate Professor, Department of Food Technology has been **nominated as the Member** of the National Committee of the Department of Biotechnology funded project "Generate E-SoPs & Lab Manuals" from 23rd December, 2016 till date.
- *Dr. Shalini Sehgal*, Associate Professor, Department of Food Technology has been **appointed as a Reviewer** of Journal of Food Science and Technology (JFST) from 29th March, 2017 till date.
- *Dr. Shalini Sehgal*, Associate Professor, Department of Food Technology and *Dr. Eram S. Rao*, Associate Professor, Department of Food Technology have been **empanelled as an Expert** at Food Safety and Standards Authority of India and also a Master Trainer for Food Safety Officers and Adjudicating Officers from 11th February, 2017 till date.
- *Dr. Shalini Sehgal*, Associate Professor, Department of Food Technology has been **appointed as Associate Editor** of the "Probiotic Association of India" Newsletter.
- *Dr. Uma Chaudhry*, Assistant Professor, Department of Biomedical Science has been awarded with **UGC Research Award** (2016-18) to work independently on a Research Project.
- *Dr. Eram S. Rao*, Associate Professor, Department of Food Technology has been **appointed as President** of "Association of Food Scientists and technologists (India).

Awards & Certificates received by Innovation Projects:

- DU Innovation project BCAS-305 and BCAS-308 were **selected for display** at the Foundation Day celebration, University of Delhi on 1st May, 2016.
- Innovation Projects BCAS 311 and BCAS 304 were awarded the **"Certificate of Most Significant Research Outcome"** during the research display at the Convocation Day of University of Delhi on 19th November 2016.
- Innovation Project BCAS 305 was awarded the **"Certificate of Most Promising Innovation"** during the research display at the Convocation Day of University of Delhi on 19th November 2016.
- Innovation Project BCAS 307 was awarded the **"Certificate of Most Significant Societal Impact"** during the research display at the Convocation Day of University of Delhi on 19th November 2016.
- Innovation Project BCAS-311 and BCAS-312 were awarded the **"Certificate of Appreciation"** during the Research Display at the Convocation Day of University of Delhi on 19th November 2016.
- Innovation Project BCAS 301 was awarded the **"Certificate for Best Presentation and Best Content"** at the Convocation Day of University of Delhi on 19th November 2016.

International

- *Dr. Uma Dhawan*, Associate Professor, Department of Biomedical Sciences has got UGC Raman Fellowship for pursuing Post-doctoral Research at Department of Neurology, Boston University School of Medicine, USA (2016-17).
- *Dr. Uma Chaudhry* has been awarded with full scholarship to attend the 17th International Union of Sexually Transmitted Infections (IUSTI) World Congress held in Marakech from 9th to 12th May, 2016. (registration, travel, accommodation and ground travel all included).
- *Dr. Vandita Gupta*, Associate Professor, Department of Food Technology won the **first prize in Oral Presentation** in the 7th International Conference on growing trends in Food Technology and Nutrition held at Jawaharlal Nehru University from 26th to 27th May 2016.
- *Dr. Shalini Sehgal*, Associate Professor, Department of Food Technology won the award for Excellence in Food Technology 2016 by AATSEA, Thailand and SAB, India and nominated as the Fellow of the Society.
- *Dr. Shalini Sehgal*, Associate Professor, Department of Food Technology has been appointed as Co-ordinator of the Better Process Control School (BPCS) in collaboration with USFDA, India Office for the Food Industry personnels since 2011 to conduct such schools in India and neighbouring countries.

16. Internal Resources Generated

I Academic Resources

- **Under Star College Scheme**

TECHNOLOGIES AND FACILITIES AVAILABLE / DEVELOPED BY THE FACULTY AND STUDENTS FOR EFFECTIVE TEACHING AND LEARNING

Virtual Laboratories-learning resources developed by the In-House faculty and also from National program on technology enhanced learning (NPTEL) and national mission on education through information and communication technology (NME-ICT) open educational resources, mobile education etc.

NPTEL LOCAL CHAPTER

Bhaskaracharya College of Applied Sciences has been identified as one of the NPTEL Local chapters in Delhi. Students are being encouraged to take up at least one online course of their choice during their graduation. These courses are free of cost and students are supposed to pay only the examination fees. As a local chapter, our students have an advantage as they are given 50% exemption in their examination fees. They have to pay Rs. 500/- only for these courses which are developed by eminent faculty of IITs and IISc, Bangalore.

DATABASES AND COMPUTATIONAL PIPELINES

Database on Biotherapeutic drugs and Childhood Obesity: Cause and concerns are being developed. Several computational pipeline approaches are in place which helps students to analyze abundant genomic data available freely over internet to answer some of the critical questions related to human health. Such analysis would help society at large in order to prevent diseases, combat antibiotic resistance problem and so on.

GENERATION OF VIRTUAL LABS (FOR LIFE SCIENCES)

Breaking away from the traditional hierarchical method of teaching, towards a constructive approach, we have been able to develop few virtual labs under the Star College Scheme which would help students learn the techniques which are difficult to perform in the labs.

- (1) To conduct Ames test or Reverse mutation test for screening substances for mutagenicity
- (2) Agarose Gel electrophoresis of DNA (3) Perform Southern Blot Hybridization
- (4) Detection of microbial load in a given sample.

This new method of learning marks a paradigm shift in teaching as well, provisioning students to understand and develop a scientific acumen. E – Learning modules are also being generated in the form of Virtual Labs and question bank for students.

COLLECTION OF VIDEO LECTURES

We envisage starting the process of making videos of very popular lectures of well-known Scientists which could be accessed by students any time. Even classroom lectures of teachers can be recorded and shared with students studying in remote areas. In this direction, one video lecture is already recorded titled 'Antibiotic Sensitivity of pathogenic bacteria by Kirby Bauer method'.

BIOLOGICAL REPOSITORY COLLECTION

We have taken a new initiative of making a biological repository collections of microorganisms routinely required for various undergraduate students. Microbial Culture collection has been created and is being made available to various life science departments of other colleges of University of Delhi and other universities and institutes in Delhi-NCR region for undergraduate practicals. The bacterial cultures available are *Escherichia coli* (clinical isolate), *Escherichia coli* DH5 α , *Escherichia coli* BL21, *Bacillus subtilis*, *Bacillus* spp., *Shigella* sp., *Neisseria* sp., *Klebsiella pneumoniae*, *Vibrio cholerae*, *Vibrio parahemolyticus*, *Salmonella choleraesuis*, *Staphylococcus aureus* etc. The fungal cultures available are *Aspergillus niger* *Aspergillus*

terreus, *Penicillium* spp., *Mucor* spp., *Fusarium solani*, *Fusarium oxysporum*, *Trichoderma* spp., *Rhizopus* spp.

Students have created a bank of cloning and expression vectors for use in cloning experiments. Moreover, cloning and expression of several proteins of therapeutic advantage is undertaken. Green fluorescent protein (GFP), red fluorescent protein (RFP), interferon and asparaginase genes have been cloned and expressed. These recombinant proteins are being used for further analysis.

FOOD SAFETY EDUCATION INITIATIVE

A complete training kit comprising of 14 posters (seven in Hindi and seven in English), leaflets, booklets were designed to help food handlers understand that the basic techniques of hand washing, hygiene, temperature control, proper storage play an important role in maintaining the supply of safe food. This training kit was used at various outlets to train the workers at the outlets and also being sent to the corporate offices of Indian Retail Sector for wider circulation at National level under the Food Safety Education Initiative.

LABORATORY MANUALS

DEPARTMENT OF BIOCHEMISTRY		
Lab manual / SOPs	Content of the manual	Beneficiaries
Biochemistry Manual Resource Person: Dr. Anita Sondhi	<ol style="list-style-type: none"> 1. Chromatography Manual 2. Electrophoresis Manual 3. Spectrophotometry Manual 4. Biomolecule Analysis Manual 5. Preparation of solutions and Buffers Manual 	Students of B.Sc.(H) Biomedical Science Food Technology Microbiology
DEPARTMENT OF BIOMEDICAL SCIENCE		
Lab manual / SOPs	Content of the manual	Beneficiaries
Biomedical Science Series I : Molecular Biology	<ol style="list-style-type: none"> 1. Culture and maintenance of bacteria 2. To prepare competent cells of <i>Escherichia coli</i> culture. 3. To transform competent cells of <i>E. coli</i> (DH5α) cells with recombinant plasmid. 4. To demonstrate antimicrobial resistance in <i>E. coli</i> bacteria. 5. Isolation of plasmid DNA from <i>Escherichia coli</i> by alkaline lysis 6. Quantitative estimation of DNA by the diphenylamine reaction 7. To perform PCR based for the detection of food pathogens 	Faculty and Students of B.Sc.(H) Biomedical Science

DEPARTMENT OF FOOD TECHNOLOGY		
A Laboratory Manual of Food analysis	Thirty two experiments dealing with proximate analysis of food and functioning of related laboratory equipment's Resource Person: Dr. Shalini Sehgal	Students of B.Sc.(H) Biochemistry B.Sc.(H) Food Technology\
Food Quality Testing and Evaluation: Sensory Tests and Instrumental Techniques	Twenty two experiments have been designed with the objective to develop in the student scientific fervour and ability to apply appropriate tools and techniques to evaluate sensory properties of foods. Name of the Author: E. S. Rao, (2014), ISBN No 978-93-81156-30-8	Students of B.Tech and B.Sc.(H) Food Technology, University of Delhi AND
Food Quality Analysis	Food Quality Analysis is compilation of certain qualitative, and quantitative procedures which are taught to the under graduate students of Food Technology. Twenty eight experiments based on IS Methods of Analysis for Adulterants and Contaminants in Foods have been designed. Name of the Author: E. S. Rao, (2014), ISBN No 978-93-81156-37-7	Reference Manual for Teachers of various colleges and universities of India as well as University of Delhi.
DEPARTMENT OF MICROBIOLOGY		
Laboratory workbook of Bacteriology	Various bacterial culturing and staining techniques 1. To perform simple staining of the given bacterial cultures. 2. To perform Gram staining of the given bacterial cultures. 3. To perform endospore staining for the given bacterial culture. 4. To perform negative staining of the given bacterial cultures. 5. To check the presence of capsule in the given bacterial culture. 6. To perform acid fast staining of the given bacterial cultures. 7. To isolate a pure culture of a given bacterium by performing streak plate method. 8. To determine the bacterial numbers in a given culture by serial dilution method. 9. To observe for bacterial motility by using hanging drop slide method	Students and Faculty of microbiology and related fields

Laboratory workbook of Ecology	<p>Experiments related to soil properties, soil enzymes and isolation of soil microflora showing different properties</p> <ol style="list-style-type: none"> 1. To determine the pH of a given soil sample. 2. To determine the moisture content of the given soil samples. 3. To determine the water-holding capacity (WHC) of given soil samples. 4. To determine the percolation rate of water through the given soil sample. 5. To determine the capillary action of various soil samples. 6. To isolate microbes (bacteria and fungi) from soil at different temperatures. 7. To isolate and enumerate bacteria and fungi from rhizosphere, rhizoplane and root-free soil. 8. To detect the presence of urease enzyme in soil. 9. To detect the presence of amylase enzyme in the soil samples. 10. To isolate Rhizobium from root nodules of legumes 11. To isolate Azotobacter from rhizospheric soil. 12. To detect the presence of dehydrogenase enzyme in the soil. 	Students and Faculty of microbiology and related fields
Laboratory workbook on Microbial Diagnosis in Health Clinics	<p>Experiments related to clinical sample collection, pathogen identification and diagnosis by traditional and rapid diagnostic methods and antimicrobial susceptibility of pathogens.</p> <ol style="list-style-type: none"> 1. a) To study methods of collection of various clinical specimens <i>i.e.</i> oral cavity, throat, skin, Blood, CSF, urine and faeces for disease diagnosis. b) To visit a pathology laboratory to see various methods of clinical specimen collection. 2. To study various staining methods (viz. Gram stain, Ziehl-Neelson staining for tuberculosis, Giemsa stained thin blood film for malaria) for microscopic detection of pathogens. 3. To study the composition and importance of various selective/differential/enriched media for rapid diagnosis of pathogens from clinical specimens. 4. To demonstrate the techniques of ELISA and Immuno-flourescence for detection of 	Students and Faculty of Microbiology and related fields

	<p>infectious diseases.</p> <p>5. To study rapid diagnosis of Typhoid with the help of a diagnostic kit.</p> <p>6. a) To determine antibiotic sensitivity of given bacterial cultures by Kirby Bauer method.</p> <p>b) To determine the Minimal Inhibitory Concentration of the given antibiotic by Serial Dilution method.</p>	
Laboratory workbook on Microbial quality Control in Food and pharmaceutical Industries	<p>Practical's related to assessing the microbial load in food samples, procedure for sterility testing of pharma products, milk quality testing and studying quality assurance through HACCP.</p> <p>1. To determine the quality of a given food sample by Standard Plate Count Method.</p> <p>2. To study the principle and procedure of sterility testing for pharmaceutical products.</p> <p>3. To study Limulus lysate assay for endotoxin detection.</p> <p>4. To perform Clot-on Boiling test and 10-minutes Resazurin assay for rapid milk quality testing.</p> <p>5. Case study of HACCP for any food or pharmaceutical product.</p>	Students and Faculty of microbiology and related fields
Departmental Magazine <i>Life under lens</i> issue I	Scientific articles from both students and faculty	Students and Faculty of microbiology and related fields
Special issue of <i>Life under lens</i> on Antimicrobial Resistance	Includes scientific abstracts and articles from students and faculty	
Departmental magazine "Life under lens"	Special Issue with the Theme titled " <i>Celebrating Nobel Noble Women in Science</i> ", dedicated to immense contributions of Women Noble Laureates.	

***** Some of these practical's authored and edited by Dr. Shalini Sehgal and Dr. Uma Chaudhry have been shortlisted for DBT E-Manual of Life Sciences.**

II Financial Resources

- The Department of Biomedical Sciences received sponsorship of Rs. 30,000/- for the annual departmental festival Genesis 2K17. The sponsors were Shiksha Bharti School (Rs. 15000/-), Netcom Enterprise (Rs. 5000/-), Genetik Labs (Rs. 5000/-), Shri Sainath Ayurvedh Ashram (Rs. 5000/-)
- The Department of Chemistry received Seminar Grant from UGC Rs.1,00000/- for holding the National Conference on " Clean and Green Chemistry : The Chemical and Environmental Aspects
- Department of Microbiology received sponsorship for Microquest 2017 was by Acummax India: Rs.10000/-.
- Dance Club Generated Rs. 2800/- generated on account of registration fee of the participating teams
- The College is charging an amount of Rs. 100/- for issue of duplicate Identity Card, from the Students.
- The College is charging Rs. 100/- per Official transcript from the students who wishes to have the same.
- Resource generated through overdue charges in the library.
- Sponsorship generated for SRIJAN 2017: Rs.2,77,000/- from various sources.
- Amount received from Culture Council, University of Delhi for organizing Songs of India: Rs.25,000/-.

17. Details of departments getting assistance/recognition under SAP, COSIST (ASSIST)/ DST, FIST, and other programmes

- The College is getting Assistance Grant from the last seven years under Star College Scheme of Department of Biotechnology. The following departments are being supported under this scheme: Biochemistry, Biomedical Science, Food Technology and Microbiology
- Department of Chemistry is getting assistance from Board of Research in Nuclear Sciences under project titled "Spatial Distribution of uranium and associated water quality parameters in groundwater/surface water of six districts (Agra, Mathura, Mahamaya Nagar, Kanshiram Nagar, Etah and Badaun) of Uttar Pradesh". Principal Investigator - Dr. Balaram Pani.
- Department of Chemistry is getting assistance from Science and Engineering Research Board Funded Project title "Synthesis and Post self-assembly Functionalization of Re and Ru-based Metallacycles and its Effects on the Photophysical and Electrochemical Properties". PI - Dr. Deepak Gupta.
- Department of Biomedical Science is getting assistance from UGC under project titled "Detection, Identification and Analysis of the quality of fruits and vegetables". Principal Investigator : Dr. Uma Chaudhry.
- Department of Chemistry and Biomedical Science is getting assistance from DBT under project titled "Safeguarding Immunity and Health versus

Indiscriminate use of Antibiotics: Building Medical Awareness and capacity for informed choice through multi level orientation, exhibitions and demonstrations for students, paramedics, drug marketing systems and community” . Principal Investigator: Dr. Balaram Pani and Dr. Uma Chaudhry.

18. Community Services

- Dramatics Club students perform plays on various social problems to create awareness in society.
- North East Cell conducted the following community services:
 - ❖ North East Cell created awareness drive regarding the beauty and culture of North East India.
 - ❖ North East Cell created awareness about the festivals of NE states, esp. Assam.
 - ❖ North East Cell helped to improve mathematical skills for competitive examinations by conducting workshops.
 - ❖ North East Cell created awareness regarding organic foods and their effects on health through workshop on North East and Traditional Food Recipes.
 - ❖ North East Cell Students became aware of the healthy indigenous crops generally used for consumption in NE India
 - ❖ DCP provided helpline numbers to north east students of the College for their safety.
- Astronomy Club showed a documentary movie on “Mangalyan” to spread the awareness among the students about glorious achievement by the great Indian Scientists.

Extra-Curricular Activities for Community Service

- ECA Activities helped in unifying, strengthening and bonding the youth for a better tomorrow.
- ECA spread the message of cultural heritage of our country.
- ECA through its activities remember the sacrifices made by freedom fighters and spreading the message of unified India.
- Public participation in promoting integrity and eradicating corruption.
- Instilling the feeling of nationalism and patriotism in students and duties towards our country as conscientious citizens.
- Give a platform to students to hone their extracurricular skills.
- Spreading the feeling of brotherhood and nationalism.
- Wheelchairs are offered whenever required in the college.
- Gender Champions were made to increase the outreach for creating an environment that fosters gender equality. They conducted various programs to create awareness for gender equality, women empowerment and against sexual harassment.

- Yoga Club promoted healthy living lifestyle among the students and society by organizing International Yoga Day on 21st June, 2017.
- Through Anti-Smoking Cell Students are advised to make aware their relatives and friends about the harmful effects of smoking.
- Papers of Anti-Tobacco pledge were also given to the students to distribute among the people in their surroundings for taking pledge.
- A signage board with a warning is placed at the gate of the College to warn and advise people about the harmful effects of smoking.
- All the activities of Debate Club were planned to create an awareness of different topics like Euthanasia, Unity in Diversity, Demonetization, Space Mission in India etc. among the students.
- National Service Scheme organized the following workshops for the benefit of the society at large:
 - ❖ A Workshop on Colour Acupressure Therapy on 19th April, 2016 to demonstrate and make the people aware of how colors can be used for healing.
 - ❖ Lecture on Meaning of Aazadi for youth of India by Sr. TV journalist: N.K. Singh on 31st August, 2016.
 - ❖ Celebrated NSS day with Slogan Writing Competition on “ILL Effects of Drug Addiction” on 24th September, 2016.
 - ❖ Celebrated Basant Panchmi on 12th February, 2016 to make the people aware of Indian Culture and Tradition.
 - ❖ Organized tree plantation drive on 28th September, 2016.
 - ❖ Conducted Matdata awareness Campaign on 6th and 20th October, 2016.
 - ❖ Celebrated National Harmony Day on 25th November, 2016 for fostering communal harmony, National Integration and Fraternity in the country.
 - ❖ Celebrated National Youth Day on 12th January, 2017 and organized a lecture of Sh. Kishore Tokekar (Jt. Gen. Secretary Vivekananda Kendra, Kanyakumari) on “Vivekananda Aur Aaj Ka Yuva” on this occasion in association with Vivekananda Vichar Manch.
 - ❖ Celebrated Republic day by organizing a lecture of Sh. Ashutosh Bhatnagar (Director, Jammu Kashmir Study Centre, Delhi) on “Jammu & Kashmir: Myth and Reality” on 25th January, 2017 in association with Vivekananda Vichar Manch.
 - ❖ A Cloth distribution drive was organized by NSS cell at Rain Basera, Dwarka, Sector-10, Metro Station on 9th February 9, 2017 in which clothes were distributed to more than 35 needy people.
- College has applied for the NCC affiliation from Battalion-7, Army wing, Safdarjung Enclave. Apart from that 2 students have joined Airforce wing at Safdarjung Airport. They are regularly participating in the events and camps organised by the NCC wing as and when required.

19. Teachers and officers newly recruited : NIL**20. Teaching - Non teaching staff ratio**

1Teacher :1.1 Non-Teaching Staff Members

21. Improvement in Library Services

- **Use of RFID Technology:**
 - ❖ It will reduce the time taken in a transaction of circulation (Issue/ Return) activities.
 - ❖ Stock taking activities of the library will be very fast and minimize manual intervention.
 - ❖ The system will provide security against any intentional or unintentional unauthorized checkout(s)
 - ❖ Higher accuracy and efficiency in Shelf management.

- **Interactive Library management Software (KOHA)**
 - ❖ The Library has migrated from LSease (A Library Management Software from Libsys) to KOHA (An Open Source Library Management Software) It Is Full Featured, Cost-effective and secure, Compliant with Global Open Standard, World- wide acceptance, MARC-21 Standard, No limitation of data, users, fully web based, Easy to learn -Use – Administer, In built Z-39.5 Cataloguing server, OPAC with capability of creating dynamic web-portal, compatible with HTML 5 and CSS, No vendor lock, Barcode, RFID, deployed on local, Central and Cloud servers.
 - ❖ Notices are served to the students by their email.

- **WEB-based personalized OPAC (Online Public Access Catalogue) facility.**
 - ❖ This is web-based catalogue of the library available to students 24x7. Each students is having its own account of OPAC, At any given point of time student can peep into his transation history, search history, library catalogue, can reserve a document, can suggest books/ title for the library, make his own lists, can tag a library document and ask for a clearance certificates. The OPAC is an integrated list of library collection such as books, bound volumes, journal articles, CDs and DVDs etc.

22. New books/journals subscribed and their value

- Purchased 1193 new books (261 titles) for Rs. 930834/=.
- Subscribed N-List for Rs. 5750

23. Courses in which student assessment of teachers is introduced and the action taken on student feedback

- In all the courses student assessment of teacher(s) has been introduced. In all 1026 students submitted their feedback. The IQAC had decided that the feedback of students having attendance above 75% would be given weightage. The feedback has been received by 5th May, 2017. The College is scrutinizing the same. After due deliberations action would be suggested. Based on the preliminary observations, the following action is warranted:
 - ❖ To find out the reason of low attendance in certain courses.
 - ❖ Urgent need to motivate students that personal interaction has no substitute.
 - ❖ The feedback given by the students has been forwarded to respective teacher for self-evaluation.

24. Feedback from stakeholders

Apart from students' feedback, parent's feedback was also received. In all 883 Parent Feedback Forms were received. Majority of the parents were satisfied with the College. Some of the important observations given by the parents, which needs attention/action, are mentioned below:

- Library: Late Fee fine system of the library needs to be revisited.
- Canteen: Needs urgent overhauling.
- Basic facilities like drinking water and common rooms needs improvement.
- ATM/Extension of Branch of Bank in the College campus.
- Certain issues like hostel facilities/ introduction of PG Rooms in the College must be taken up at appropriate level.
- Placement was of huge concern to parents. So IQAC recommends Placement Cell of the College to take appropriate steps in this direction.
- Some parents have offered their services to help the College. The College appreciates it and surely they would be engaged.

25. Unit Cost of Education

S. No.	Year	Total Expenditure from the following heads during the Year						Total Expenditure during the year (Col 3 to 8)	Total Expenditure per student during the year
		DHE Grant	Innovation	Star College	BRNS	UGC Research Grant	Students Fund A/c		
1	2016-17	136612 483.50	378182 3.00	103947 1.00	118939 5.00	138457. 00	410482 7.57	146866457. 07	127047.11

26. Computerization of administration and the process of admissions and examination results, issue of certificates

- The examination process is being followed strictly according to the guidelines of the University of Delhi. The University of Delhi had introduced online portal facility to feed the examination data from the year 2012 onwards.
- The admission process is online on the University of Delhi portal, from the academic session 2016-17 as per the University of Delhi guidelines.
- In the year 2016 applications were invited online by the College for the vacant post of Multi-Tasking Staff.
- Service Record of the Teaching and Non-Teaching Staff is in the process of computerization by entering the data on software purchased by the College administration.
- The results of the students are notified by the University of Delhi including the statement of Marks on the University portal. The concerned College/student can download the statements of marks from the University of Delhi portal.
- The College is doing online verification of result of the student who applies for higher studies/employment.
- The College is regularly submitting the Data pertaining to students, teachers and non-teaching staff on the portal of All India Survey in Higher Education (AISHE) for the last 6 years.
- The students applications are verified online, who are applying for post matric scholarship SC/ST/OBC/UR/, E district portal scholarship.
- All the teachers mark the students' attendance on an "Attendance App" developed by our College faculty Member "Dr. Parthasarthy Pal" online. They can even mark the attendance of students on their phone through the app.
- All the budget proposals are submitted online only. A link is being sent to all and they fill the data as per their requirements online.
- Our Accounts section is 100% cashless. All transactions are being carried out digitally.
- The College is registered with Public Financial Management System (PFMS), O/o Controller General of Accounts, Ministry of Finance. All the grant from DBT, DST, UGC or any grant from central government is received through this portal.
- Our Accounts section is fully computerized. They send the salary slip to every employee every month. They also inform the employees about their Provident Fund balance every month.

27. Increase in the infrastructural facilities

- Four Porta Cabins have been erected for sitting arrangement of staff and keep the almirahs and filing cabinets.
- The College is having the infrastructure of the Rain Water Harvesting.
- For the benefit of the Persons with Disabilities (PwD) the College has provided ramp at every possible place and has also provided PwD friendly washroom.
- College has provided the facility of wheel chair for the needed persons.
- Washroom for use by the transgender is available in the College.
- The College is being maintained by PWD, Government of NCT of Delhi. To get the work done in an uphill task. College is pursuing extension of existing College building for the construction of more laboratories and classrooms. So that existing as well as new courses can be run smoothly.

28. Technology Up gradation

- A College Management Software has been installed in the Administration Section as well as in Accounts section for better working environment.
- A photocopier machine (multiexpress K-2200ND) with scanning facilities has been purchased for the administration section.
- An Identity Card Printer (Smart 30) has been purchased for printing of Identity Cards for students & Staff including medical cards for staff.
- College is having Biometric Attendance System for Staff from last 6 years.
- The accounting system of the College is fully computerized. A College Management Software installed in the section, helps in maintaining of accounting books, payroll, Provident Fund of staff, College income and expenditure, including the students' fee etc.

29. Facility of computer and internet access to students

- College has identified 20 computers separately with Internet facility for students and staff.
- The college has made free of cost Wi-Fi Internet facility available to all the students. The students are also provided with Laptop to access e-resources and for project presentation.
- Wi-Fi and LAN internet connectivity helps staff and students to search literature smoothly.
- More than 150 desktops and several laptops are available to students and faculty in the campus. Faculty and students have access to internet via their personalized login details.

30. Financial aid to students

- The PR committee has facilitated the process of giving fee concession to students belonging to BPL category. Out of 52 applications, 37 students have been given fee concession amounting to Rs.99,495/- as per University of Delhi rules for the academic session 2016-17.
- The students have applied for the following scholarship schemes for the year 2016-17 and their applications have been verified by the College authorities but they have not yet received the scholarship amount:
 - ❖ Central Sector Scheme of Scholarship for College and University students and Post Matric Scholarship for SC/ST/Minorities by Department of Electronics & Information Technology, Ministry of Communications & IT, Government of India under National Scholarship Portal. Total number of students applied under this scheme are : SC-04, ST-01, OBC-13, General– 10.
 - ❖ Department of Welfare for SC/ST/OBC, Govt. of NCT of Delhi, IP Estate, New Delhi. Total number of students applied under this scheme are : OBC-05, SC-03.
 - ❖ Pandit Man Mohan Nath Endowment Scholarship for the year 2016-17, under General Category – 01 student has been sanctioned scholarship amounting to Rs.100/- p.m.
 - ❖ Vice Chancellor Gold Medal to Physically Challenged student – One student name sent yet to receive the medal and amount.
- Two memorial awards (Deepika Wanganoo & Saurabh Grover, initiated by their parents) are conferred to students who secure first position in B.Sc. (H) Electronics and B.Sc. (H) Physics respectively.

31. Activities and support from the Alumni Association

- Alumni registration form was uploaded on the college website. Till date 753 alumni have registered. Alumni(s) have shared their personal and career profiles. They have also given feedback on various issues related to the college.
- Alumni Meet of 1st batch students (2004-2007) of Department of Biomedical Science was organized on 6th January, 2017. 10 students of 1st batch attended the meet and shared their experiences with the current BMS 3rd year students.
- Department of Food Technology along with their alumnus, Arnav Goha (2004) of Impeccable-Innovations Techno- Commercial R & D Consultancy service provider organized a placement drive on Wednesday, 8th March, 2017 in the College. Many students participated in the drive and Mr. Ankan Datta was hired by the company.
- Department of Microbiology organized Alumni Interaction day related to the theme “Career Aspects in Microbiology” on 27th January 2017. On this

occasion, Dr. Garima Gupta from the Department of Biotechnology, Government of India was the Guest of Honour. The following activities were held:

- ✓ Mrs. Ruchi Bhatnagar (2007-2010), an alumnus of the Department of Microbiology delivered a lecture on Intellectual Patent Rights-an emerging career avenue
- ✓ Mr. Udit Malik (2008-2011) also an alumnus of the Department apprised the students of avenues in the field of Patents and Trademarks.
- ✓ Ms. Shivani Khandelwal (2011-2014) delivered a lecture on the different Career options available after graduating in Microbiology.
- ✓ Alumni(s) interacted with the students. A skype session was also organized with Mr. Anirban, an alumnus from the first batch (2007-2010) and presently a doing Ph.D. in Germany.
- During Annual Culture festival, Srijan 2017, following alumni(s) were invited to judge various Cultural events: Anu Anmol (Microbiology), Naveen Giri (Instrumentation), Valentina Brahma (Biomedical Science) , Manish Parmar (Polymer Science), Akshay Jha (Microbiology), Shweta Warriar (Biomedical Science), Prashant Rawat (Biomedical Science).
- Various articles and poems written by alumni of the college were published in the college magazine, "Resonance".
- Every year College facilitate distinguished alumnus of the college. Mr. Subhash Chopra alumnus of Department of Instrumentation, batch 1998 was awarded Distinguished Alumnus of academic year 2015-16.

32. Activities and support from the Parent Teacher Association

- Parent Feedback forms have been uploaded on the college website which are being regularly filled by the parents to improve the facilities in the college.
- The college has open-door policy where in parents can interact any time with the Principal, faculty members of the college and give their suggestions and concerns regarding various facilities in the college.
- Some parents have offered their services to help the College. The College is in the process to engage them in a way, so that they become an asset and students can be benefitted at large.

33. Health Services

- North East Cell Created awareness about the importance of nutritious and healthy foods for healthy lifestyle.
- North East Cell Students shared about the therapeutic effects of some of the indigenous crops in the North East states in India.
- ECA is helping the students in holistic development, Develops the artistic inclination of students.
- Yoga competition helps fitness and physical wellbeing. And other creative pursuits help in development of brain and mental wellbeing.
- Anti-Smoking Cell : In the campaign of the Cell students are encouraged to quit, or to avoid smoking in the future, by prompting them to consider the chemicals they inhale every time they smoke and the long term damage to their health. Students are also made aware about the various critical diseases that are caused due to smoking.
- All the Teaching and Non-Teaching Staff Members are enrolled with the W.U.S. Health Centre and they are getting the medical facilities for themselves and the dependent members.
- All the Laboratories are having the first aid boxes.

34. Performance of students in sports activities

- More than 200 boys and girls participated in sports activities organised by college viz. athletics, football, basketball, volleyball, table tennis, badminton, chess, kabaddi and cricket for boys and girls.
- More than 100 students participated in Inter college tournaments.

S. No.	Sports Disciplines (Students)	Events
1.	Cricket (Boys)	1 st round of inter college on 21 st February, 2017.
2	Basketball Boys	1 st round of inter college on 28 th February, 2017.
3	Volley Ball Boys	1 st round of inter college on 15 th February, 2017.
4	Badminton Boys, Badminton Girls	Top 12 in inter-college boys from 1 st to 7 th March, 2017.
5	Chess	9 th in inter college from 1 st to 3 rd March, 2017.

6	Kabaddi	1 st round of inter college on 3 rd March, 2017
7	Athletics	4th in javelin throw boys in inter college athletics from 3.11.16-5.11.16.
8	Football	Top 12 in inter-college boys from
9	Shooting	9 th ranking in inter college boys

35. Incentive to outstanding sports persons

- Certificates, Medals and trophies
- Refreshment and sports kit distribution

36. Student achievements and awards

I - Academic Achievements

Meritorious Students (Academic Year 2016-17)

The following students have won numerous accolades to make us proud. We are sure that Bhaskaracharya College of Applied Sciences will keep up the tradition of setting new standards of success.

S.No.	Course	Position	Name (1 st year)	Name (2 nd year)	Name (3 rd year)
1	B.Sc. (H)	1	Suchita Reddy	Rajat Mann	Stabonia Maji
	Biomedical Science				
		2	L. Nandini Krishna	Rahul Madaan	Ayushi Chhabra
		3	Anannya Tuli	Akshaya C. Nambiar K	Anuvrat Sircar
2	B.Sc. (H)	1	Samyak Ahuja	Deepak Rikhari	Priyanka Kumar
	Computer Science				
		2	Sundhi Sharma	Rituraj Mehra	Anshika Chaurasia
		3	Gautam Paliwal	Mandeep Satpal	Prabhot Kaur

3	B.Sc. (H)	1	Rahul Sharma	Harshit Agarwal	Akash Kumar
	Electronics				
		2	Dheeraj Tiwari	Yogesh Singh	Rishi Kashyap
		3	Neeraj Kumar Yadav	Atul Puri	Sanjeev Kumar
4	B.Sc. (H)	1	Hephzibah Saji	Bhawana Anand	Manjoor Ali
	Food Technology				
		2	Kirti Sharma	Komal	Diksha Kumari
			Sumit Kr. Bansal		
		3	Sheetal Katiyar	Kamna Kundra	Aditi Rungta
			Neha Singh Chauhan		
5	B.Sc. (H)	1	Vivek Kumar	Manish	Chirag Mittal
	Instrumentation				
		2	Sakshi Kumari	Shivani Tyagi	Ravinder Singh
		3	Aman	Rajat Khatri	Princi Verma
6	B.Sc. (H)	1	Himani Arora	Mansi Singh	Tania
	Microbiology				
		2	Chahat Singhal	Atul Kr. Dhuriya	Nishika Sabharwal
		3	Shivani Chuhan	Ajay Aggarwal	Neetika Naudiyal
7	B.Sc. (H)	1	Shubham Durgapal	Nidhi Bhatt	Atul Mishra
	Physics				
		2	Soham Saha	Pooja Gangwar	Kaustav Mukherjee
		3	Anju	Tanay Pathak	Krishna Jha
8	B.Sc. (H)	1	Saiyam Dohbal	Vinay	Ravinder Singh
	Polymer Science				
		2	Avinash Sandliya	Naveen Yadav	Nishant Jain
		3	Parth Bidaliva	Tanmay Tyagi	Omair Malik
			Avinash		Shivani Chaudhary

Academic Achievement of students department wise

Department of Biomedical Science

- Shweta Warrior (2012-2015 batch) received Gold Medal from University of Delhi at the Convocation Ceremony held on 19th November 2016 for securing highest marks in B.Sc.(H) Biomedical Sciences examination held in 2015.
- *Rajat Mann* and *T. S. Akash*, students of B.Sc.(H) Biomedical Science III year are Kishore Vaigyanik Protsahan Yojana (KVPY) scholarship recipients which is an on-going National Program in Basic Sciences, initiated and funded by the Department of Science and Technology (DST), Government of India to attract exceptionally highly motivated students for pursuing basic science courses and research career in science. This is an initiative taken by the students at their end and college forwards their application from time to time.
- Students of B.Sc.(H) Biomedical Science III year have made us proud by their outstanding results in several entrance examinations (2016-2017) (results of which have been declared so far). This year six students have cleared IIT-JAM entrance examination with higher ranks. ***Rajat Mann has secured 1st rank in IIT-JAM*** entrance exam followed by Rahul Madan who secured 6th rank. Others Akash, Bhawna, Dolly and Akshya have cleared with good ranks. Rajat Mann selected for M. Sc. – Ph.D.. Integrated program of Tata Institute of Fundamental Research (TIFR).
- ***Bhavya Pratap Singh, B.Sc.(H) Biomedical Science I year***
 - ❖ Cleared entrance examination of KVPY. His interview results are awaited.
 - ❖ Recipient of CSIR – Central Drug Research Institute long distance intern position in Sukant Khurana’s neuroscience group.
- ***Shriya Madan, B.Sc.(H) Biomedical Science II year***
 - ❖ Presented a paper (Oral Presentation) titled “Systematic shortlisting of candidate molecules and biosimilar / biobetter product development: An undergraduate research effort” in the 6th International Conference on Biologics and Biosimilars held from 19th to 21st October, 2016 in Houston, USA. She was the presenting author on the behalf of the DU Innovation Project BCAS 305 team.

Department of Food Technology

- B.Sc.(H) Food Technology III year students, Tushar Bharadwaj, Ishwar Singh Tanwar and Nikunj Suneja presented their work on ‘Production of oyster mushrooms using coffee waste’ and were awarded as one of the 20 of India’s most promising and socially relevant, and scalable innovations at the National Contest on Social Innovation organized by MEA at the 14th

Pravasi Bhartiya Divas in Bengaluru during 7th to 9th January 2017. The group is awarded with Rs.1,00,000/- as a start-up grant for the same.

- **Preeti Tyagi, B.Tech Food Technology IV year**
 - ❖ Won 1st prize in oral presentation in the international conference on growing trends in Food Technology in Jawaharlal Nehru University titled "Development of cookies and candy made from dehydrated amla powder and jaggery" Authors: Dr. Vandita, preeti tyagi, chandrakanth, ankan datta, harshita sarwal, aishwarya rajendran.
- **Aishwarya Rajendran, B.Tech Food Technology IV year**
 - ❖ Awarded with First prize for the oral presentation titled 'Development of amla cookies and ladoo; Vandita Gupta, Aishwarya Rajendran' in the 7th International Conference on growing trends in Food Technology and Nutrition for Public Health Care held on 26th and 27th May 2016 at JNU, Organized by International Institute of Food Nutritional Sciences, New Delhi.
- **Bhawna Chugh, B.Tech Food Technology IV year**
 - ❖ Awarded with Scholarships worth Rs. 15,000/-from Protein Foods and Nutrition Development Association of India on 20th September 2016.
 - ❖ Secured 3rd position in general science quiz on the occasion of general science quiz.
 - ❖ Roshanlal Yadav and Bhawna Chugh (2016) Critical factor affecting microbial safety of fruits, vegetables and animal fresh produces: A review", International Journal of Enhanced Research in Science, Technology and Engineering, ISSN: 2319-7463, Volume 5, Issue 11, November 2016.

Department of Microbiology

- **Pooja Gupta, B.Sc. (Hons) Microbiology, II Year**
 - ❖ Among the 10 students selected nationally for the Project Oriented Biology Education Fellowship Programme (POBE 2016) at JNCASR, Bangalore.
 - ❖ Book Chapter: Singh, V., Gupta, P., Rajput, N. K., Bhardwaj, A. (2016), Chapter-6,: Mitochondrial Genomics: Emerging Paradigms and Challenges, Medical Health and Genomics (Ed. Dhavendra Kumar and Stylinos Antonakis), Academic Press: Oxford, pp 75-87.
 - ❖ Presented a paper on 'dPABBs: A Novel in silico approach for predicting and designing anti-biofilm peptides' at UK-India Workshop on Tackling the Emergence of Antimicrobial Resistance: Increasing awareness and facilitating research networks from 7 to 10 November, 2016, coordinated by the Institute of Microbial Technology, CSIR, and the University of Cambridge.

- ❖ Participated in the nationwide Ideathon Contest organized in November-December 2016 and was shortlisted to attend the Noble Prize Series India, 2017 at the Vibrant Gujarat Global Summit.
- **Manpreet Kaur Bagga, B.Sc. (Hons) Microbiology, III year:**
 - ❖ Published a paper titled “Circuit design and implementation to detect spoilage in food” in the proceedings of the second national conference on Recent Developments in Electronics (NCRDE 2017) held on February 17-18, 2017 held at Department of Electronic Science, University of Delhi South Campus, New Delhi.
 - ❖ Presented a poster at innovation Conclave, Acharya Narendra Dev college, University of Delhi held on October 25-26, 2016 and was awarded the third prize.
- **Devyani Das, Paras Kumar and Rupesh Kumar of B.Sc. (Hons) Microbiology III year** (qualified JAM entrance exam for IIT, IISER etc.)
- **Udaat Mittu of B.Sc.(Hons) Microbiology, I Year** obtained First position (best delegate) in Game of Thrones Committee, in Cross MUN held at Guru Gobind Singh College of Commerce, University of Delhi, on 28 January, 2017.

Department of Electronics

- B.Tech Electronics students have qualified various exams like GATE, GRE etc.:
- GATE qualified students: Rishi, Akash, Neeraj, Vasu, Sarika, Gaurav, Sanjeev.
- GRE qualified students: Prerna and Palak.

Department of Instrumentation

- Two B.Tech. Instrumentation Students Mr. Ashutosh and Mr. Pranav Manocha has been selected by Founders Space, a leading start-up accelerator in United States, for their next cohort scheduled for 1 month with investors pitch sessions in San Francisco. This was featured by Zee News media and more than 10 media platforms, in our college premises. Their project has been authorized by the DMRC authorities and tie ups with their metro stations for future projects. They will showcase this venture at Astana, Kazakhstan in November 2016 as a part of global start-up summit.

Department of Physics

- Students’ Shomshubhro Mukherjee and Ravi Pratap won 3rd prize in quiz at Dyal Singh College.

- Department of Physics student Ashutosh Shukla won 1st prize in quiz held at Zakir Hussain College.
- Department of Physics student Ashutosh Shukla won 2nd position in maths quiz at Dyal Singh College.
- Department of Physics student Akash Tiwari presented a paper in "National Conference on Clean & Green energy: The Chemical & Environmental Aspects " on 16-17th Feb 2017 organized by Dept. of Chemistry, Bhaskaracharya College of Applied Sciences.

Department of Polymer Science

- Student Ravinder Kumar (B.Tech) secured 10th rank in GATE 2017. In total 08 (eight) students of department of Polymer Science have qualified GATE 2017 exam.
- Department of Polymer Science student Ashish Kumar Pandey Secured 1st position in paper presentation at UGC sponsored national conference "Recent innovation in chemical science and environment technology" organized by Sri Aurobindo college (University of Delhi).
- Department of Polymer Science students' Naveen Yadav, Parth Bidaliya- presented paper on "Synthesis and characterization of green polyester films" in MACRO 2017, International conference on polymer science and Technology on January 8-11, 2017 at Thiruvananthapuram (Kerala).
- Department of Polymer Science students' Vyom Deep Gangwar, Durga Charan Mishra - presented poster on "Development and Characterization of Graphite Based Polymer Composite Membrane" in national conference "Recent innovation in chemical science and environment technology" organized by Sri Aurobindo college (University of Delhi) on March 3-4, 2017.
- Department of Polymer Science students' Ashish Kumar Pandey, Aman Shrivastav- poster presentation on "Synthesis and characterization of polyaniline grafted cellulose based Bioelectrode" at UGC sponsored national conference "Recent innovation in chemical science and environment technology" organized by Sri Aurobindo college (University of Delhi) on March 3-4, 2017.
- Department of Polymer Science students' Kunal Kant, and Mukul Kumar Singh - presented poster on "synthesis and characterization of Transition metal doped polyaniline based catalysts" in 2nd National Conference on Functional Materials: State of Art (NCFM-2017) at Sharda University, Greater Noida on March 31- April 01, 2017.
- Department of Polymer Science students' Sandeep Kumar - oral presentation on "Thermo-catalytic degradation, characterization of waste PE and its application" " in 2nd National Conference on Functional

Materials: State of Art (NCFM-2017) at Sharda University, Greater Noida on March 31- April 01, 2017.

- Department of Polymer Science students' Nishant Jain presented paper on ZnO/polyester nanocomposite film and its antimicrobial properties at international conference on advanced polymers, Biomaterials, bioengineering and Nano drug delivery in Mauritius from 5-7 September, 2016 jointly organized by Asian Polymer Association and University of Mauritius.

III Students Achievements under Extra Curricular Activities

Dramatics Club

- Our students Shubham Gupta (BSc H- Instrumentation 2nd yr.) and Bharti Sharma (BSc H- Microbiology 3rd yr.) got best actor and best actress awards in UDAAN (Unfolding Drama and Acts to Awaken Nation).
- Our students Arnav Sharma (BSc H-Physics 3rd yr.), Manpreet (BSc H- Microbiology 3rd yr.), Bharti Sharma (BSc H- Microbiology 3rd yr.) and Shubham Gupta (BSc H- Instrumentation 2nd yr.) got opportunity of attend workshop at National School of Drama, New Delhi from 26th-29th September 2016 because of great performance in UDAAN.

ECO Club

- Students of the ECO Club Shriya, Surbhi, Stuti, Nandini, Nivita, Suchita, Shubhankar, Harish, Indira, Annanya and Kanika presented a Nukkad-Natak on Ozone Protection in Ministry of Environment Govt. of NCT Delhi on 16th September; 2017. They were awarded appreciation certificates for the initiative.
- Prizes given for the Greeting Card Making Competition (Theme- Teacher's Day)
- 1st Prize:- Ms. Ruchi Sharma (FT 3rd Year)
- 2nd Prize:- Ms. Deepshikha Singh Tomar (BMS 1st Year)
- 3rd Prize:- Ms. DeebaZarin (FT 1st Year)
- Diya and Candle Decoration Competition for Celebrating Eco friendly Diwali 1st Prize-
- Ms. Vanshika (BMS 1st Year)

North East Cell

- Winners received a cash coupon for purchase of stationery items.
- Cash Prize was given to winners for purchase of stationery items.
- Winners of Traditional and North East Recipe competition were given attractive cash prizes.
- Winners received a cash coupon for purchase of stationery items.

Astronomy Club

- Katyayini Sharma & Ravi Pratap Dubey of B.Sc. (H) Physics, 2nd Year got the 1st Prize, Saurabh Singh & Rahul Kumar of B.Sc.(H) Instrumentation, 3rd Year got the 2nd Prize and Tupeshwar Kumar & Irfan

Azad Ali of B.Sc.(H) Instrumentation, 1st Year got the 3rd Prize in the Intra College Quiz competition conducted in the event: Astrophilia.

Music Club

- Shubham Layak (Polymer Sc. II yr.) & Shreya (Biomedical I Yr.) won First Prize, Himanshu Rawat (Electronics I Yr.) won II Prize; Shreya (Biomedical I Yr.) won Third Prize in Intra college solo and duet singing competition held on 22nd September, 2016.
- Shubham Layak (Polymer Sc. II yr.) won First Prize in Solo Singing in "Songs of India" held on 7th October, 2016.
- Yash and Rohit (Microbiology II Yr.) won II Prize.

Dance Club

- Won First Prize at "Synergy" - the Annual Festival of Apeejay School of Management, Dwarka (21st to 22nd October, 2016)
- Won First Prize at the International Management Institute, Delhi (21st to 23rd October, 2017)
- Won First Prize at "Diwali Mela" held at Shaheed Rajguru College of Applied Sciences For Women, Vasundhara Enclave, New Delhi (26th October, 2016).
- Inter departmental Dance Competition "Dance with Props" held on 28th September, 2016
- Prize Winners: Abhishek Anand Pandey (Electronics I Year), Nikita Arya (Food Technology II Year) and Vipika Dhawan (Computer Science IV Year) won the 1st, 2nd and 3rd Prizes respectively.

Literary Club

- Adarsh Kumar, B.Sc. Electronics, and Rohit Roy, B.Sc. Microbiology won Consolation Prize in Inter College Hindi Poem Recitation Competition at Janaki Devi Memorial College.
- Intra College Competition "As You See It"- A content writing competition on 26th October, 2016.
 - ❖ Adarsh Kumar, B.Sc.(H) Electronics, III yr.- I Prize
 - ❖ Rahul Madaan B.Sc.(H) Biomedical Sciences, II yr.- II Prize
 - ❖ Nikhil Aggarwal, B.Sc.(H) Food Technology, I yr.- III Prize
- Intra College Essay Writing Competition on 3rd November, 2016
- Bhavya, B.Sc.(H) Biomedical Sciences, I yr.- I Prize
- Nikhil Aggarwal, B.Sc.(H) Food Technology, I yr.- II Prize
- Gautam Sanwal, B.Sc.(H) Electronics, III yr.- II Prize
- Inter College Competitions organized on 15th February, 2017 during Annual Cultural Festival, SRIJAN'17: **Coin Flip** : Nikhil Aggarwal, BCAS, II Prize; Between the Lines : Nikhil Aggarwal, BCAS, I Prize;

IV Students' Achievements in Sports Activities

- Top 12 in inter-college Football organized by University of Delhi
- 3rd position in pistol shooting in Dr. Bharat Ram Open Sports Meet organized by LSR college

- 9th ranking in Inter-college pistol shooting organized by University of Delhi.
- 4th in Inter college Javelin throw organized by University of Delhi

37. Activities of the Guidance and Counseling Unit

- A lecture session on "Entrepreneurship" was organized on October 24, 2016 in collaboration with Croma Campus. Mr. Pawan Dixit, Director, Croma Campus was the invited speaker for the session.
- A seminar on "Career Opportunities abroad, scholarships and job options" was conducted by SIEC Education Pvt. Ltd. on April 6, 2016.

38. Placement services provided to the students

- Placement drive organized in the college campus on 20th February, 2017 for "Suncore Microsystems" in which 28 candidates in management field and 13 candidates in web design, selected in second round of the interview.
- Arranged interview of Microbiology, Biomedical Sciences and Food Technology in Microchem Silliker Pvt. Ltd. on 20th April, 2017. Arranged campus interview of Food Technology students for Impeccable Innovations Techno -Commercial R& D Consultancy Ltd. On 8th March, 2017. One student was shortlisted.
- Arranged summer training of students in UFeX, Jubilant, Mhale Filters.
- With the result of linkages developed by the different departments, students are undergoing Summer Trainings in various industries:

DEPARTMENT OF BIOCHEMISTRY (Summer Training)			
Name of the Student	Name of the Institute	Topic of the Training	Duration of Training
Gaurav Kumar B.Sc.(H) Biomedical Science	Chitransh Pathology, Lalitpur (U.P.), under the guidance of Mr.Pankaj Shrivastava	Clinical Testing	2 months
Ashish Mamgain	Dev Ganga Druggist and Distributor	Market analysis of biotherapeutics	2 months
Harsh Prasad Tamta	Summer Training under the supervision of Prof Arun Jagannathan, Department of Botany, Winter Training Kyrion Technologies Private Limited, Indian Institute of Technology, Delhi	Molecular Biology Techniques AND Ethical Hacking	2 months each

DEPARTMENT OF BIOMEDICAL SCIENCE (Summer Training)			
Name of the Student	Name of the Institute and Mentor	Topic of the Training	Duration of Training
<i>B.Sc.(H) Biomedical Science III year 2016-2017</i>			
Vivan Verma	Institute of Genomics and Integrative Biology under the supervision of Dr. Pradeep Kumar (IGIB) and Dr. Uma Dhawan	Green synthesis of metallic nanoparticle synthesis from plants	2 months
Anjali Singh, Khushboo	Bhaskaracharya College of Applied Sciences under the supervision of Dr. Uma Chaudhry	Preparing of library of cloning and expression vectors	1 month and 15 days
Jyoti Pinghal	Cluster Innovation Centre, University of Delhi under the supervision of Dr Deepika Bhaskar	Finding out unique regions on cancer gene and comparing with its normal counter part	2 months
Manpreet, Samarth and Tarneet	Kusuma School of Biological Sciences under the supervision of Dr Biswajeet Kundu	Cloning of Interferon	2 months
Sagar	VIP Pharmaceuticals District Solan	Industrial Training	2 months
Shivani	Lok Nayak Jai Prakash Hospital	Clinical Genetics	1 month
Vikas	ST & T Computer Education	Course C++	1 month
Piyush, Sabita Yadav, Surbhi Lal, Vinayak	Bhaskaracharya College of Applied Sciences under the supervision of Dr. Ratyakshi Nain	Techniques involved in the synthesis of ZnO/Polyester antimicrobial composite films	1 month
Surbhi Lal, Vinayak	Bhaskaracharya College of Applied Sciences under the supervision of Dr. Ratyakshi Nain	Biodegradability testing for polyester films: Techniques involved	1 month
<i>B.Sc.(H) Biomedical Science II year 2016-2017</i>			
Isha Sikri	Bhaskaracharya College of Applied Sciences under the supervision of Dr. Uma Chaudhry	Interferon alpha and abatacept: Therapeutic role and analysis of opportunity in global markets	15 days review analysis
Bhavya Pratap Singh	CSIR- Central Drug research Institute	Neuroscience group of Dr Sukant Khurana	2 months
Sahib	Focus Research Imaging and Centre Pvt Ltd	High end medical diagnostic techniques	2 months

DEPARTMENT OF FOOD TECHNOLOGY (Summer Training)			
Name of the Student	Name of the Institute and Mentor	Topic of the Training	Duration of Training
Harleen Kaur	PepsiCo India Pvt. Ltd.	Scientific articles linked to new Indian regulations on Containments, Pesticide residue and Toxins in foods vs global regulatory practices including CODEX, EFSA, CFR, (USFDA) with Scientific and Regulatory Affairs, R&D function	One month and 15 days
Saumya Sood	PepsiCo India Pvt. Ltd.	Study the physicochemical and sensory analysis of potato chips and Doritos Understand the pellet based snacks in the Indian and the International market	One month and 15 days
Nikita Saumya Harleen Kavya Lakshita	Safal (Mother Dairy Fruits and vegetables Unit) Mr. Dulshreska (Senior Manager- HR)	Concepts of minimally processed foods: Students learnt to process and package fresh cut fruits and vegetables with extended shelf life	Seventeen Days
Sakshi	Mother Dairy Mr. Shailendra Kumar (Manager- HR)	Basic know how of Dairy Plant	One month and 14 Days
Aditi	Bikano	Testing and analysis of snack foods	One month
Siddarth Harish	Amul (Gujrat)	Analysis of milk and dairy product	Two months
Ishwar Singh Tushar Ms. Nikunj Suneja	Moon Beverages Ltd (Ghaziabad)	A study on processing, packaging and quality assurance of beverages	One month and 15 days
Neeha Kumari Gaurav Kumar Arun Kumar Kamna, Sadhna	DMS (New Delhi) N.S.Verma (HRD Incharge)	Basic know how of Dairy Plant	Fifteen days
Muhammad Ashfaque P	Parisons Estates and Industries Pvt Ltd	To learn food supply chain aspects from manufacturing, R&D, services, logistics, trading and retailing.	One month

Nikita Chhabra	Mr. Ajay Sharma Haldiram Snacks Pvt Ltd	Testing and analysis of snack foods	One month
Nikunj Suneja	FICCI (FRAC)	Analytic techniques and use of instrumentation with respect to food products	One month
Chandrakant Ankan	Ms Pamela Paul Ruchi Soya Industries Ltd Gurgaon	Calculation of nutritive value of soya based foods	Two months
Diksha Kumari	CII-FACE-GS1 India	Survey on "Traceability Awareness in Food Processing Industries in India"	Two months
Ms Avneet Kaur	Jumbo International, Delhi Fruits and Vegetables processing	Learn processing of foods	One month

DEPARTMENT OF MICROBIOLOGY (Summer Training)

Name of the Student	Name of the Institute and Mentor	Topic of the Training	Duration of Training
<i>B.Sc.(H) Microbiology II Year (2016-2017)</i>			
Pooja Gupta	Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru (JNCASR) with stipend of Rs.6000 per month	Evolutionary organismal unit, Molecular biology and Genetics unit and Neuroscience unit	2 months
Garima Rastogi Priyanka Chawla Pratishtha Vats	Bureau of Indian Standards (BIS) testing of packaged drinking water, and testing of food samples	Testing of packaged drinking water, and testing of food samples according to BIS protocols	1 month
Nikhil Kumar	Training project at Rajendra Agricultural University, Bihar on Tissue culture	Plant tissue culture in <i>Physalis minima</i>	1 month
Sonakshi Gupta Debashreeta Das Abhishek Bhargav Sinchita Kapuria Rohit Rai	Training at FRAC, Dwarka, Sec-8, Food chemistry, food microbiology and knowledge about related instruments	Food chemistry, food microbiology of food samples and knowledge about related instruments used for analysis	45 days

Rohit Rai, Tushar Midh Ankit Tiwari, Aparna Bhatt Piyush Pandey Sudiksha Kumari	Training at Verka Milk Plant Chandigarh, Quality assurance in dairy technology	Quality assurance in dairy technology	1 month
<i>B.Sc.(H) Microbiology III Year (2016-2017)</i>			
Juhi Kumari	Internship at Union Department Training Centre in Sudha Dairy Industry, Muzaffarpur, Bihar	Quality control methods	15 days
Devyani Das, Bhoomika Shokeen, Simran Manisha , Ajay, Rupesh Deepak Sankalp Panwar, Lakshita, Shagun, Manasi	Meditech Institute, Dwarka	Certificate course in Medical Lab Technology, under National skill development program	2 months
Aayush Wadhwa	CSEC-CIC, Univ. of Delhi	Training in Science communication	3 days
Pooja Jangra	Internship at Miranda house, University of Delhi DS Kothari Research Centre Supervisors: Dr. Rekha and Dr. Rashmi Shakya	Isolation of pesticide biodegrades from various soil samples	1 month and 15 days
Kamakshi Negi	Forest pathology Division, Forest Research Institute, Dehradun Supervisor: Dr.Y.P. Singh	Training in basic techniques in forest pathology	1 month
Pulkit Singhal	Internship at Mondelez International at Microbiology Department, Thane	Microbiological testing of finished food products (chocolates) and raw materials	1 months
Manpreet Kaur Bagga	Riannov, Sector 21, Dwarka Supervisors: Dr. Kadalmani Krishnan and Dr. Sangeeta Maini	Research internship in Breast cancer and breast self examination awareness epidemiology Development and launch of menstrual hygiene kit for women	2 months (summer time) 1 month (winter time)

Placement Initiatives Under Star College Scheme

Department of Biomedical Science

- ❖ Collaboration with *Clintox Bioservices, Hyderabad* for Internship Programs: As a starting step, the Company has agreed to offer two students of B.Sc.(H) Biomedical Science II year with a fellowship of Rs. 1000/- each for working on a short project of one or two months duration and an additional grant of Rs. 10,000/- for their contingency to procure chemicals and other necessary material required for their research. Talented and committed students among these research interns would hold a better chance to apply in their organization as well.

Department of Food Technology

- ❖ Students of Food Technology Department were involved in Academia–Industry interface with *Impeccable Innovations, Bangalore*. Students interacted with Mr. Arnab Guha, Director at the college campus to understand the changing job market. A team of three students- Aditi, Ankan and Chandrakant were selected to work on two proto-projects to utilize the byproducts affecting the environment adversely and enhancing the functionality of legumes as foods.

“Concept of earn while learn” was introduced and the team was also selected to curate the technical news in the field of foods, biotech, agriculture, sustainability and health and were paid the monthly stipend. The company showed interest in hiring the final year students of the college.

39. Development Programmes for non-teaching staff

- Organized one day Skill Development Workshop under IQAC in collaboration with Department of Physical Sciences (Electronics, Instrumentation and Physics) on 27th March, 2017 for Laboratory Staff of various departments of Bhaskaracharya College of Applied Sciences. The workshop was conducted to give the laboratory staff of the college an insight of the basic concepts, lab equipment's and practical's of the respective departments. The event witnessed a good number of participants.
- Organized one day Training Program titled “Electrophoresis Equipment: Training Program and Guidelines for Safe Use” on 20th February, 2017 under Star College Scheme. 20 Non-teaching staff of the Life Science Departments participated.
- Organized one day workshop on “Immunodiagnosics: Rapid Detection Methods” on 24th May, 2016 under Star College Scheme. Eight non-teaching staff members participated.
- Organized one day training on “Calibration and Proper Maintenance of Autopipettes: Steps involved” on 8th December, 2016 under Star College Scheme.

- Organized Skill Development Workshop on “Operation and Maintenance of Laboratory Instruments” on 2nd March, 2017.

Over and above, the Non-Teaching staff members are being deputed to the training programmes from time to time.

40. Good Practices of the Departments

- Organized Eco-friendly drive for promoting use of indoor plants in order to improve indoor air quality.
- Plantation drive of medicinal/Herbal plants in the college premises is a regular feature.
- Waste Management Drive is undertaken as a routine practice.
- Innovation of practical's apart from the curriculum in the departments undertaken by star college scheme.
- Environmental friendly disposal of chemical wastes.
- 19 minor projects have been taken by the students of both B.Sc. (H) as well as B.Tech Food Technology.
- Students are encouraged to undergo Summer Training/Internship
- With an aim to enhance the skills of the laboratory staff of the College, Skill Development Workshop on Operation and Maintenance of Laboratory Instruments” was organized on 2nd March, 2017.
- Students were motivated to make the college premises Greener, Reuse and Recycle. All the departments collect the waste paper and submit for paper recycling.
- Occasional interaction with the police force regarding safety issues of NE students.
- During preparation of the North East and traditional recipes, GMP was imparted and instructed to students to follow during display.
- The College provides opportunities to all students to hone their extracurricular skills. They are encouraged to organize all College events.
- BCAS Always hosts this event so organizational skills of student developed.
- The College provides Financial Assistance to students to participate in Inter-College events which motivate and inspires them.
- The College is disabled friendly as Wheelchair(s) are available in the college. Ramps/washrooms are constructed as per their need.
- Gender champions were selected for the first time in the College under the scheme initiated by Ministry of Child and Development and Ministry of Human Resource Development. A whatsapp group was formed with gender champions and class representative to maintain regular interaction among students and to create awareness for various gender related issues.
- Photography club members cover all the major events in the college like sports day, annual day, annual cultural fest, Conferences etc. with the DSLR camera procured by the college.

- To enhance the efficacy of Yoga in healthy lifestyle, Yoga club participated in celebrations during “Azadi 70: Yaad Karo Kurban” on the occasion of Independence Day, Rashtriya Ekta Saptah (October 31 – November 6, 2016) and Republic day.
- No Smoking signages have been displayed at the prominent places in the college.
- Anti-Tobacco Cell of the college regularly organize awareness programs like lectures, competitions etc. in the college.
- A complaint system is also operational wherein complaints can be lodged if somebody found smoking in the college premises.
- Fine Arts club is responsible for decoration of various cultural activities by using herbal colors.
- The following documents are being issued by the administrative staff of the College to the students within the stipulated period
 - ❖ Issuance of Provisional Certificate - 15 days
 - ❖ Issuance of No Dues Certificate - 07 days
 - ❖ Issuance of Study/Bonafied Certificate - 07 days
 - ❖ Issuance of Character Certificate - 07 days
 - ❖ Issuance of participation certificate in clubs and extracurricular activities - 10 days
 - ❖ Issuance of marks transcript - 07 days
 - ❖ Issuance of Bus Pass forms duly attested - 03 days
 - ❖ Issuance of College Leaving Certificate - 05 days
- After every six months cleaning of overhead and underground water tanks are carried out.
- The College has fire extinguishers in all the Labs. and near the Office including other safety equipment's.
- Applications forms like leave applications (Casual Leave, Earned Leave), Leave Travel Concession/Home Travel Concession, Tuition Fees reimbursement etc. are available on College website for staff use.
- The College is having complaint box for the redressal of student's grievances and swift action is taken.
- Room wise time tables are displayed outside the Class Rooms for all the courses including the Notice Board of the College.
- The College disposes off the Newspaper waste and other paper waste through a NGO and in return gets the A4 size paper reams.
- Students can directly mail their queries to the administration section through e-mail.
- The College is having students dealing windows for the benefits of the students.
- The College Library is cashless and Overdue charges and fine is charged/deposited from the students in digital mode.

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- Conducted Matdata awareness Campaign on October 06 and 20, 2016 to sensitize the youth electors and voter ID cards were also made for those students who just became eligible for the same.
 - The College celebrated National Harmony Day on November 25, 2016 for fostering communal harmony, National Integration and Fraternity in the country.
 - Celebrated National Youth Day on January 12, 2017 to specify the role of youth.
 - Organized Cloth distribution drive on February 9, 2017 to revive the compassion and care among the students for the needy people.
 - An online networking group of all class representatives, administrative staff of the college and all faculty members belonging to PR committee, Gender sensitization committee and IQAC has been made for giving quick information to the students regarding examinations, attendance and other student related matters.
 - All financial transactions are in digital mode.
 - Students are provided Financial Aid. The PR committee also facilitated the process of giving fee concession to students belonging to BPL category. Out of 52 applications, 37 students have been given fee concession to the students as per University of Delhi rules, for the academic session, 2016-17.
 - College students belonging to minority categories (SC/ST) are facilitated in filing application for scholarships.
 - **The following systems have been developed by College Faculty member:**
 - ❖ Online Attendance and Internal Assessment Management System. The system collects the Monthly Attendance and Internal Assessment Data from individual teachers and makes it available online in real time for students to view. The system is login based, which keeps the data secure and prevents unauthorized access.
 - ❖ Mobile Application for taking attendance in class. The application stores the attendance digitally on cloud server and also compiles the total attendance month wise.
 - ❖ Developed a Fully automated Online Student Feedback Submission and Database Management System. This system stores the feedback received from the students about teachers and the college. The system also automatically filters and compiles the feedback for individual teachers. Any teacher can anonymously view student's feedback about him/her without the identity of the student being revealed.
 - Swachhta Committee is actively involved in the Swachh Bharat Mission initiated by government of India on October 2, 2014. Apart from monitoring regular activities related to cleanliness, committee conducts special cleanliness drives to make students aware and responsible for cleaning.

College is also in process of making a compost pit to maintain and regulate the cleanliness through recycling of the organic waste generated in the college.

- Waste management committee monitored the waste collection and disposal of the biowaste generated in various labs through M/S SMS WATER GRACE BMW PVT. Ltd. since May 2016. The biowaste collection has been done since then regularly every month once or twice as per requirement.
- M/S. Earth Sense Recycle Pvt. Ltd. (authorized vendor) will collect E-waste from the College.

41. Linkage developed with National/ International, academic/ research bodies

- Dr. Anil K. Bali, Member, American association for the Advancement of Science, USA.
- Dr. A.K. Bali, Life Member : Indian Science Congress.
- Dr. Anita Sondhi has been nominated as member "Faculty of Interdisciplinary and Applied Sciences (FIAS)" from March 2016 to March 2019.
- Department regularly motivates the students to undertake summer training programs offered by several research organizations. This year students were fortunate to visit laboratories in Amity University and Jawaharlal Nehru University.
- Dr. Uma Dhawan: Coordinator and Resource Person for the Pre-Entrance Summer School for M.Sc-Ph.D Combined degree Program of ACBR, University of Delhi organized by Institute of Life Long Learning, University of Delhi for economically weaker section of the society, 28th May to 13th June, 2016.
- Dr. Uma Dhawan: Coordinator for an add-on certificate course (approx. 128 hours) in Bioinformatics and in silico Drug Discovery (BIDD) jointly organized by Acharya Narendra Dev College and Bhaskaracharya College of Applied Sciences, University of Delhi.
- Dr. Uma Dhawan has got UGC Raman Fellowship for pursuing Post-doctoral research at Department of Neurology, Boston University School of Medicine, USA (2016-17).
- Dr. Uma Dhawan: Coordinator and Resource Person in a three-day workshop on Computational Methods in Drug Discovery organized by Special Centre for Molecular Medicine, JNU, New Delhi and National Network on Mathematical Modelling and Computational Biology (NNMCB), supported by Science and Engineering Research Board, Government of India, 9th to 11th August, 2016.
- Dr. Uma Dhawan delivered an Invited Lecture in one-day training program on "Structural Bioinformatics and Molecular Docking" organized by Department of Biochemistry, VP Chest Institute, University of Delhi on 5th May 2016.
- Dr. Lalit Kapur, Associate Professor, Department of Chemistry; Life Membership: Indian Science Congress Association, membership no. L31157.

- Dr. Inderbir Kaur, Associate Professor, Department of Electronics, Member of Semiconductor Society of India. Membership number is 201309652.
- Dr. Geeta Mongia, Associate Professor, Department of Electronics, Member of the Indian Science Congress Association; Membership Number L26364.
- Dr. Manoj Tiwari, Assistant Professor, Department of Electronics,
 - ❖ The Indian Science Congress Association - Life Membership No.- L20927
 - ❖ The Indian Society for Technical Education- Life Membership no.-LM46210
 - ❖ National Book Trust- Life Member Number-DEL/IND/6958
- Dr. Avneesh Mittal, Assistant Professor, Department of Electronics, Life member Instrument Society of India, L.M# 1528.
- Shweta Gupta, Assistant Professor, Department of Electronics,
 - ❖ Member of Semiconductor Society of India, membership no.201503670
 - ❖ Member of the Indian Science Congress Association, membership no.L26744.
- Dr. Vandan Batra, Associate Professor, Department of Physics, Life Member, Nuclear Track Society of India, #322.
- Dr. Shalini Sehgal, Associate Professor, Department of Food Technology, guided three students registered with IGNOU for the project Post Graduate Diploma in Food Safety & Quality Management.
- Dr. Shalini Sehgal, Associate Professor, Department of Food Technology, was an Invited Speaker for presentation titled “Consumer Perception and Quality Assessment of Probiotic Foods in Indian Market“ at National Conference on Nutritional , Functional and Safety challenges of food and health issues in the current scenario from 6th to 7th October, 2016 at SHIATS, Allababad.
- Dr. Shalini Sehgal, Associate Professor, Department of Food Technology, was an Invited Keynote Speaker for presentation on “Microbial Safety of Fresh Produce and Implementation of a Risk-Based Management Approach” at International Conference on Agriculture Sciences and Food Technologies - for sustainable productivity and Nutritional Security from 25th to 26th August, 2016 , Bangalore , India.
- Dr. Shalini Sehgal, Associate Professor, Department of Food Technology, was an Invited Keynote Speaker for “Impact of Climate Change on Agriculture and Food Production“ on the World Food Day 2016 guest lecture series held on 14th October, 2016 at Amity University.

42. Action Taken Report on the AQAR of the Previous year

Not applicable as the IQAC was set up in the year 2016.

43. Any other relevant information the institution wishes to add.

The College has the following High End Equipments, which are used by students and faculty members for research purposes:

1. Injection Molding Machine
2. Two Roll Mill
3. FT-IR
4. Oscillating Disc Rheometer
5. Milk Plant
6. Form-fill-seal Packaging Machine
7. Modified Atmosphere Packaging Machine
8. Vacuum Packaging Machines
9. Gas Chromatography
10. Texture Analyzer
11. Baking unit

A brief overview of above equipments/instruments is as follows:

1. **Injection Molding:** It is a programmable automatic machine used for polymer processing experiments. Hands on training is given to students on this machine to prepare specimens for mechanical testing of polymers such as tensile, flexural and impact testing experiments. The specimen for heat deformation tests namely Heat distortion temperature & vicat softening point can also be prepared on this machine. The machine is also used for giving demonstration of the preparation small polymer articles.
2. **Two Roll Mill:** The two roll mill is used for compounding/formulation of rubber and thermoplastics. The machine is also used to train students to study role of various additives namely fillers, colorants, plasticizers etc in the properties of polymers. The students also prepare flexible polymer sheet on roll mill which is further used to investigate the abrasion resistance, cure rate index, flammability tests, hardness etc of polymers.
3. **FT-IR (Fourier Transform Infra-red Spectroscopy):** The primary use is of this instrument is in the identification of unknown materials and confirmation of functional groups in polymers. Various polymeric samples synthesized by students are characterized for their functional group using FT-IR. It is also used for identification of presence of additives, surface modifications, contaminations and molecular assessment of degradation of polymers
4. **Oscillating Disc Rheometer (ODR):** It is used to determine rheological properties (Torque, cure time, cure rate and cure rate index) of rubbery materials. It includes curing and processing characteristics of the vulcanizable rubber compounds.

5. **Pilot scale milk plant** comprising of a small balance tank, plate heat exchanger, boiler, homogenizer, cream separator and cooling systems for processing of milk.
6. **Form-fill-seal packaging machine:** Form-fill-seal machines are machines that form the package, fill it with a wet or dry product and seal it closed. Most FFS systems use flexible film to form the primary package, such as a pouch.
7. **Modified atmosphere packaging machine:** Modified atmosphere packaging is the practice of modifying the composition of the internal atmosphere of a [package](#) (commonly food packages, drugs, etc.) in order to improve the [shelf life](#). With the help of this packaging machine we can easily maintain and pack the food in a modified desirable condition.
8. **Vacuum packaging machine:** This machine provides air free packaging of food items which helps in the extension of self life of food products. The vacuum bag that contains the product is positioned in the vacuum chamber. The open side of the bag lies over the seal bar. Once the lid is being closed, the vacuum packaging machine automatically carries out the vacuum process that has four phases.
9. **Gas Chromatography :** The Gas Chromatography technique can be used for qualitative and quantitative analysis of volatile food component, food additives, flavor and aroma. The equipment can also be used for detection of contaminants, such as pesticides, fumigants, environmental pollutants, natural toxins, etc. present in the food. GC enables complex organic substances to be separated and identified quickly and cheaply. Substances to be analysed by GC must be volatile, i.e. readily pass into the gas phase. The substance to be analysed is vaporized and moved through a long column by an inert carrier gas. The column is filled with a packing material covered with an involatile liquid.
10. **Texture Analyzer** for testing physical properties of food products such as such as firmness, fracture-ability, resilience, and other parameters.
11. **Baking Unit** comprising of planetary mixers, dough sheeters, proofers, state of the art baking ovens and cooling trolleys.
Planetary mixers: It is used for the development of dough as well as batter with uniform mixing. The planetary mixer is so named because the mixing blade (commonly known as the beater) rotates in a planetary motion inside the mixer bowl. The bowl of the single planetary mixer consists of an upper cylindrical section and a lower hemispherical section. The mixer bowl is secured to a semi-circular frame (also termed as "fork") at the time of mixing.
Dough sheeter: It is used to uniform sheeting of dough before the final cutting of cookies, biscuits, pizza base etc. so that the product have overall uniform thickness.
Proofer: The proffer will control the humidity as well as the temperature which is required for fermentation of dough.

Baking Oven: The baking oven is used to bake the food with controlled uniform temperature from all the sides. Double controlled thermostat is used for uniform baking of biscuits, bread, buns etc.

Cooling trolley: It is used to place the baked goods prior to primary packaging. The cooling trolley will provide wide aseptic surface for the baked foods.

Section C: Outcomes achieved by the end of the year (attach separate sheet if required).

IQAC is a step towards achieving excellence on:

- Faculty members are extensively involved in academic activities as well as in the Faculty Development Programmes for faculty, training for non-teaching staff and enrichment programs for students
- Standard Operating Procedures (SOP) work has been initiated and will be implemented for Purchase, Admissions, Administrative procedures etc.
- Various signage have been installed:
 - ❖ For showing direction/way to various departments.
 - ❖ RTI information board
 - ❖ Anti Smoking/ Anti Ragging
 - ❖ Floor Directory
 - ❖ Flow Chart of SOP
- Radio-Frequency Identification Device (**RFID**) system has been installed in the library for the stock verification of books.
- The College has Star College status of Department of Biotechnology for Biological Sciences. As suggested by the IQAC in its meeting, the Physical Sciences Departments viz. Chemistry, Polymer Science, Electronics, Instrumentation, Physics, and Computer Sciences has started the process to apply for the Star College Scheme of DBT.
- Improvement in the College system.
 - ❖ The Student and Parent Feedback Form(s) have acted like monitoring mechanisms, which will enhance productivity of all i.e. students and College Staff together. The involvement and enthusiasm shown by the Parents is a welcoming initiative.
- A healthy competition among College departments has been witnessed ever since NAAC and AQAR have been uploaded. Each department wants to excel and be better than the other in the academic race.
- The College worked in a team and rejuvenated spirit to achieve its goal. The IQAC intends to submit proposals to the management with respect to Academic Upliftment and extension activities.
- Automation process is on-going.
- Disposal of Chemical waste by neutralizing
- E-Waste is monitored.

Section D Plans of the College for the next year

1. Digitization of the College in all respect.
2. A digital locker should be created in the name of the College on the Government of India website and all the relevant and important documents of the College should be kept in that locker
3. Individual Institutional Login IDs' should be given to all employees and students.
4. With the help of Login IDs' students' should be able to monitor themselves. They can regularly see their attendance, internal assessment, tutorials, notices, student feedback forms and any other relevant information being published by the College from time to time.
5. Student Feedback needs review on the following aspects:
 - ✓ Sample size
 - ✓ Queries being raised in feedback form
6. Lectures/presentations may be organized by the leaders of various industries where our students can be placed/absorbed.
7. Giving publicity to our courses along with its curriculum and contents to industries, thereby making them aware that students with this know-how are available to them.
8. Remedial classes for weak students especially those coming from Hindi medium background.
9. Placement Cell of the College has to be strengthened as placement is a major concern.
10. Canteen of the College needs to be refurbished. The quality of food and hygiene are the main concerns.
11. ATM of any bank will be opened in the College campus.
12. Extension of College building is the first and foremost issue of the College. As the courses are increasing and the College needs more classrooms and laboratories.
13. IQAC proposed to introduce Internship/Summer Training for students as it would help in their placement.
14. Introduction of new courses.
15. Organize workshops/conference/seminars etc. for the faculty development as well as for the non-faculty members.

**Name & Signature of the
Director/Coordinator, IQAC**

**Name & Signature of the
Chairperson, IQAC**